

MANAGEMENT OF ANXIETY DISORDERS IN AUSTRALIAN PRIMARY CARE

Erin Louise Parker

Supervisory panel: A/Prof Michelle Banfield, Dr Daniel Fassnacht, Prof Mike Kyrios, Prof
Philip Batterham, and Dr Amy Dawel

A thesis submitted for the degree of
Doctor of Philosophy (Clinical Psychology)
of the Australian National University

Submitted March 2022

© Copyright by Erin Louise Parker 2022

All Rights Reserved

DECLARATION

I declare this thesis reports original work and has not been submitted, in whole or in part, in any previous application for a degree at any University or Institution. The research reported in this thesis is my own work conducted during my candidature at the Australian National University under the supervision of Associate Professor Michelle Banfield, Dr Daniel Fassnacht, Professor Mike Kyrios, Professor Phillip Batterham, and Dr Amy Dawel. In the case of multi-author publications that are incorporated in this thesis, I have specified my contributions in the *Author Contributions* sections of the relevant chapters.



Erin Louise Parker

11 March 2022

ACKNOWLEDGEMENTS

Firstly, I am extremely grateful to my supervisory panel, A/Prof Michelle Banfield, Dr Daniel Fassnacht, Prof Philip Batterham, Prof Emer Mike Kyrios, and Dr Amy Dawel. Your support and guidance throughout my candidature has been invaluable.

Michelle – thank you for everything and in particular for taking on the role of primary supervisor mid-way through this project. I have appreciated every one of our meetings and I feel grateful for your expertise, support, and mentorship. Thank you for helping me set boundaries and say ‘no’, for knowing when I needed a bit of a push, and for reminding me to focus on progress over perfection. I feel extremely privileged to have had you as a supervisor. Dan – thank you for your support at every stage of this research project. You kept me focussed on the big picture throughout my PhD, and reminded me research can be fun. Thank you also for making mountains look like molehills when I felt overwhelmed. Mike – thank you for your vision in the early years of this PhD and for your input to this thesis. I am grateful to have had your expertise on this project. Phil – thank you for your guidance regarding the quantitative sections and statistical analyses. You have been responsive and thorough whenever I have needed your help, and never made me feel silly for asking questions. Amy – thank you for joining my panel in the final hour, for your pragmatic approach, and for the support you have given in your role as HDR convenor. Our meeting last year was the turning point where I felt it might actually be possible to finish this thesis!

I would also like to acknowledge the consumers who participated in this research. I hope I have given a voice to your experience done so in a way that will improve care for anxiety in Australia. Further thanks are given to the University of Sydney and Dr Christopher Harrison for providing access to and analysis of Bettering the Evaluation and Care of Health data for the second study in this thesis. Chris – thank you for being excited to work on this project and for your expertise in helping me answer my research questions.

I am grateful to the staff of the Research School of Psychology and to Prof Bruce Christensen and the Clinical Psychology program for providing me with excellent education and training, support, and a sense of belonging within the university. I will remember my time at the ANU fondly and am thankful for the experiences I was offered

through my PhD. I am also appreciative of receiving an Australian Government Research Training Program (RTP) Scholarship to support me throughout my candidature.

To my friends, thank you for helping me keep sight of life outside of a PhD. Lizzy and Molly – thank you for your kindness, support, humour, and wisdom. You made it easy to come into the office every day and I could not have made it through without you and our long lunches, even if they did sometimes distract from work! Britt – you are the most loyal, caring, and supportive friend and I am so grateful to have you. You inspire me to be the best version of myself and your support has meant a lot to me over the course of my PhD. Riss – thank you for always listening, for making me laugh, and for the almost daily chats over the past two years. They have been a highlight of my day when things have been difficult and I feel lucky to have you as a friend.

Last but certainly not least, my family. Mum and Dad – thank you for your unwavering support and belief in me. You have always made me feel I could do anything I set my mind to, and have provided me with the foundations and support to make that true. I am extremely fortunate to have you as parents. To my sisters Lucy and Anna – thank you for everything you have given me over the last several years. You are both are incredibly kind, loyal, loving, and selfless and I could not imagine having made it through this without you. I hope I have made you proud.

PUBLICATIONS ARISING FROM THIS THESIS

Published

Fassnacht, D., **Parker, E.**, Barry, M., Banfield, M., Jiggins, D., Clarke, D., & Kyrios, M. (2020). Anxiety, fear, obsessive-compulsive, stress-related and dissociative disorders. In G. Meadows, J. Farhall, E. Fossey, B. Happel, F. McDermott, S. Rosenberg, V. Edan, M. Epstein, H. Kennedy, & C. Roper (Eds.), *Mental Health and Collaborative Community Practice: An Australian Perspective* (4th ed., pp. 662-699). Oxford University Press.

Parker, E. L., Banfield, M., Fassnacht, D. B., Hatfield, T., & Kyrios, M. (2021). Contemporary treatment of anxiety in primary care: A systematic review and meta-analysis of outcomes in countries with universal health care. *BMC Family Practice*, 22(1), 92. <https://doi.org/10.1186/s12875-021-01445-5>

Parker, E. L., & Banfield, M. (2022). Consumer perspectives on anxiety management in Australian general practice. *International Journal of Environmental Research and Public Health*, 19(9), 5706. <https://doi.org/10.3390/ijerph19095706>

Under Review

Parker, E. L., Banfield, M., Fassnacht, D. B., Phillips, C. B., & Harrison, C. (under review). Anxiety management in Australian general practice: An analysis of encounters from 2006 – 2016 [Manuscript submitted for publication to *BMC Primary Care*].

ABSTRACT

Anxiety disorders are highly prevalent mental health conditions that are managed predominantly in primary care. Primary care refers to community-based health care that serves as the first point of contact within a health care system. It may be delivered in a range of settings (e.g., general practice clinics, community health centres), and by a range of health professionals (e.g., general practitioners [GPs], psychologists). However, most care is provided in general practice by GPs, who may act as primary treating professionals or coordinators of specialist care, among other roles. Previous research suggests the real-world management of anxiety in primary care favours medication, which does not align with clinical practice guidelines that emphasise psychological interventions. In particular, high rates of benzodiazepines have been a concern, as these medications are no longer recommended for anxiety except in the short-term under specific conditions. Despite the high prevalence of anxiety disorders, their management in the Australian health care system is under-researched compared with other common conditions such as depression. The current research project therefore aimed to examine anxiety disorder management in Australian primary care settings.

A mixed-methods approach was used to explore treatment outcomes, real-world management practices, and consumer perspectives. Firstly, a systematic review and meta-analysis was conducted to synthesise the evidence for treating anxiety in primary care. Findings demonstrated psychological treatments are effective in this setting, with larger effect sizes for treatment provided by a mental health specialist (e.g., clinical psychologist) than a non-specialist (e.g., general practitioner). Relatively few studies of primary care-specific pharmacological treatment were found. A second study described GP management of anxiety over 10 years through secondary analysis of a large, nationally representative study of GP activity. Consistent with previous research, medication was the most common strategy used to manage anxiety. However, trends

over the period studied demonstrated an increase in referrals to psychologists and a decrease in the use of benzodiazepines. GP and patient characteristics also predicted the likelihood of different management strategies being used. High rates of management with benzodiazepines were found for certain groups despite the overall reduction in these medications. A third study involved an exploratory survey of consumers' experiences and priorities for treatment. Participants reported generally positive experiences of seeking help from a GP for anxiety. The majority of participants indicated effectiveness was the most important consideration for treatment, and considered 'how quickly the treatment works' to be less important. Suggestions to improve care for anxiety centred mainly on improving access and funding for psychologists, better training for GPs, and increasing community knowledge and awareness about anxiety.

Overall, results from this research demonstrate the primary care management of anxiety is becoming more closely aligned with practice guidelines. However, integration of psychological treatments in primary care and high rates of benzodiazepine use for certain groups remains an issue in Australia. Exploratory research with consumers suggests improved provision of anxiety psychoeducation is also an area for improvement.

TABLE OF CONTENTS

DECLARATION.....	II
ACKNOWLEDGEMENTS.....	III
PUBLICATIONS ARISING FROM THIS THESIS.....	V
ABSTRACT.....	VI
TABLE OF CONTENTS.....	VIII
LIST OF TABLES.....	X
LIST OF FIGURES.....	XI
LIST OF APPENDICES.....	XII
1 INTRODUCTION AND THESIS OVERVIEW.....	1
1.1 AIM AND RESEARCH QUESTIONS.....	2
1.2 SCOPE AND METHODOLOGY.....	2
1.3 OVERVIEW OF THESIS.....	6
2 ANXIETY DISORDERS AND THEIR MANAGEMENT IN AUSTRALIA.....	9
2.1 PUBLICATION STATUS.....	9
2.2 AUTHOR CONTRIBUTIONS.....	10
2.3 PHENOMENOLOGY OF ANXIETY AND FEAR-RELATED DISORDERS.....	11
2.4 FORMAL DIAGNOSIS.....	14
2.5 PREVALENCE, COURSE, AND IMPACT.....	20
2.6 AETIOLOGY.....	22
2.7 ASSESSMENT.....	23
2.8 EVIDENCE-BASED TREATMENT.....	26
2.9 MANAGEMENT OF ANXIETY DISORDERS IN AUSTRALIA.....	31
2.10 CONCLUSION.....	38
3 CONTEMPORARY TREATMENT OF ANXIETY IN PRIMARY CARE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF OUTCOMES.....	39
3.1 PUBLICATION STATUS.....	40
3.2 AUTHOR CONTRIBUTIONS.....	40
3.3 ABSTRACT.....	42
3.4 BACKGROUND.....	44
3.5 METHOD.....	47
3.6 RESULTS.....	52
3.7 DISCUSSION.....	64
3.8 CONCLUSIONS.....	71
4 ANXIETY MANAGEMENT IN AUSTRALIAN GENERAL PRACTICE: AN ANALYSIS OF ENCOUNTERS FROM 2006 – 2016.....	72
4.1 PUBLICATION STATUS.....	73
4.2 AUTHOR CONTRIBUTIONS.....	74
4.3 ABSTRACT.....	76
4.4 INTRODUCTION.....	77
4.5 METHOD.....	79
4.6 RESULTS.....	82
4.7 DISCUSSION.....	90

5	CONSUMER PERSPECTIVES ON ANXIETY MANAGEMENT IN GENERAL PRACTICE.....	98
5.1	PUBLICATION DETAILS	99
5.2	AUTHOR CONTRIBUTIONS.....	99
5.3	ABSTRACT	101
5.4	INTRODUCTION.....	102
5.5	MATERIALS AND METHODS.....	103
5.6	RESULTS.....	109
5.7	DISCUSSION	133
5.8	CONCLUSIONS	139
6	GENERAL DISCUSSION AND CONCLUSION.....	140
6.1	KEY FINDINGS AND COMPARISON WITH PREVIOUS LITERATURE.....	140
6.2	STRENGTHS AND LIMITATIONS	162
6.3	FUTURE RESEARCH.....	164
6.4	PRACTICE AND POLICY IMPLICATIONS.....	166
6.5	CONCLUSION	168
	REFERENCES	170
	APPENDICES.....	203
	APPENDIX A HUMAN RESEARCH ETHICS PROTOCOL: GP MANAGEMENT OF ANXIETY	204
	APPENDIX B MENTAL HEALTH TREATMENT PLAN TEMPLATE.....	225
	APPENDIX C PUBLISHED JOURNAL ARTICLE (CHAPTER 3)	228
	APPENDIX D PUBLISHED JOURNAL ARTICLE (CHAPTER 5)	245
	APPENDIX E SURVEY OF CONSUMERS	269

LIST OF TABLES

Table 2.1.	Prevalence rates of anxiety disorders	21
Table 3.1.	MeSH Terms used for primary searching in PubMed.	47
Table 3.2.	Inclusion and exclusion criteria.....	48
Table 3.3.	Characteristics of included studies	54
Table 3.4.	Meta-analytic results for effect of psychological treatment on anxiety symptoms	58
Table 4.1.	Management rate of anxiety by patient and GP characteristics.....	84
Table 4.2.	Management strategies used for anxiety	85
Table 4.3.	Rates of pharmacological management by patient and GP characteristics.....	88
Table 4.4.	Rates of non-pharmacological management by patient and GP characteristics.....	89
Table 5.1.	Characteristics of participants	111
Table 5.2.	Participant reported reasons for and barriers to seeking help for anxiety .	113
Table 5.3.	Preferences for treatment approach at first appointment with GP	114
Table 5.4.	Treatments offered by GP at first appointment.....	115
Table 5.5.	Linear regression results for effect of treatment discrepancy on perceptions of GP	121
Table 5.6.	Treatments offered by GP in the past 12 months	123

LIST OF FIGURES

Figure 1.1.	Thesis overview	8
Figure 2.1.	Relationship between anxiety and performance.....	12
Figure 2.2.	Vicious cycle of anxiety.	13
Figure 2.3.	Anxiety disorder differential diagnosis flowchart.....	25
Figure 2.4.	Overview of anxiety disorder management	28
Figure 2.5.	Overview of Australia’s mental health care system.	32
Figure 3.1.	Study selection process using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.....	53
Figure 3.2.	Forest plot for comparison of psychological treatments with control, for studies of anxiety only.....	58
Figure 3.3.	Assessment of each study across risk of bias items	63
Figure 3.4.	Assessment of each risk of bias item, presented as proportion of studies with low, unclear, and high risk of bias.....	64
Figure 4.1.	Proportion of GP encounters where anxiety was managed by year	82
Figure 4.2.	Proportion of anxiety problems where management strategy was used by year	85
Figure 5.1.	Flowchart demonstrating survey response rate.....	109
Figure 5.2.	Participant ratings of GP treatment approach at first experience of seeking help for anxiety	116
Figure 5.3.	Comparison of agreement ratings with treatment items between participants who received a treatment consistent with their preferences and those who did not.....	117
Figure 5.4.	Participant ratings of perceptions of GP at first experience.	119
Figure 5.5.	Comparison of agreement regarding perceptions of GP items between participants who received a treatment consistent with their preferences and those who did not.....	120
Figure 5.6.	Participant ratings of GP treatment approach in the last 12 months.....	125
Figure 5.7.	Participant ratings of perceptions of GP in the last 12 months.	126
Figure 5.8.	Important factors to participants when considering anxiety treatment	128
Figure 5.9.	Participant importance rankings for each treatment consideration	129

LIST OF APPENDICES

Appendix A	Human research ethics protocol: General practitioner management of anxiety.....	204
Appendix B	Mental Health Treatment Plan template.....	225
Appendix C	Published journal article (Chapter 3).....	228
Appendix D	Published journal article (Chapter 5).....	245
Appendix E	Survey of consumers.....	269

CHAPTER ONE

INTRODUCTION AND THESIS OVERVIEW

Anxiety disorders are among the most common mental health conditions. Prevalence rates for specific disorders and populations are highly variable, though anxiety disorders are estimated to affect 10 – 15% of the adult population in a given 12-month period (Australian Bureau of Statistics [ABS], 2007; Baxter et al., 2013). These conditions are associated with physiological, affective, cognitive, and behavioural symptoms that impair individual wellbeing (American Psychiatric Association [APA], 2013). They are also related to substantial impairments in occupational and social functioning (Kessler, 2007) and have high rates of co-occurrence with other mental and physical health conditions that can lead to increased disability (Bandelow & Michaelis, 2015). In addition to the impact on the individual, anxiety disorders have a considerable economic and social burden. These conditions are the second leading cause of non-fatal disease burden in Australia, accounting for 6% overall and the highest percentage of any mental illness (Australian Institute of Health and Welfare [AIHW], 2021b).

In Australia, anxiety disorders are most commonly managed in *primary care* (Burgess et al., 2009). Primary care typically refers to the first point of contact within a health care system, and its role is to provide services available to all members of a community (World Health Organization [WHO], 1978). The past three decades have seen significant focus on the integration of mental health services into primary care, though there is substantial variation in the way this is implemented internationally (Wakida et al., 2018; WHO, 2018b). Australian primary mental health care is delivered in a range of settings. This includes community health centres, allied health practices, general practice, through communication technology such as video consultations, and online through digital mental health interventions (AIHW, 2020). There are also several professionals who may deliver these services, such as general practitioners (GPs),

nurses, and psychologists (AIHW, 2020). Ideally, primary care services work in conjunction with secondary and tertiary services, providing referral, follow-up, and ongoing management for chronic conditions, as well as offering primary treatment (WHO & Wonca, 2008).

Anxiety disorders are the second most common presenting mental health condition in Australian primary care after depression (Britt et al., 2016a). Despite their prevalence, there has been relatively little research exploring the way they are managed within this setting, compared with other common conditions such as depression. Effective treatments are available for anxiety, including psychological interventions that are suitable to provide in primary care (e.g., online interventions; Andrews, Basu, et al., 2018). However, these treatments tend not to be well integrated in practice. Understanding the effective treatments for anxiety disorders in primary care, the way in which these disorders are managed in the real-world, and the views of people seeking help, are important in improving care for these conditions.

1.1 Aim and Research Questions

This thesis aimed to explore the management of anxiety disorders in Australian primary care settings. There were three main research questions:

1. What are the effective treatments for anxiety disorders in primary care?
2. How do GPs manage anxiety disorders in Australia?
3. What are consumer views on GP management of anxiety disorders?

1.2 Scope and Methodology

This thesis focuses on the management of the anxiety disorders seen in adult populations according to the International Classification of Diseases, 11th Revision (ICD-11; WHO, 2018a) and the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5; APA, 2013). This encompasses the following diagnoses: generalised anxiety disorder, social anxiety disorder, panic disorder, agoraphobia, and specific

phobia. A more detailed background to the anxiety disorders and their management is provided in Chapter 2.

The current research excludes obsessive-compulsive disorder (OCD) and posttraumatic stress disorder (PTSD), which were classified as anxiety disorders in previous versions of diagnostic systems. In the years intervening the current and previous versions of DSM and ICD, a distinction has been recognised between the fear circuitry-based conditions (current anxiety disorders), those related to obsessions and compulsions, and those arising from trauma (Regier et al., 2013). As a result, OCD and PTSD are now classified independently from anxiety disorders and each other (APA, 2013, WHO, 2018).

Although primary care can encompass multiple settings and providers, in Australia, GPs provide more mental health services than any other professional and prescribe the vast majority of mental health related medications (AIHW, 2021c; Britt, Miller, Henderson, et al., 2016). GPs are often the first health professional a consumer¹ sees for their anxiety (AIHW, 2021c; Burgess et al., 2009). For these reasons, this thesis focuses predominantly on general practice settings to evaluate the management of anxiety in primary care.

This research aimed to evaluate anxiety management from multiple perspectives using a mixed methods approach. Initially, the project planned to explore research evidence regarding the available treatments, data on real-world management practices, and the perspectives of both consumers and providers. Four studies were planned: a systematic review and meta-analysis of treatment outcomes for anxiety in primary care (quantitative), descriptive analysis of real-world GP activity (quantitative), a survey of

¹ Both 'consumer' and 'patient' are used throughout this thesis to refer to people who use mental health services; consumer for the majority of the thesis and patient when discussing people as patients of their GP (as in Chapter 4). Although there are conflicting views over the use of the term consumer (e.g., Lyon & Mortimer-Jones, 2020), it remains the most commonly used term in Australia among peak bodies, governments, and research (National Health and Medical Research Council, 2016).

consumers regarding their experiences and priorities for care (mixed-methods), and focus groups with GPs to explore knowledge and attitudes, barriers in treatment, and suggestions for improving practice (qualitative). However, only the first three of these studies were completed. The methods for each of these three studies are described in the individual chapters (Chapters 3, 4, and 5).

The proposed fourth study exploring the perspectives of GPs was granted ethics approval, though not completed due to feasibility issues related to recruitment and participant burden in light of the COVID-19 pandemic. General practitioners are typically a hard-to-recruit population for research, owing to the structure of general practice (i.e., fee-for-service funding) and high workloads leading to a lack of time to participate in studies (Askew et al., 2002; Brodaty et al., 2013; Ferrand Devouge et al., 2019). Following the first wave of the pandemic in 2020, Australian GPs experienced increases to their workload related to demand for services and transition to telehealth consultations (AIHW, 2022). As such, the decision was made to delay recruitment for the study (which was planned for mid-2020) until a later date. Adjustments were also made to the design of the study such as reducing the number of planned focus groups from three to one, and planning for focus groups to be conducted online rather than face-to-face. However, the second wave of the pandemic in 2021 and the subsequent roll out of vaccines further increased burden on GPs (AIHW, 2022). It was therefore decided this study was not feasible to conduct within the timeframe of this PhD research project. The proposal for the GP study can be seen in Appendix A and is discussed further in Chapter 6 under directions for future research.

1.2.1 Reflexivity

The following paragraphs discuss the ways in which prior assumptions and experiences of the researcher may have shaped the current project. Thus, these sections are written in first person. Throughout the course of this research, I undertook

training in clinical psychology and worked as a psychologist in predominantly secondary care settings (a non-government organisation and my own private practice). I have also previously received mental health services in primary care for anxiety. The work in this thesis is therefore informed by the knowledge and experience that comes from being both a consumer and a provider of mental health services for anxiety.

As a trained psychologist, psychological perspectives inform my understanding of anxiety more so than biological or medical approaches. In particular, I have greater knowledge about psychological anxiety treatments than I do about pharmacological treatments. I have been cognisant of the need to develop balanced perspectives on these two management approaches throughout this thesis. To this end, I sought feedback from clinical and non-clinical academics with expertise in mental health research, public health, clinical psychology, and general practice regarding my interpretation of individual study results and the overall findings of this project.

In the study of consumer perspectives, the development of survey questions was informed by a combination of my own experiences, review of literature regarding health care experience, and piloting among consumers and carers. The participants were made aware of my background as a psychologist. However, I did not have any direct contact with participants as the survey was conducted online, thereby minimising the impact my background may have had on the way consumers answered questions. I was also conscious of remaining objective when analysing the qualitative data from this study, as my own experiences had the potential to bias my interpretation of the results. To address this, I sought feedback from a supervisor with extensive experience in both qualitative methods and research with mental health care consumers to discuss the coding structure and interpretation of key pieces of text.

1.3 Overview of Thesis

This research was completed in partial satisfaction of a postgraduate degree in Clinical Psychology. It was set up as a series of three discrete studies, intended to be published, to directly inform clinical practice, service delivery, and mental health policy. Each study addresses one of the main research questions of the project. Although this thesis is formally a thesis by traditional format, it is formatted more closely to a thesis by compilation. The three studies are presented as a series of papers; one published, and two currently under review with academic journals. Each of these chapters is headed by a foreword that describes the relevance of the study for the overall thesis and a brief summary of the findings. A background chapter (Chapter 2) that provides context for the three studies, which was also prepared as a discrete body of work and published in an edited book, precedes these chapters. The last chapter contains a general discussion (Chapter 6) that draws together key findings from the three studies. A graphical overview of the structure of this thesis can be seen in Figure 1.1 and each of the chapters are described further below.

Chapter 2 provides an overview of the anxiety disorders and their management in Australia. This includes description of the phenomenology of anxiety disorders, their assessment and treatment, and their management in primary care. This chapter was published in an edited textbook, which provides information on mental health conditions, clinical practice, and policy in Australia.

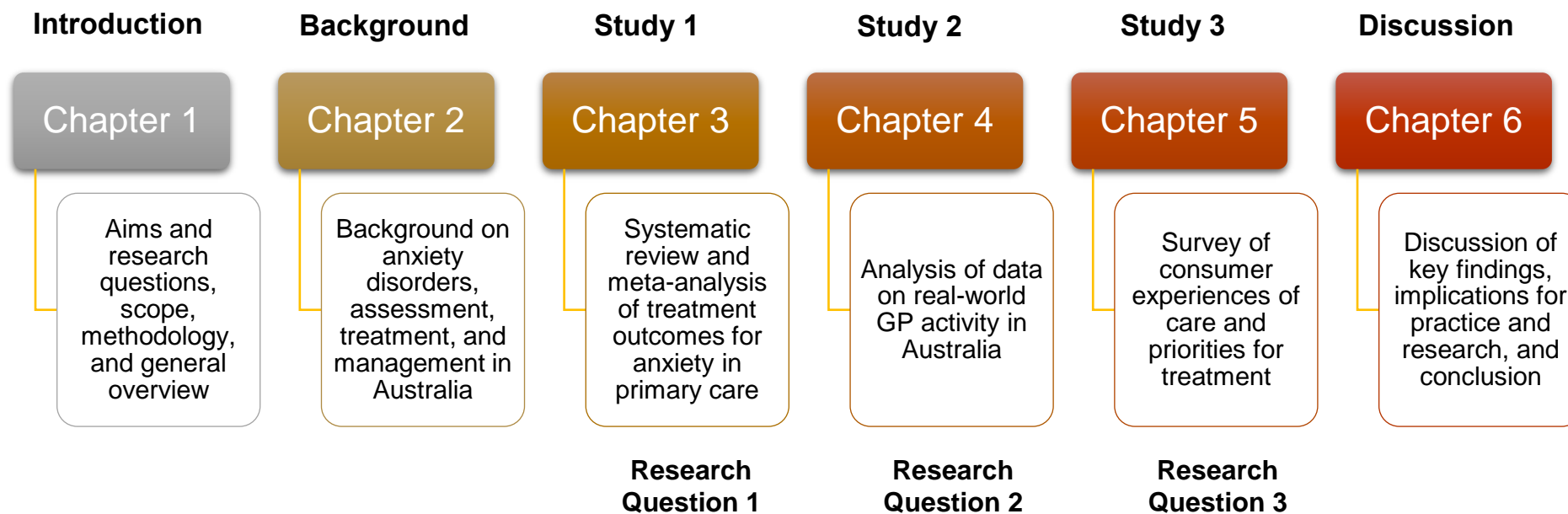
Chapter 3 contains a systematic review and meta-analysis that synthesises the evidence for anxiety treatments in primary care. Studies of both psychological and pharmacological treatments were included to provide an updated review of evidence in the past two decades in light of changes to the diagnostic classification of anxiety. This study was published in an academic journal and is presented as published, preceded by a foreword.

Chapter 4 presents a description of 10 years of data on GP anxiety management through a secondary analysis of a large, nationally representative data set, collected for the Bettering Evaluation and Care of Health (BEACH) project run by researchers at the University of Sydney. Rates of different management strategies (e.g., medications, counselling, referrals) used by GPs are presented along with patient and GP characteristics affecting the likelihood of receiving particular strategies. This study has been submitted to an academic journal and is currently under review. The chapter contains the manuscript as submitted, preceded by a foreword.

Consumer preferences for treatment and experiences of care are explored in Chapter 5, which presents the results of an online survey that collected both quantitative and qualitative information from Australian adults with a lived experience of anxiety treatment in general practice. This study has been published in an academic journal and is presented as published, preceded by a foreword.

A general discussion (Chapter 6) draws together key findings from the three studies in the context of other literature to answer the research questions above. This chapter discusses the implications of the current project for the field, including future research, clinical practice, and mental health policy in Australia.

Figure 1.1. Thesis overview



CHAPTER TWO

ANXIETY DISORDERS AND THEIR MANAGEMENT IN AUSTRALIA

This chapter contains a background literature review of the anxiety disorders and their management in Australia. It begins by describing the phenomenology of anxiety and defining the formal anxiety disorders according to the International Classification of Diseases, 11th Revision (ICD-11; WHO, 2018a) and Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5; APA, 2013). This is followed by information about prevalence rates, the development, course, and impact of anxiety disorders, and an overview of best practice assessment and treatment. The final section of this chapter contains a description of where and how anxiety disorders are managed in Australia, including contextual information about Australia's mental health care system and the role of primary care. The advantages and disadvantages of managing anxiety in primary care are discussed, as well as the gaps in current knowledge that this thesis aims to address.

2.1 Publication Status

Material in this chapter was published in 2020 in the edited book *Mental Health and Collaborative Community Practice: An Australian Perspective (4th edition)*. There are two major changes compared to the published version: 1) the published version includes information about obsessive-compulsive, stress-related, and dissociative disorders that has been removed from this chapter, and 2) the section below entitled *Management of Anxiety Disorders in Australia* has been added to this chapter. The sections *Prevalence, Course, and Impact, Aetiology, and Challenges in Treatment* have also been expanded in this thesis. Minor changes were made to headings, tables, and figures to align with publication formatting requirements. The published version could not be included in this thesis due to copyright. The citation is as follows:

Fassnacht, D., **Parker, E.**, Barry, M., Banfield, M., Jiggins, D., Clarke, D., & Kyrios, M. (2020). Anxiety, fear, obsessive-compulsive, stress-related and dissociative disorders. In G. Meadows, J. Farhall, E. Fossey, B. Happel, F. McDermott, S. Rosenberg, V. Edan, M. Epstein, H. Kennedy, & C. Roper (Eds.), *Mental Health and Collaborative Community Practice: An Australian Perspective* (4th ed., pp. 662-699). Oxford University Press.

2.2 Author Contributions

Parker is the primary author for the sections on anxiety disorders in the publication (i.e., the material in this thesis chapter), which were written by Parker with editing from Banfield, Fassnacht, and Kyrios. Fassnacht contributed the majority of the material on other disorders, and is therefore the first author on the overall published chapter. Author attributions are noted in the individual sections of the publication.

2.3 Phenomenology of Anxiety and Fear-Related Disorders

Anxiety and fear are closely related concepts; anxiety is a future-oriented state involving the anticipation of threat, while fear is the emotional/physiological response to current threat perceived or actual (APA, 2013). Both anxiety and fear are normal human responses that serve an adaptive function. For instance, the physical symptoms of anxiety and fear – often referred to as the fight-or-flight response – prepare our body to flee danger or defend ourselves in the face of danger. From an evolutionary perspective, anxiety may be considered advantageous – those who learn to anticipate danger can therefore avoid that danger and mitigate threats to survival. Even in the context of threats that are unrelated to survival, anxiety may benefit us by prompting us to perform at our best. For example, feeling anxious about an upcoming test may prompt one to study, and therefore perform better in the exam. However, when anxiety levels become too high, performance is impacted, and the opposite can occur.

The Yerkes-Dodson Law (originally described in Yerkes & Dodson, 1908) can be used to understand this relationship. It posits that there is an inverse-U-shaped association between arousal (anxiety) and performance: arousal levels at extremes of high or low result in poor performance, and optimal performance occurs at moderate levels of arousal (see Figure 2.1). In this way, anxiety and fear-related disorders can be thought of as the extreme end of a continuum of experience, rather than being categorically different from a ‘normal’ human response. Anxiety crosses the threshold on this continuum to become clinically significant when it is prolonged, excessive, and results in substantial impairment in functioning for the person (APA, 2013) .

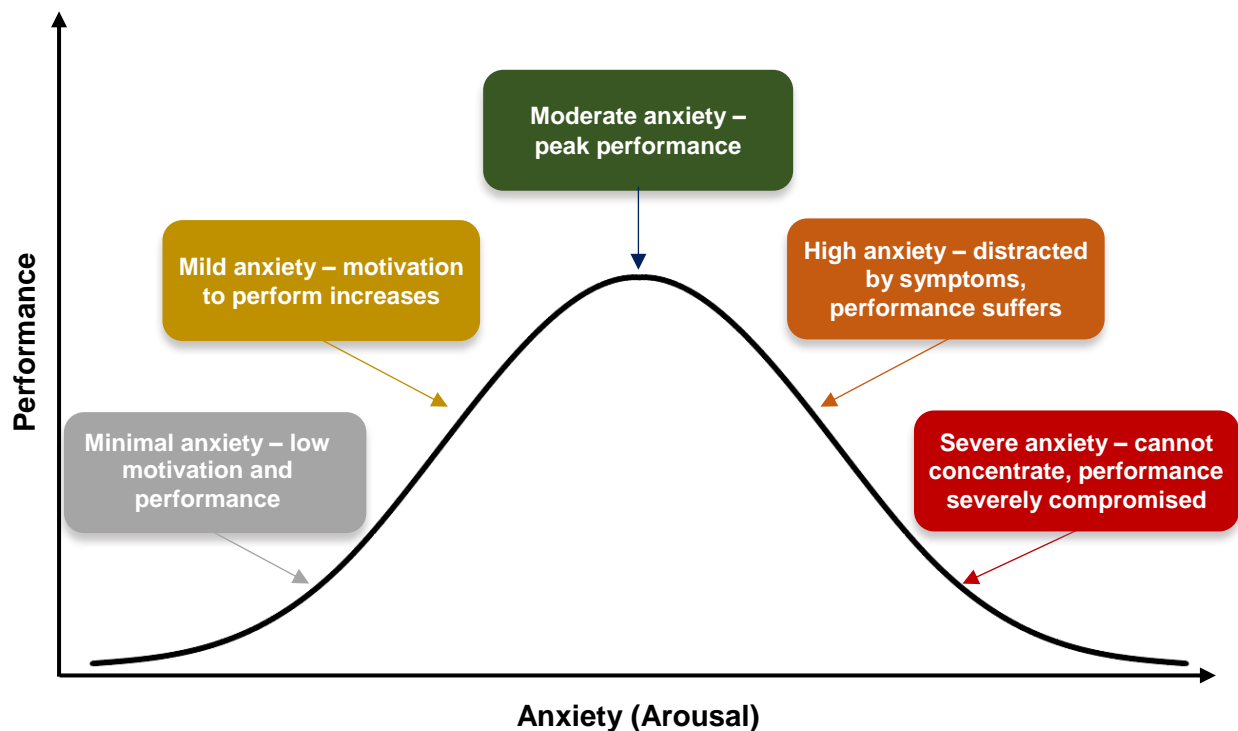


Figure 2.1. Relationship between anxiety and performance (adapted from Yerkes & Dodson, 1908).

Individuals meeting criteria for anxiety and fear-related disorders tend to consistently overestimate the level of threat posed by anxiety-provoking situations/objects, and underestimate their ability to cope with that threat (Wells, 2013).

These disorders are characterised by symptoms in the following domains:

- mood – e.g., excessive fear/anxiety, nervousness, irritability
- thinking – e.g., difficulty concentrating, worry, catastrophising, obsessive thinking, biases toward threatening information
- behaviour – e.g., avoidance of situations, seeking excessive reassurance, lashing out at others, redundant or excessive attempts to control the environment
- physical symptoms – e.g., headaches, muscle tension, restlessness, gastrointestinal issues, increased heart and breathing rate.

Avoidance is considered the core feature of all anxiety and fear-related disorders (Rapee, 2012); in the short-term it reduces anxiety, but in the long-term avoidance leads to increased anxiety as it prevents opportunities to learn tolerance (or that feared stimuli are not dangerous) and undermines confidence (see Figure 2.2). Avoidance may take many forms, including overt avoidance of certain situations or objects, engagement in safety behaviours (such as only entering the situation with anxiolytic [anxiety-reducing] medication handy), or more covert avoidance through cognitive processes like worry (Barlow, 2002; Borkovec et al., 2004).

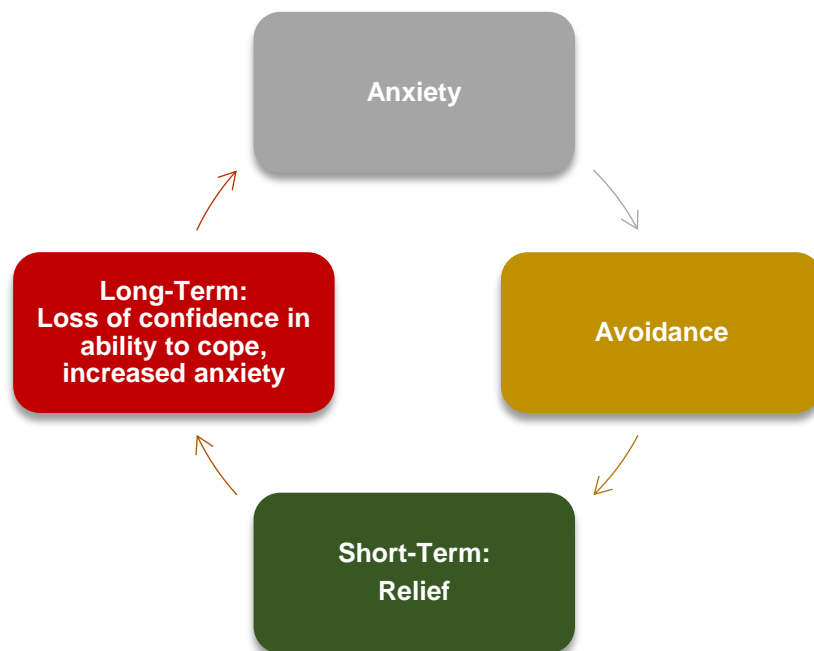


Figure 2.2. Vicious cycle of anxiety.

Anxiety and fear-related disorders have a high prevalence in Australia and are one of the most common presenting problems in general practice (Britt, Miller, Bayram, et al., 2016). They also frequently co-occur with one another as well as other disorders such as depression (Bandelow & Michaelis, 2015).

2.4 Formal Diagnosis

2.4.1 Generalised Anxiety Disorder (ICD-11 6B00; DSM-5 300.02)

The core feature of generalised anxiety disorder (GAD) is persistent, excessive anxiety and worry about a variety of everyday events such as finances, work or school, relationships, and health. These typically take the form of 'what if' questions about the future. The worry and anxiety are associated with several physiological symptoms, such as muscle tension, restlessness, difficulties concentrating, irritability, and sleep disturbance. These features constitute the main ICD-11 criteria for GAD. However, gastrointestinal complaints (e.g., irritable bowel syndrome), headaches, and other somatic symptoms are also common (Stein & Sareen, 2015)

DSM-5 criteria require that three of six specified physiological symptoms must be present in addition to persistent worry and anxiety to diagnose GAD; ICD-11 does not specify the number of symptoms needed for diagnosis. DSM-5 criteria also include an additional symptom, 'the individual finds it difficult to control the worry', which captures a 'worry about worry' that persons with GAD tend to experience. This type of worry is referred to as Type II worry or meta-worry, and is related to beliefs that excessive everyday worries (Type I worries) are uncontrollable, dangerous, and an indicator that there is something 'wrong' (Wells, 2005).

Despite these negative beliefs, persons with GAD typically view worrying about everyday events as an effective means of problem solving about the future to avoid negative outcomes (Borkovec, 1994). Much like behavioural avoidance strategies, in the short-term, worrying can decrease anxiety about potential negative outcomes (Borkovec, 1994; Borkovec et al., 2004). For example, constantly worrying about being fired from one's job may be considered a way of preparing oneself should this happen, which helps some individuals to feel less anxious. To some extent, this may be helpful and adaptive, but at excessive levels can leave a person unable to focus due to constant worrying. In

the long-term, worrying undermines an individual's belief in their ability to cope with uncertainty, trapping them in the vicious cycle of anxiety (Borkovec et al., 2004).

Detection of GAD can be difficult, as people often present for assistance with their somatic symptoms rather than worry (Stein et al., 2005). It is under-recognised, particularly in primary care settings (Wittchen et al., 2002). Furthermore, GAD co-occurs at high rates with other anxiety-related disorders (inclusive of OCD and PTSD), as well as depression (APA, 2013), which may be identified as the cause of the person's distress without detecting the presence of an underlying anxiety disorder (National Institute for Health and Care Excellence [NICE], 2014).

2.4.2 Panic Disorder (ICD-11 6B01; DSM-5 300.01)

Panic disorder is characterised by recurrent, unexpected panic attacks, fear and anxiety about future attacks, and behaviours intended to avoid experiencing panic symptoms. A panic attack is defined as an acute period of intense fear or discomfort in which physiological and cognitive symptoms occur (e.g., increased heart rate, chest pain, sweating, shortness of breath, fear of dying), usually reaching a peak within minutes.

Panic attacks may be present in any number of disorders, as well as in people who do not meet criteria for a specific disorder. However, in panic disorder, the attacks are uncued, meaning they are not restricted to a specific stimulus or situation (e.g., a fear of dogs in specific phobia). Panic disorder is also associated with catastrophic interpretations of panic symptoms, such as a belief that they will cause direct physical harm (e.g., a heart attack). Indeed, many of the symptoms of a panic attack may mimic that of more serious physical conditions such as a heart attack, and it is therefore common for persons with panic disorder to present to emergency departments (Deacon et al., 2008). The misappraisal that panic symptoms pose a physical threat leads to fear and anxiety about the recurrence of panic attacks – sometimes referred to as a 'fear of

fear' – and avoidance of situations or activities that may trigger symptoms (e.g., exercise).

Persons with panic disorder tend to be hypervigilant to internal cues that may signal a panic attack (e.g., changes in heart rate) and often monitor these closely. Paradoxically, excessive monitoring increases the likelihood of future attacks as the person views benign changes in physiology as signs of danger, which elicit a fight-or-flight response (Bouton et al., 2001). This response is not dependent on conscious awareness of the physiological changes, which can be thought of as conditioned stimuli that elicit anxiety due to a learned association with panic (Bouton et al., 2001)

There are small differences between DSM-5 criteria and ICD-11 criteria for panic disorder. Firstly, DSM-5 specifies a minimum number of symptoms required for a panic attack; four or more symptoms are considered a full-symptom attack, while attacks with less than four symptoms are considered limited-symptom attacks (APA, 2013). The DSM-5 criteria for panic disorder then require that a person experience more than one full-symptom attack. ICD-11 does not specify several symptoms and therefore does not distinguish between full- and limited-symptom panic attacks. These differences mean that a person diagnosed with panic disorder using ICD-11 criteria may not meet criteria for the disorder using DSM-5.

2.4.3 Agoraphobia (ICD-11 6B02; DSM-5 300.22)

The characteristic feature of agoraphobia is intense fear or anxiety in response to real or anticipated exposure to multiple situations, such as public transport, being in crowds, or being in open spaces. The fear and anxiety are related to beliefs that escape might be difficult, or help may not be available should specific negative outcomes occur (e.g., panic attacks, being embarrassed/incapacitated by other physical symptoms).

The person may avoid feared situations entirely, and in severe cases, this can result in significant functional impairment such as becoming restricted to the home

(Bonham & Uhlenhuth, 2014). In other instances, the person may continue to enter into feared situations, but only through the use of safety behaviours designed to help the person manage the situation while avoiding a perceived danger (e.g., only going shopping when with a friend, only using public transport if able to sit close to an exit), or else endure them with intense fear and anxiety.

The above described symptoms constitute the main ICD-11 criteria for agoraphobia. Criteria in DSM-5 specify that anxiety and fear must be present in response to two of five specified situations to diagnose agoraphobia: 1) using public transportation, 2) being in open spaces, 3) being in enclosed places, 4) standing in line or being in a crowd, and 5) being outside of the home alone. ICD-11 is less specific, and just notes several example situations.

Agoraphobia is now recognised as a separate condition to panic disorder in both DSM-5 and ICD-11, and can, therefore, be diagnosed independently. However, agoraphobia and panic disorder commonly occur together, and both diagnoses should be assigned if appropriate (see Differential Diagnosis information later in this section).

2.4.4 Specific Phobia (ICD-11 6B03; DSM-5 300.29)

Specific phobias involve marked excessive fear or anxiety in response to a specific object or situation, and associated avoidance of the feared stimulus. Typically, a strong physiological response occurs in anticipation of or on exposure to the feared or associated stimulus, though the nature of the specific symptoms varies. For instance, it is common for those with a blood-injection-injury specific phobia to experience a vasovagal fainting response, whereas other types of phobias are associated with more panic-like symptoms (APA, 2013). The majority of people who meet criteria for specific phobia fear multiple objects or situations on average (Stinson et al., 2007).

Unlike the other anxiety and fear-related disorders discussed in this chapter, specific phobias typically develop in childhood (Bandelow & Michaelis, 2015). Specific

phobias may be precipitated by negative encounters with the feared stimulus (e.g., being attacked by a dog, or witnessing another being attacked), but this is not always the case. Research has demonstrated that maternal modelling of anxious responses to a stimulus can lead to toddlers acquiring a fear of that stimulus, without the child experiencing any direct negative interaction with the stimulus itself (Gerull & Rapee, 2002). Furthermore, non-associative models of fear acquisition posit that fears of evolutionarily relevant stimuli (e.g., heights) are innate, and phobias may develop due to poor habituation to feared stimuli, for example, due to insufficient learning experiences (Poulton & Menzies, 2002).

Criteria for specific phobia are very similar across DSM-5 and ICD-11, though DSM-5 has an additional criterion, 'the phobic object or situation almost always provokes immediate fear or anxiety'. DSM-5 also lists five diagnostic specifiers: animal, natural environment, blood-injection-injury, situational, and other. ICD-11 does not list specifiers but notes simple phobia, acrophobia, and claustrophobia as inclusions for this diagnosis.

2.4.5 Social Anxiety Disorder (ICD-11 6B04; DSM-5 300.23)

Social anxiety disorder is characterised by excessive fear or anxiety in social situations, due to concerns about being negatively evaluated by others. People meeting criteria for social anxiety disorder are typically concerned they will act in a way (e.g., saying the wrong thing), or show anxiety symptoms (e.g., being red in the face, sweating), that will elicit judgement from others. Social situations that may subject the person to scrutiny from others are therefore consistently avoided.

The focus of the anxiety may be performance-based (e.g., giving a speech), related to direct social interactions with others such as talking with peers, or being observed in public (e.g., eating or drinking, or queuing in line). The above described features constitute ICD-11 criteria for social anxiety disorder. DSM-5 diagnostic criteria are very similar, though include 'performance only' as a specifier.

Traditionally, social anxiety disorder has been thought of as a fear of negative evaluation by others, but more recent research shows that it may be associated with a fear of *any* evaluation (Heimberg & Magee, 2014). Social anxiety disorder also has many features in common with avoidant personality disorder (a DSM-5 diagnosis without an ICD-11 equivalent). The two frequently co-occur, and some models consider that people meeting criteria for both disorders may be those with a more severe and longstanding social anxiety disorder (Heimberg & Magee, 2014).

2.4.6 Differential Diagnosis

In differentiating between the anxiety disorders (and other disorders where anxiety may be a feature), it is important to identify the specific focus of the anxiety or avoidance as many disorders may present similarly. Information about differential diagnoses for each anxiety disorder is listed below, and this is also discussed in *Assessment*, below.

Generalised anxiety disorder

- *Social anxiety disorder*: Social worries are frequent in GAD, though tend to focus more on ongoing interpersonal relationships (e.g., ‘what if my partner leaves me?’) rather than negative evaluation from others.
- *Depressive disorders*: Rumination in depression can present similarly to worry in GAD. However, depressive rumination is typically past-oriented while GAD is future-oriented.

Agoraphobia

- *Specific phobia*: Situational specific phobia can have a similar presentation to agoraphobia (e.g., fear of flying). Agoraphobia is diagnosed if multiple agoraphobic situation categories are feared (e.g., public transportation and being in a crowd).

- *Social anxiety disorder*: If situations are avoided due to fear of negative evaluation from others, a diagnosis of social anxiety disorder is more appropriate.
- *Panic disorder*: When the criteria for panic disorder are met, agoraphobia should not be diagnosed unless the panic-related avoidance behaviour is present in multiple agoraphobic situations.

Panic disorder

- *Panic attack*: Panic attacks may be present in many conditions. Panic disorder is only diagnosed when panic attacks are uncued, and the anxiety is related to the panic attacks themselves (e.g., a fear of panic symptoms, rather than a fear of dogs that causes a panic attack).
- *Medical conditions*: It is important to rule out medical causes of panic attacks (e.g., hyperthyroidism, seizure disorders, cardiopulmonary conditions), and substance or medication-induced panic attacks (e.g., withdrawal from alcohol, intoxication with amphetamines).

Anxiety is also a feature of many other disorders such as obsessive-compulsive or related disorders (including hypochondriasis) and disorders specifically associated with stress, as well as eating disorders, dissociative disorders and schizophrenia spectrum and other psychotic disorders (APA, 2013; WHO, 2018a).

2.5 Prevalence, Course, and Impact

At present, there are no recent large-scale studies of the Australian prevalence of these disorders. The most recent estimates based on diagnostic interview (rather than self-report) come from the last National Survey of Mental Health and Wellbeing (ABS, 2007) conducted in 2007. DSM-5 and ICD-11 disorders are grouped differently from in previous versions of these manuals, so disorders that were coded as anxiety disorders (i.e., OCD and PTSD) at the time this survey was conducted no longer fall in the

category, and criteria for individual disorders have changed. It is therefore challenging to ascertain the current Australian prevalence of anxiety and fear-related disorders.

The DSM-5 estimates the prevalence of anxiety and fear-related disorders to be 7% in the United States (APA, 2013). Similarly, a large systematic review estimated that, for European/Anglo-Saxon countries (Western Europe, North America, and Australasia), prevalence is approximately 6.4% (Baxter et al., 2013). Estimated prevalence rates for individual disorders in Australia are presented in Table 2.1 and have been taken from various sources. Where more recent prevalence data could not be found, the 2007 NSMHWB rates are reported. Generally speaking, anxiety and fear-related disorders occur about twice as frequently in women as men (Bandelow & Michaelis, 2015), except panic disorder and blood-injury-injection phobias where rates are similar across genders (LeBeau et al., 2010).

Table 2.1. Prevalence rates of anxiety disorders.

Diagnosis	Life-time prevalence	12 month prevalence
Generalised Anxiety Disorder	5.9 ^b	2.7 ^a
Panic Disorder	5.2 ^b	2.6 ^a
Agoraphobia	6.0 ^b	2.8 ^a
Specific Phobia	3.5 ^c (Females)	
Social Anxiety Disorder	8.4 ^d	4.2 ^d

Note. Life-time prevalence = proportion of sample that at some point in their life has experienced the condition; 12 month prevalence = proportion of sample that has experience condition in the last 12 months

^a National Survey of Mental Health and Wellbeing, 2007 (Slade et al., 2009)

^b National Survey of Mental Health and Wellbeing, 2007 (ABS, 2007)

^c Age-stratified representative sample of Australian women (Williams et al., 2010)

^d Adult sample in Australia (Crome et al., 2015)

Anxiety and fear-related disorders typically develop by early adulthood with GAD having the latest age of onset (de Lijster et al., 2017). Anxiety disorders are associated with long delays in help-seeking from symptom onset, particularly in the case of social anxiety disorder, GAD, and specific phobia 9.3, 10.8, and 12.5 years (Thompson et al., 2008). Many anxiety disorders go unrecognised in health care settings, and only a minority of people receive treatment (NICE, 2014). The untreated course of these

disorders tends to be chronic, reaching a peak in middle age, but then decreasing in older age (Bandelow & Michaelis, 2015).

The impact of anxiety disorders is less well studied than for other high prevalence conditions (i.e., depression) and serious mental illnesses such as schizophrenia. However, anxiety disorders have a significant impact on quality of life, particularly in the areas of interpersonal relationships and social functioning, leisure, and work roles (Barrera & Norton, 2009; Henning et al., 2007; Olatunji et al., 2007; Rapaport et al., 2005). In Australia, anxiety disorders are also a leading cause of non-fatal disease burden, contributing the second highest rate of years lived with a disability of any condition (6% of total) and the highest of all mental health conditions (AIHW, 2021b).

2.6 Aetiology

As this thesis focusses on anxiety disorder management within primary care, a detailed analysis of the aetiology of anxiety disorders was outside the scope of this chapter. The section below provides a brief summary of the aetiology of anxiety and fear-related disorders. The triple vulnerability theory (Barlow, 1988, 2000, 2002) is a useful way of understanding the development of anxiety and fear-related disorders in general, though specific models exist for specific disorders. Pertinent disorder-specific models are described in the formal diagnosis section above.

It is believed that factors such as a heritable tendency to experience negative affect and an inhibited temperament in childhood (characterised by being slow to warm up to peers, seeking proximity to caregivers, and unwillingness to explore new situations) are related to a biological vulnerability to anxiety disorders (Barlow & Craske, 2014; Fox & Pine, 2012; Rapee, 2012; Rosenbaum et al., 1993). This biological vulnerability then interacts with social/environmental factors to produce psychological vulnerabilities. For example, children with behaviourally inhibited temperaments tend to elicit an overprotective response from their caregivers, which leads to a diminished sense of

control and reduced opportunity for the child to learn anxiety can be tolerated (Barlow & Craske, 2014). In general, parenting factors and family environment are believed to play a large role in the development of anxiety disorders for those with an existing biological vulnerability (Rapee, 2012). Insecure child-caregiver attachment style has also been repeatedly linked to the development of anxiety disorders, with some studies demonstrating that this predicts later anxiety to a greater degree than temperament (Warren et al., 1997). Overall, it is believed that such factors create a generalised psychological vulnerability to anxiety and fear-related disorders.

Specific early learning experiences may then focus anxiety on a particular area of concern, creating a specific psychological vulnerability to a particular disorder (Barlow & Craske, 2014). Learning can occur through multiple pathways—direct experiences with a threat, straightforward information transmission about a potential threat, and vicarious (observational) learning have all been demonstrated to impact the development of anxiety (Antony & Stein, 2008). For example, development of social anxiety disorder is associated with the direct experience of being bullied in childhood (Heimberg & Magee, 2014), as well as modelling of social anxiety and direct information transmission from caregivers about the potential dangers of being socially evaluated (Barlow, 2002).

Non-associative models also posit that fears can arise without direct or indirect learning experiences, as humans have evolved to respond innately with fear to certain evolutionary-relevant stimuli (e.g., fear of heights; Poulton & Menzies, 2002). These models propose that over the course of development, learning experiences weaken fear associations and lead a person to habituate to the feared stimulus. However, where poor habituation occurs, a person may develop a phobia (Poulton & Menzies, 2002).

2.7 Assessment

As noted above, avoidance is the key maintaining factor in anxiety and fear-related disorders and therefore a primary target of treatment, irrespective of the

treatment approach used. A thorough assessment of avoidance behaviours is therefore crucial to the successful treatment, including assessment of safety behaviours (e.g., using public transport but always sitting close to the door, keeping a benzodiazepine in your pocket 'just in case'). Assessment of maladaptive anxiety and fear-related cognitions (including worries in GAD) is also vital, as these cognitions perpetuate anxiety by fuelling avoidance behaviours and increasing emotional and physiological anxiety symptoms (Wells, 2013).

Several physical illnesses produce symptoms of anxiety (e.g., hypoglycaemia, thyroid or cardiac conditions) so excluding an underlying medical cause is important (Kyrios et al., 2011). However, anxiety disorders have high rates of co-occurrence with physical illnesses (Roy-Byrne et al., 2008), so identification of a related medical condition does not rule out the presence of an anxiety disorder.

The Depression Anxiety Stress Scale-21 items (DASS-21; Lovibond & Lovibond, 1995) may be useful as an initial screening tool to identify whether anxiety is a primary concern, as it produces separate subscale scores for depression, anxiety, and stress. However, it assesses physiological and emotional anxiety symptoms rather than cognitive symptoms (i.e., worry). For this reason, if GAD is suspected, it may be useful to use a disorder-specific instrument such as the GAD-7 (Spitzer et al., 2006), which was developed for use in primary care settings. A list of other disorder-specific measures that are freely available can be found in Appendix I of the Australian Clinical Practice Guidelines (Andrews, Bell, et al., 2018). In addition to psychometric measures, the flow chart in Figure 2.3 has been adapted from Kyrios and colleagues (2011) as a tool to assist in the differential diagnosis of anxiety disorders.

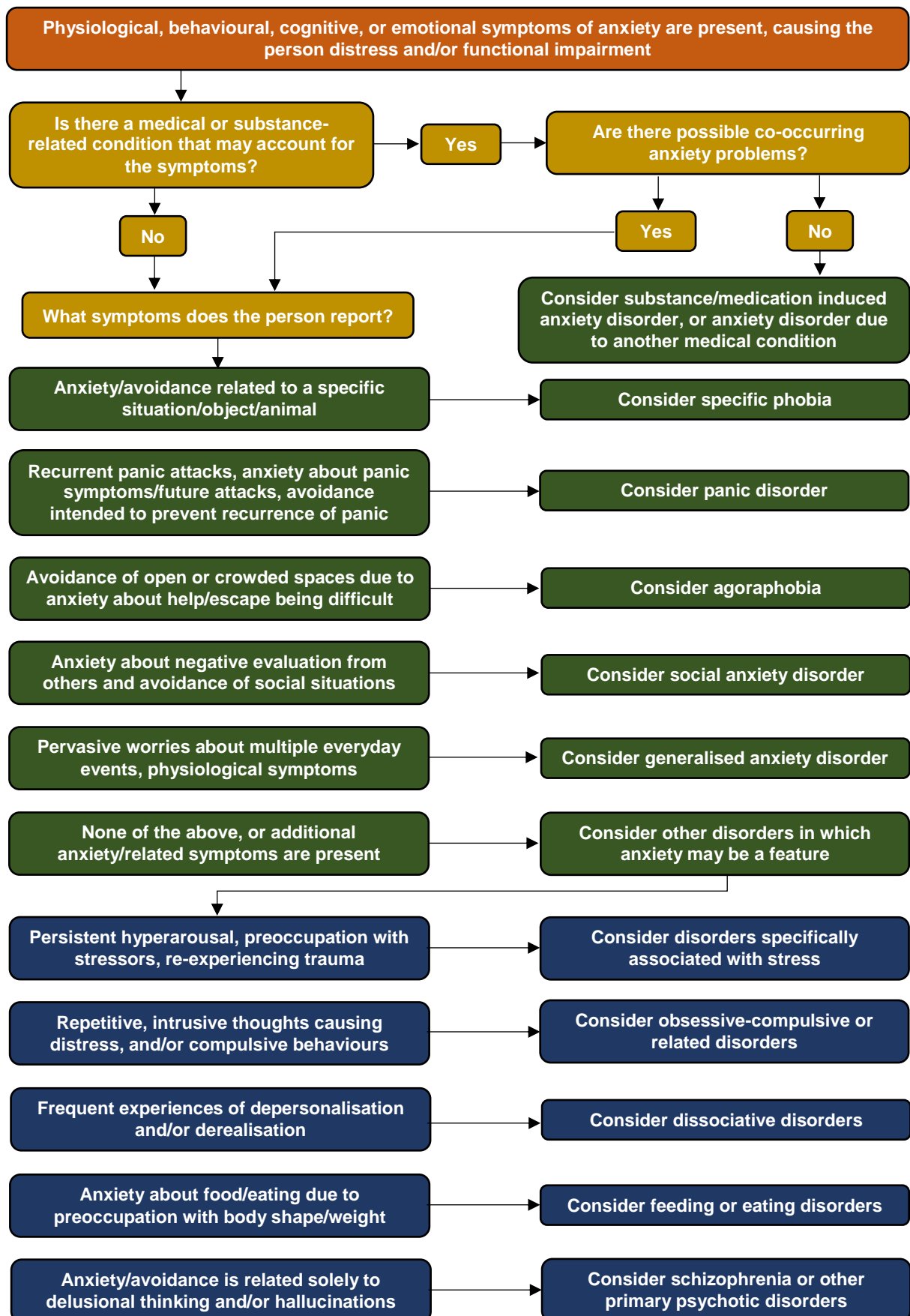


Figure 2.3. Anxiety disorder differential diagnosis flowchart (adapted from Kyrios et al., 2011).

2.8 Evidence-Based Treatment

Updated Australian Clinical Practice Guidelines for the treatment of social anxiety disorder, panic disorder, and GAD were published in 2018 (Andrews, Bell, et al., 2018). These guidelines state that anxiety disorders should be treated using a stepped care model including psychological interventions (online and face-to-face), pharmacological interventions, and their combination. An overview of the recommendations for the management of anxiety disorders, taken from the Australian practice guidelines can be seen in Figure 2.4. It should be noted that despite recommendations for the combination of psychological and pharmacological interventions in severe cases, the evidence for this is limited (Andrews, Bell, et al., 2018).

2.8.1 Psychological Treatments

Psychological therapy, and cognitive behavioural therapy (CBT) in particular, is effective for anxiety disorders and is considered a first-line treatment (Andrews, Bell, et al., 2018; NICE, 2014). Mindfulness and acceptance-based therapies such as acceptance and commitment therapy are also increasingly used in the treatment of anxiety disorders and are supported by an emerging body of evidence (e.g., Forman et al., 2007; Hofmann et al., 2010), though are less well-researched than traditional CBT.

The specific CBT techniques used to treat anxiety vary for each disorder, and a wide variety of strategies may be used within disorders. However, a key component of treatment across the board is the inclusion of exposure techniques. Exposure therapy involves graduated exposure to feared stimuli to both decrease levels of, and build tolerance to, anxiety. Other components that should form part of any CBT-based anxiety treatment regimen are listed below (Andrews, Bell, et al., 2018):

- Psychoeducation about the nature of anxiety, including the fight-or-flight response (particularly in panic disorder) and the maintenance role of avoidance

- Arousal reduction strategies (e.g., deep breathing, mindfulness, relaxation techniques)
- Cognitive strategies (e.g., challenging catastrophic beliefs, structured problem solving)
- Behavioural strategies (predominantly exposure techniques, usually graded exposure).

Treatment of GAD differs slightly from other anxiety disorders, as it is less behavioural in nature (although, engagement in worry can be viewed as a behaviour) and anxiety triggers are more diffuse (i.e., about a wide variety of everyday events). That being said, reducing behavioural avoidance remains a goal of treatment. Behavioural strategies may involve graded exposure to internal experiences of anxiety themselves (i.e., worries, emotions, and physiological symptoms; Roemer & Orsillo, 2014), as well as engaging in unplanned activities without over-preparing (Andrews, Bell, et al., 2018). Furthermore, problem-solving skills are often also taught as part of treatment for GAD, with a focus on helping the person identify the difference between effective problem solving and the ineffective use of worry as a problem-solving technique.

CBT can be self-guided (such as through self-help books), delivered online (e.g., smartphone app, computer), or in a traditional face-to-face setting (either individually or in a group). Individually delivered, face-to-face CBT is the most widely studied method, though there is also good evidence for online CBT-based programs in the treatment of anxiety disorders (e.g., Andrews, Basu, et al., 2018; Olthuis et al., 2016). Information about disorder-specific online treatment programs in Australia can be found at www.headtohealth.gov.au.

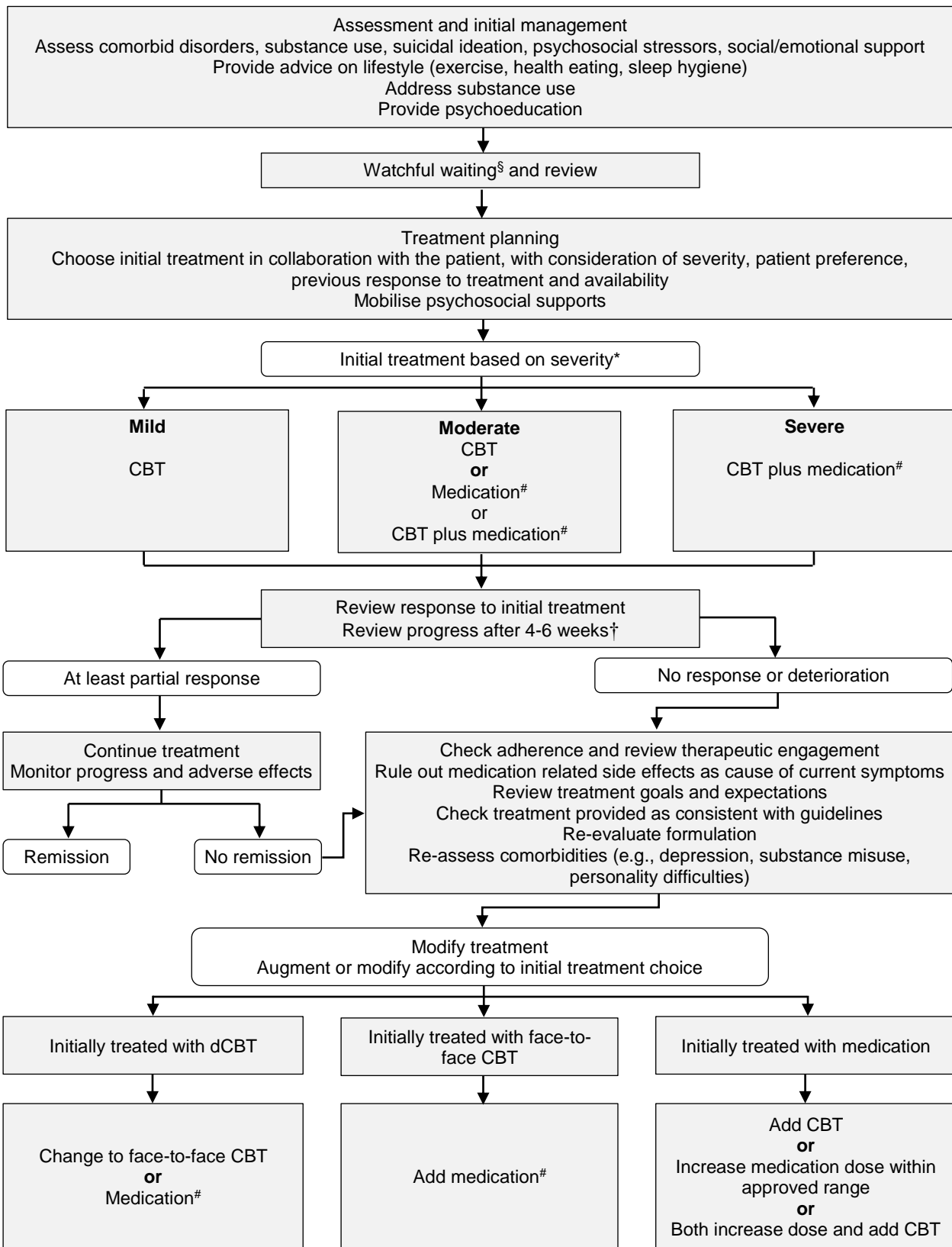


Figure 2.4. Overview of anxiety disorder management (reproduced from Andrews et al., 2018).

CBT: cognitive-behavioural therapy. CBT can be delivered face-to-face by an experienced clinician or as guided digital CBT. dCBT: guided digital CBT (CBT accessed by computer, tablet or smartphone application). §Watchful waiting includes monitoring response to psychoeducation and lifestyle measures. *For the purpose of initial treatment choice, mild, moderate and severe are defined pragmatically, according to effect on function, as inability to perform daily role for less than 1 day per month, 1–7 days per month and more than 7 days per month, respectively. This classification is based on the distribution of number of complete days out of role reported by people in the Australian National Survey of Mental Health and Wellbeing (Slade et al., 2009b) who met criteria for one or more of panic disorder, SAD or GAD, #Medication should be combined with advice about graded exposure to feared situations. †Review after 4–6 sessions of weekly CBT, or after 4–6 weeks of medication.

2.8.2 Pharmacological Treatments

Pharmacological treatments for anxiety disorders have advantages, at least in terms of cost and ease of access, as these can be prescribed by a general practitioner. However, pharmacotherapy should always be accompanied by psychoeducation about anxiety and instructions for graded exposure (Andrews, Bell, et al., 2018).

2.8.2.1 Antidepressants

Antidepressants are considered effective for anxiety disorders, in particular, selective serotonin reuptake inhibitors (SSRIs) or serotonin and noradrenaline reuptake inhibitors (SNRIs), which are the recommended first-line medications (Andrews, Bell, et al., 2018). Tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs) can be useful where first-line treatments have not been successful, though these medications are not recommended in the first instance due to adverse effects and danger in overdose (Ravindran & Stein, 2010). Adjunctive therapy with anticonvulsants or atypical antipsychotics may also be considered for those who have not responded to first-line treatment (Ravindran & Stein, 2010).

2.8.2.2 Benzodiazepines

Benzodiazepines are no longer recommended as a first-line treatment for anxiety disorders due to the risks associated with long-term use, particularly dependence (Andrews, Bell, et al., 2018; NICE, 2014). Furthermore, in clinical settings, it is well recognised that benzodiazepines can perpetuate anxiety disorders through their use as a safety behaviour. They can interfere with recovery by undermining the person's ability to cope and learn that anxiety can be tolerated (e.g., 'I was only able to get on the bus because I knew I had diazepam in my pocket'), and may impair fear extinction (Hart et al., 2014; Westra et al., 2002). This may be particularly true for panic disorder, where physiological anxiety sensations themselves are the feared stimuli—the exposure to which is avoided through the use of benzodiazepines. These medications should

therefore only be used on a short-term basis (2-4 weeks) for acute anxiety, as an adjunct to first-line treatments such as in the initiation phase of an SSRI or SNRI (Ravindran & Stein, 2010).

2.8.3 Challenges in Treatment

Facing your fears can be very challenging and unpleasant; thus, it is not surprising that people seeking help are often reluctant to engage in exposure therapy and might drop out from treatment—especially in online settings (Abramowitz et al., 2019). As it is imperative that consumers engage effectively with the rationale of the exposure-based approach, any ambivalence experienced by the consumer needs to be understood, normalised and accepted.

Navigating the mental health care system can also be challenging for consumers and care planning suboptimal (Banfield et al., 2019). Further, mental health professionals are often not available for people seeking help for their anxiety symptoms (Wakida et al., 2018). Living in remote rural areas or not having the financial means to pay for private treatment sessions can be serious obstacles to successful treatment. Stigma is also a serious barrier to help-seeking and often continues during treatment (Vistorte et al., 2018). Exposure to anxiety-provoking stimuli or situations can be daunting; disclosure of trauma very difficult, especially if the health service is not trauma-informed.

2.8.3.1 Key Risks of Harm in Treatment Attempts

Over the last decades the empirical evidence has shown that psychological interventions have beneficial effects and should be included in health care systems; however, psychotherapy can be associated with inadequate responses and can also have harmful effects. Unfortunately, the study of adverse or side effects of psychotherapy is still limited, as these effects are hard to recognise and difficult to study (Barlow, 2010). In comparison to side effects of psychopharmacological medication, adverse outcomes in psychotherapy are often iatrogenic as they are directly related to

the therapist's actions. This may include, for example, inappropriate treatment planning and preparation, inadvertent reinforcement of maladaptive habits, culturally insensitive practice, and unhelpful behaviours such as rigidity and over-control (Curran et al., 2019). In other instances, it can be difficult to distinguish a harmful effect caused by the psychological treatment or the interaction with the therapist from an unavoidable deterioration (e.g., caused through a negative life event). Studying negative outcomes of psychotherapy seems crucial in order to further improve psychological treatments; focusing on individual clients' experiences rather than on the aggregated average improvement in randomised controlled trials is needed.

The side effects of psychopharmacological medications are generally well-described. For example common side effects of SSRIs include sexual dysfunction, drowsiness, weight gain, insomnia, anxiety, dizziness, headache, and dry mouth (Schatzberg & Nemeroff, 2017). As noted in the section on pharmacological treatments above, benzodiazepines carry risks of both physiological and psychological dependence and may in fact prolong anxiety disorders if used alone.

2.9 Management of Anxiety Disorders in Australia

2.9.1 Australia's Mental Health System

Mental health care in Australia is delivered broadly across two contexts; general health services in which mental health care may be integrated, and specialist mental health services (AIHW, 2019). The Australian Government funds mental health services with professionals under the Medicare Benefits Schedule (Medicare), including general practitioners, psychiatrists, and allied health professionals (e.g., clinical psychologists, social workers, and occupational therapists). Mental health related prescriptions are also funded by the Government through the Pharmaceutical Benefits Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS; AIHW, 2019). Additional specialist mental health services are funded and delivered by State and Territory governments,

such as inpatient and outpatient hospital services and services in the community (e.g., area-based mental health teams for moderate to severe conditions; AIHW, 2021c). State and Territory governments fund further support services including disability support and mental health programs, which may be delivered by the non-government sector (AIHW, 2019). An overview of the main components in Australia's mental health care system is provided in Figure 2.5.



Figure 2.5. Overview of Australia's mental health care system. Adapted from AIHW (2019).

Two major reforms have impacted the management of mental health conditions in Australia, both of which were designed to advance the treatment of primary mental health care by realising the role general practitioners (GPs) have to play (Australian Government Department of Health, 2010, 2022a). The Better Outcomes in Mental Health Care (BOIMHC) initiative was introduced in July 2001, which aimed to improve outcomes for people with common mental health conditions (i.e., anxiety, depression) by offering non-pharmacological management options. This included brief, evidence-based psychological interventions ('focussed-psychological strategies') in primary care and

referral pathways to specialist care. New Medicare Benefits Schedule (MBS) items were created to allow GPs who complete training in psychoeducation, interpersonal therapy, and cognitive behavioural therapy to claim rebates for providing focussed-psychological strategies (Australian Government Department of Health, 2010; Harrison et al., 2012). A component of this BOiMHC program was the Access to Allied Psychological Services (ATAPS) initiative, which provided access to short-term mental health services in primary care through salaried or subcontracted allied health professionals (e.g., psychologists, mental health nurses, Aboriginal and Torres Strait Islander Health Workers; Australian Government Department of Health, 2010).

In November 2006, the Better Access to Psychiatrists, Psychologists and General Practitioners through the Medicare Benefits Schedule (Better Access) initiative was introduced. Under the new scheme, Medicare rebates were also introduced for services with mental health professionals in an effort to make these more accessible to consumers (Australian Government Department of Health, 2022a). GPs have been set up as the 'gateway' to specialist mental health care, and facilitate access to rebated services with privately practicing specialists (typically psychologists and clinical psychologists) through the creation of a Mental Health Treatment Plan (Australian Government Department of Health, 2022a). A Mental Health Treatment Plan involves an assessment of the person's difficulties, identification of goals, treatment options, and support services. An example template is included in Appendix B of this thesis. Better Access superseded many of the components of BOiMHC, though ATAPS continued to exist alongside Better Access until 2016 when ATAPS was subsumed under psychological services commissioned through the Primary Health Networks (described below; Bassilios et al., 2016).

In the current system, the most common type of psychological treatment option a consumer may be offered is referral to a private psychologist (or clinical psychologist²) for individual treatment sessions. In some cases, providers charge a fee equal to the rebate amount and bill directly to Medicare (“bulk-billing”), though most charge a higher rate, leaving consumers to pay the service cost and claim a portion back from Medicare.

Reforms to Australian primary care also provide context for the current research. In 2015, the coordination of primary health care services was de-centralised through the establishment of 31 Primary Health Networks (PHNs) around Australia. The aim of this reform was to transition care to local communities, who can coordinate services most appropriate to needs in the area (Australian Government Department of Health, 2015). Mental health was included in the list of nine priority areas and the Government planned to transfer the commission of mental health services to PHNs over a three-year period (Australian Government, 2015). This included recommendations for the implementation of stepped care management of mental health, facilitated through primary care, with a hierarchy of services available based on individual needs (Australian Government, 2015). However, as of 2021, GPs continue to provide most of the services for mental health (AIHW, 2021c).

2.9.2 Anxiety Management in Primary Care

GPs serve multiple roles in the management of anxiety, including primary treating professionals and coordinators of specialist care. A consumer may commence professional help-seeking by making an appointment with their GP, who conducts an initial assessment of their difficulties and discusses appropriate treatment options.

²Australia has a two-tiered system involving 1) psychologists with general registration and 2) psychologists who also hold endorsement in a specific area of practice (e.g., clinical psychology). Better Access provides higher rebates for clinical psychologists than generally registered psychologists. Generally registered psychologists complete an undergraduate degree in psychology followed by two years' training via internship or postgraduate study. Clinical psychologists must undertake this training via postgraduate study, not internship, and complete additional training through a registrar program. For further explanation, see <https://psychology.org.au/training-and-careers/careers-and-studying-psychology/studying-psychology/study-pathways>.

Managing anxiety disorders in primary care has substantial advantages. Providing mental health services in this setting reduces stigma faced by consumers and families that may be associated with seeking help in a mental health service (WHO; 2018b). Primary care services are also more accessible for the community than specialist mental health services, and less affected by issues such as long-wait times and limited availability for services in rural areas (WHO, 2018b; WHO & Wonca, 2008). Primary care can provide comprehensive care for co-occurring issues, practitioners may have a pre-existing relationship with the person, and services are cheaper for consumers than private psychological services (WHO, 2018b; WHO & Wonca, 2008).

Challenges to the provision of mental health services in primary care include both systemic and individual factors. Regarding systemic issues, the integration of mental health services requires training of providers to assess and treat these conditions, which remains somewhat limited unless practitioners specifically seek this out themselves. High workloads and short consultation times are common, as are inadequate coordination between general and specialist workers (Wakida et al., 2018) and fee-for-service funding systems (Fleury et al., 2012). Individual factors include provider discomfort with mental health conditions due to stigmatising attitudes (e.g., believing people with mental health conditions are difficult or dishonest), low interest in managing these conditions, and limited knowledge or skills (Fleury et al., 2012; Wakida et al., 2018). However, it should be noted that practitioners typically report higher levels of comfort managing common mental health conditions such as anxiety than they do conditions like schizophrenia (Fleury et al., 2012; Vistorte et al., 2018).

Anxiety disorders are under-recognised in primary care, and low rates of detection are, logically, associated with lower likelihood of receiving adequate treatment (Chapdelaine et al., 2018; Roberge et al., 2015). GPs face barriers to accurate identification and diagnosis; within short consultation times they are required to

differentiate anxiety disorders from medical causes (e.g., cardiac or thyroid disorders) and other mental health conditions (Kyrios et al., 2011). To add to this difficulty, anxiety disorders have high rates of comorbidity with physical illnesses (Roy-Byrne et al., 2008), as well as other mental health conditions (Bandelow & Michaelis, 2015). Furthermore, consumers with anxiety – GAD in particular – often present to general practice seeking help for somatic symptoms (e.g., headaches, gastrointestinal problems) rather than anxiety itself (Stein et al., 2005).

Additional issues affect the management of anxiety when it is detected.

Psychological treatments are recommended as first-line for anxiety (Andrews, Bell, et al., 2018; Lampe, 2013; NICE, 2014). However, GPs have limited options for psychological interventions, as they do not typically have the training or time to provide traditional therapies such as individual CBT (Richards et al., 2004; van Boeijen et al., 2005). In practice, psychological intervention typically involves referral outside of primary care, though this appears to happen for a minority of people and most instead have their anxiety managed in general practice (Britt, Miller, Bayram, et al., 2016; Burgess et al., 2009). Routinely available options for treatment within general practice include general or lifestyle advice, supportive counselling and psychoeducation about anxiety, medication, and guidance through online treatment programs. Previous research has suggested medication is the most frequent type of management provided by GPs regardless of anxiety severity, and benzodiazepines are common (Harris et al., 2015; Tanguay Bernard et al., 2018). It has also been found that management solely in general practice is associated with decreased likelihood of receiving an adequate evidence-based treatment (i.e., appropriate dose of medication or therapy sessions) in Australia (Harris et al., 2015). This is consistent with international research that has found poor treatment adequacy for anxiety disorders in primary care (Chapdelaine et al., 2018; Roberge et al., 2015).

Clinical practice guidelines have been developed for the treatment of anxiety disorders internationally and within Australia. This thesis refers specifically to three practice guidelines: the Royal Australian and New Zealand College of Psychiatrists guidelines for panic disorder, social anxiety disorder and generalised anxiety disorder (Andrews, Bell, et al., 2018); the World Federation of Societies of Biological Psychiatry guidelines on pharmacological treatment of anxiety disorders in primary care (Bandelow et al., 2012); and anxiety disorder guidelines developed by the National Institute for Health and Care Excellence (NICE) in the United Kingdom (2011b, 2013, 2014). Clinical practice guidelines are developed based on review of the best available research evidence regarding treatment efficacy from systematic reviews and meta-analyses, as well as consideration of effectiveness in practice, safety, costs, accessibility and availability, and acceptability to consumers (Habbema et al., 2014). In the case of anxiety disorder guidance, high quality evidence of treatment efficacy exists, though there has been little research regarding treatment provided in primary care settings to inform considerations of effectiveness.

Firstly, although several studies have been conducted on psychological interventions in this setting, very few studies involve GPs as treatment providers despite them providing most of the care for anxiety. Numerous studies have also included people with OCD or PTSD, which are no longer classified as anxiety disorders (Regier et al., 2013), making the current evidence unclear. Furthermore, although medications are effective for anxiety, there is surprisingly little research exploring their effectiveness in primary care populations. Real-world management practices for anxiety are also not well studied in Australia. Studies that have reported on this tend to rely on data from the last National Survey of Mental Health and Wellbeing, which was conducted in 2007, or otherwise explore anxiety alongside other conditions without sufficient detail (e.g., annual general practice reports; Britt, Miller, Bayram, et al., 2016). Finally, despite consumer

and carer involvement being a key feature of Australia's mental health policy since the 1990s (Australian Health Ministers, 1992), there is limited knowledge about the perspectives of consumers on anxiety management. Exploring consumer priorities, experiences of care, and treatment preferences is crucial for understanding the facilitators and barriers to effective management of anxiety, and thus improving standards of care (Daya et al., 2020; WHO, 2018b).

Despite these gaps, the current practice guidelines for anxiety disorder management remain the standard against which care should be provided and can be evaluated. This thesis explores whether the management of anxiety in primary care settings aligns with guidelines and whether recommended treatments are feasible in Australian primary care settings.

2.10 Conclusion

Anxiety disorders are highly prevalent conditions that are managed predominantly in primary care. Most of this management is provided by GPs, who have several options for treatment, though medication tends to be the most common approach. Anxiety disorders are under-recognised in primary care and many consumers do not receive adequate treatment. Importantly, the existing evidence base for anxiety treatment in primary care is limited and requires further study. Furthermore, there is a lack of research exploring the real-world management of anxiety disorders in Australian primary care settings, as well as consumer priorities and expectations for anxiety management. This research aimed to address these gaps through a series of three studies, which are described in the following chapters of this thesis.

CHAPTER THREE

CONTEMPORARY TREATMENT OF ANXIETY IN PRIMARY CARE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF OUTCOMES

As introduced in the previous chapter, effective psychological and pharmacological treatments exist for anxiety disorders. Treatment in primary care tends to be with medication, and general practitioners (GPs) have limited capacity to provide psychological treatments (Richards et al., 2004; van Boeijen et al., 2005). Despite the prominence of medications in this setting, there are no previous reviews of pharmacological treatments in primary care populations specifically. On the other hand, psychological treatments have been investigated more thoroughly, likely owing to the need for these interventions to be modified for use in primary care. A previous systematic review investigated the effectiveness of psychological treatments in primary care and found a moderate effect size for improving anxiety symptoms (Seekles et al., 2013). However, this review included studies of OCD and PTSD, which are no longer considered anxiety disorders. Most studies also involved treatment provided by mental health specialists rather than GPs or nurses who are more likely to work in primary care.

This chapter presents a systematic review and meta-analysis that examined contemporary evidence for the effectiveness of anxiety treatments in primary care. The study aimed to provide an updated review of the evidence for psychological treatment of anxiety disorders and synthesise the evidence for pharmacological treatment. The review also explored whether specialist (e.g., clinical psychologist) versus non-specialist treatment providers (e.g., GP, nurse) affected effectiveness of psychological treatment. Although this thesis focusses on Australian primary care, very few treatment trials have been conducted in Australian primary care populations; hence, the scope of the review was expanded to include international research conducted in countries with similar

economic and health care systems to Australia. A brief summary of the findings is provided below.

Consistent with previous research, results demonstrated that psychological treatments for anxiety are effective in primary care. However, these treatments were only superior to inactive controls if provided by a mental health specialist. Relatively few studies of pharmacological treatment were identified and only two that investigated first-line agents for anxiety. This review highlighted a gap in the evidence base for pharmacological treatments in primary care populations.

3.1 Publication Status

This study was published in *BMC Family Practice* (now *BMC Primary Care*) in May 2021 and is presented here as published, with the exception of minor changes to formatting of headings, citations, figures, and tables (including numbering). The published article is included in Appendix C and the citation is as follows:

Parker, E. L., Banfield, M., Fassnacht, D. B., Hatfield, T., & Kyrios, M. (2021).

Contemporary treatment of anxiety in primary care: A systematic review and meta-analysis of outcomes in countries with universal health care. *BMC Family Practice*, 22(1), 92. <https://doi.org/10.1186/s12875-021-01445-5>

3.2 Author Contributions

Parker devised the concept and design of the study with guidance from Banfield, Fassnacht, and Kyrios. Parker and Hatfield assessed studies for eligibility, and data were extracted from all articles by Parker and either Hatfield or Fassnacht. Parker conducted the analyses and interpreted data with input from Banfield and Fassnacht. Parker drafted the article, and all authors revised it critically for content and approved the version to be published.

**Contemporary treatment of anxiety in primary care:
A systematic review and meta-analysis of outcomes in countries with universal
health care**

Erin L Parker¹, Michelle Banfield², Daniel B Fassnacht^{1,3}, Timothy Hatfield¹, and Michael
Kyrios³

¹ Research School of Psychology, Australian National University, Canberra, Australia

² Centre for Mental Health Research, Australian National University, Canberra, Australia

³ College of Education, Psychology and Social Work, Flinders University, Adelaide,
Australia

3.3 Abstract

Background: Anxiety disorders are highly prevalent mental health conditions and are managed predominantly in primary care. We conducted a systematic review and meta-analysis of psychological and pharmacological treatments in countries with universal health care, and investigated the influence of treatment provider on the efficacy of psychological treatment. **Method:** PubMed, Cochrane, PsycINFO, CINAHL, and Scopus were searched in April 2017 for controlled studies of evidence-based anxiety treatment in adults in primary care, published in English since 1997. Searches were repeated in April 2020. We synthesised results using a combination of meta-analysis and narrative methods. Meta-analysis was conducted using a random-effects multi-level model to account for intercorrelation between effects contributed different treatment arms of the same study. Moderator variables were explored using meta-regression analyses. **Results:** In total, 19 articles (from an initial 2,247) reporting 18 studies were included. Meta-analysis including ten studies ($n = 1,308$) found a pooled effect size of $g = 1.16$ (95%CI = 0.63 – 1.69) for psychological treatment compared to waitlist control, and no significant effect compared to care as usual ($p = .225$). Substantial heterogeneity was present ($I^2 = 81.25$). Specialist treatment produced large effects compared to both waitlist control ($g = 1.46$, 95%CI = 0.96 – 1.96) and care as usual ($g = 0.76$, 95%CI = 0.27 – 1.25). Treatment provided by non-specialists was only superior to waitlist control ($g = 0.80$, 95%CI = 0.31 – 1.28). We identified relatively few studies ($n = 4$) of medications, which reported small to moderate effects for SSRI/SNRI medications and hydroxyzine. The quality of included studies was variable and most studies had at least “unclear” risk of bias in one or more key domains. **Conclusions:** Psychological treatments for anxiety are effective in primary care and are more effective when provided by a specialist (psychologist or clinical psychologist) than a non-specialist (GP, nurse, trainee). However, non-specialists provide effective treatment compared with no care at all.

Limited research into the efficacy of pharmacological treatments in primary care needs to be considered carefully by prescribers. **Registration:** PROSPERO registration number [CRD42018050659](#)

3.4 Background

Anxiety disorders are among the most prevalent mental health conditions globally, affecting approximately one in nine people in a given year (Baxter et al., 2013). These conditions are associated with substantial impairments in occupational and social functioning, including unemployment and under-employment, social isolation, and interpersonal and marital conflict (Kessler, 2007). Anxiety disorders are a leading cause of disability, accounting for more years lived with a disability than any other mental health condition, as well as many physical health conditions (Baxter et al., 2014).

Anxiety disorders are managed predominantly within primary care and are one of the most common conditions seen in these settings, despite less than half of those with an anxiety disorder seeking help (Bijl & Ravelli, 2000; Burgess et al., 2009; Wang et al., 2007). Treating anxiety disorders in this setting has substantial advantages in terms of ease of access and financial cost. Indeed, integrating mental health services in primary care is considered a key component of achieving universal health coverage (WHO, 2019). However, only a minority of people seeking help in primary care receive adequate treatment for their anxiety (Chapdelaine et al., 2018; Harris et al., 2015). Anxiety disorders tend to have a chronic course if insufficiently treated, resulting in significant impairment for the individual and high economic costs due to repeat service use and decreased work productivity (Baxter et al., 2014; Wittchen, 2002). Furthermore, delayed or inadequate treatment increases the likelihood of developing common co-occurring conditions such as depression and substance use, which are associated with greater impairment (Wittchen, 2002).

Several different professionals may provide treatment for anxiety disorders in primary care (e.g., social workers, nurses, psychologists), though the majority of treatment is provided by general practitioners (GPs; Britt, Miller, Henderson, et al., 2016; Wang et al., 2007). Best practice treatment involves a stepped-care approach based on

severity of symptoms and functional impairment, as well as consideration of co-occurring difficulties, consumer preferences, and previous treatment (Andrews, Bell, et al., 2018; NICE, 2014). The specific steps vary by disorder, and include low intensity psychological interventions (e.g., guided or unguided self-help, psychoeducation groups) for milder or uncomplicated anxiety problems, and higher-intensity treatments such as individual cognitive behavioural therapy (CBT) or medications for more moderate problems, or where low-intensity interventions have been unsuccessful (NICE, 2011b, 2013). For complex and severe anxiety difficulties, referral to specialist mental health services outside of primary care should be considered (NICE, 2011b, 2013). In general, psychological interventions are recommended as first line in preference to pharmacological treatment (NICE, 2014). However, pharmacological interventions are the most common treatment provided in primary care regardless of anxiety severity (Britt, Miller, Henderson, et al., 2016; Chapdelaine et al., 2018), and despite research suggesting consumers prefer psychological therapies (Mohlman, 2012; van Schaik et al., 2004).

Although GPs are not routinely able to provide high-intensity psychological treatments due to limited training and time pressures (Richards et al., 2004; van Boeijen et al., 2005), they can offer low intensity interventions such as psychoeducation and self-help programs. In particular, computerised or internet-delivered CBT (cCBT or iCBT) has been shown to be effective for treating anxiety, and may be as effective as face-to-face CBT (Andrews, Basu, et al., 2018; Andrews et al., 2010). Computerised CBT programs usually involve modules delivered by desktop, internet, or phone applications, and are suitable for provision in primary care as either guided (i.e., with support from a clinician) or unguided interventions (Andrews, Basu, et al., 2018).

When appropriate, higher intensity therapies can such as face-to-face CBT can also be provided in primary care by other lay providers (e.g., nurses), which has been a

focus of recent research to improve access to these therapies (Patel & Saxena, 2019). However, financing of non-specialists to deliver psychosocial interventions remains a barrier in many countries, and may explain why GPs continue to provide the majority of care for anxiety disorders. In addition, while there is emerging evidence for psychological interventions provided by non-specialists, the majority of outcome research involves treatment provided by mental health specialists. For example, a previous systematic review and meta-analysis of psychological treatment in primary care and found a moderate effect size for reducing anxiety symptoms (Seekles et al., 2013). However, the treatment in most included studies was provided by clinical psychologists, who do not typically work in primary care settings.

Medications such as selective serotonin reuptake inhibitors (SSRIs) or serotonin noradrenaline reuptake inhibitors (SNRIs) are also recommended treatments for anxiety (Andrews, Bell, et al., 2018; NICE, 2014) and may be cheaper and more accessible to consumers than psychological treatments. However, their effectiveness when prescribed in primary care populations, and without any combined psychological management, is unclear. Benzodiazepine medications also remain frequently prescribed for anxiety despite not being a current recommended treatment (Sonnenberg et al., 2012; Stephenson et al., 2013). To our knowledge, no previous reviews of pharmacological anxiety interventions in primary care exist.

In this review, we aimed to synthesise contemporary evidence for the effect of psychological and pharmacological treatments for anxiety compared with control in primary care. We were interested in evidence from studies that most accurately reflected the real-world treatment settings in which they were conducted. To this end, we focused on reviewing evidence from countries with existing universal health care systems (i.e., where mental health services are routinely provided in primary care without significant cost to consumers). Regarding psychological treatments, our review sought to update

and extend upon the review conducted by Seekles et al. (2013) by a) maximising identification of studies where treatment was provided by non-specialists or GPs, and b) excluding studies of obsessive compulsive disorder (OCD) and post-traumatic stress disorder (PTSD), which are now no longer considered anxiety disorders in the most recent classification systems. We also sought to investigate variables that may moderate psychological treatment effectiveness, namely treatment provider (specialist vs. non-specialist) and treatment modality (face-to-face vs. online vs. self-help).

3.5 Method

3.5.1 Search Strategy and Selection Process

This review followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and was registered with the international prospective register of systematic reviews (PROSPERO; registration number [CRD42018050659](#)). Primary searching was conducted in PubMed using MeSH terms (see Table 3.1). PsycINFO, the Cochrane Central Register of Controlled Trials (CENTRAL), the Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Scopus were also searched to maximise identification of relevant studies. The full search strategy for all databases is available in Appendix C.

Table 3.1. MeSH terms used for primary searching in PubMed.

Topic	MeSH Terms
Anxiety	"Anxiety Disorders" OR "Anxiety"
Primary Care	"Primary Health Care" OR "Physicians, Primary Care" OR "General Practice" OR "General Practitioners" OR "Physicians, Family" OR "Primary Care Nursing" OR "Family Nursing" OR "Nurses, Community Health" OR "Nurse Practitioners" OR "Nurse Clinicians"
Treatment (general)	"Outcome Assessment (Health Care)"
Treatment (psychological)	"Psychotherapy" OR "Counseling" OR "Relaxation"
Treatment (pharmacological)	"Drug Therapy" OR "Psychotropic Drugs" OR "Adrenergic beta-Antagonists"

We identified and removed duplicate articles using Endnote Referencing software. Two independent researchers (ELP and TH) screened titles and abstracts of retrieved articles to determine eligibility for the review. ELP and TH then screened full-text versions of all eligible studies for final inclusion. The reference lists of included articles were hand-searched to identify additional studies, and none were found. Disagreements between reviewers were resolved through post-assessment discussion at each stage of the process.

Initial searches were conducted on April 17, 2017. We re-ran searches on 22 April 2020 to identify any studies published in the period since our initial search date. The first author screened the additional records retrieved following the same process as above. Our inclusion and exclusion criteria can be seen in Table 3.2.

Table 3.2. Inclusion and exclusion criteria.

	Inclusion Criteria	Exclusion Criteria
Publication details	<ul style="list-style-type: none"> • Peer-reviewed journal articles reporting primary data • Published since 1997 • Article written in English 	<ul style="list-style-type: none"> • Published before 1997 • Secondary data analysis, literature reviews, meta-analyses
Study type	<ul style="list-style-type: none"> • Controlled trials 	<ul style="list-style-type: none"> • Uncontrolled trials
Population	<ul style="list-style-type: none"> • Adults (18+ years) • Primary diagnosis of anxiety disorder or clinically significant anxiety • Mixed anxiety/depression 	<ul style="list-style-type: none"> • Persons under 18 years • Primary diagnosis of other mental health condition (e.g., depression, OCD, PTSD)
Setting	<ul style="list-style-type: none"> • Primary care • Country with universal health care 	<ul style="list-style-type: none"> • Secondary or tertiary care setting (e.g., hospital, psychiatric clinic)
Treatment	<ul style="list-style-type: none"> • Evidence-based psychological or pharmacological treatments for anxiety 	<ul style="list-style-type: none"> • Alternative treatments (e.g., kava) • Treatment focusing on condition other than anxiety (e.g., CBT for depression)
Outcome	<ul style="list-style-type: none"> • At least one measure of anxiety symptomatology 	<ul style="list-style-type: none"> • No measure of anxiety symptoms included

We were interested in synthesising the most recent evidence for treating anxiety in primary care. As such, we excluded studies published prior to 1997, which was 20 years before our initial search. We included studies of participants with a primary diagnosis of an anxiety disorder according to diagnostic criteria (DSM or ICD), or clinically significant levels of anxiety on an assessment/screening measure (e.g., Beck Anxiety Inventory [BAI]; Depression Anxiety Stress Scales [DASS]). We excluded studies of OCD and PTSD, which are no longer classified as anxiety disorders. Studies focusing on mixed anxiety/depression were included due to the high rates of co-occurrence between these conditions, as long as treatment was anxiety-specific (i.e., recommended pharmacological agents for anxiety, or anxiety-focussed psychological treatment).

We defined evidence-based treatments as psychological and pharmacological interventions with an existing evidence base, as determined by current clinical practice guidelines (e.g., NICE guidelines; NICE, 2014). For psychological interventions, this included self-help, mindfulness/applied relaxation, and individual cognitive behavioural therapy (NICE, 2011b, 2013; 2014). Pharmacological treatments included SSRIs, SNRIs, pregabalin (generalised anxiety disorder), tricyclic antidepressants (panic disorder) and benzodiazepines in the case of short-term treatment (NICE, 2011b, 2013; 2014).

3.5.2 Data Extraction and Synthesis

The primary outcome in this review was treatment effect size (standardised mean difference) for the reduction of anxiety symptoms in each study. Secondary outcomes were treatment effect sizes for reduction in depressive symptoms and improvement in quality of life. Included papers were coded by two independent reviewers (ELP and either TH or DBF) using a standardised data extraction form. We extracted the following variables from each study: demographic information about participants (age, gender); country in which the study was conducted; type of anxiety; treatment type; modality of treatment (e.g., self-help, online, face-to-face); treatment provider; type of

control group; and outcome statistics (means and standard deviations between groups at post-treatment and follow-up, or other statistics where these were not available). Data were extracted from published reports, and study authors were contacted to obtain missing information. We assessed interrater agreement by comparing the information on each reviewer's coding form after extraction of all items. Disagreements were resolved through discussion and review of the information in the article.

We calculated standardised mean differences (Hedges g ; Hedges, 1981) and standard errors at post-treatment between control and treatment groups for each study. This was calculated from means and standard deviations or other statistics (e.g., t -value, p -value) when the former were not reported. Hedge's g was chosen over other measures of effect size as it corrects for small sample sizes (Hedges & Olkin, 1985), which was an issue for some of the studies in this review. We calculated a separate effect size for all active treatments compared with control in studies with multiple treatment arms. If an anxiety-specific measure was not the primary outcome in the study, the best (e.g., gold standard for a particular disorder, best test-retest reliability) measure of anxiety symptoms in the study was chosen to calculate these statistics. Measures from each study are reported in Table 3.3.

Meta-analysis was performed on studies of psychological treatment only, and other studies were synthesised using narrative methods. We conducted meta-analysis in RStudio version 1.0.143 using the metafor package (Viechtbauer, 2010). For studies with multiple treatment arms, we entered effect sizes from each active treatment compared with the control group into this analysis. A random-effects multi-level model was used to account for intercorrelation between effect sizes contributed by the same study, and meta-regression analyses were run to investigate the effects of moderator variables. We obtained the code for these analyses from the metafor package website (www.metafor-project.org) based on the description of meta-analysis for multiple treatment studies

(Gleser & Olkin, 2009) and multivariate random and mixed-effects models (Berkey et al., 1998). We assessed variability between studies using Chi^2 tests and I^2 estimates of heterogeneity. Interpretation of I^2 values was based on guidelines from the Cochrane handbook, where 0% to 40% represents heterogeneity that may not be important; 30% to 60% may represent moderate heterogeneity; 50% to 90% may represent substantial heterogeneity; and 75% to 100% represents considerable heterogeneity (Deeks et al., 2020). Heterogeneity was explored using meta-regression to investigate the effect of moderators, as noted above.

Publication bias was investigated with Egger's regression test of funnel plot asymmetry (Egger et al., 1997; Sterne & Egger, 2005) by using sampling variance as a moderator in a multi-level model. Methods of sensitivity analysis are not yet well developed for multivariate/multi-level models (Viechtbauer & Cheung, 2010), and options (e.g., Trim and Fill) are not currently available in the metafor package for these types of models. Therefore, we conducted sensitivity analysis by calculating Cook's distance (Cook, 1977, 1979) to identify influential outliers. These were defined as observations with a Cook's distance greater than $4/n$.

3.5.3 Risk of Bias

Risk of bias for each study was assessed by ELP and DBF independently using the Cochrane Collaboration's risk of bias tool (Higgins & Green, 2011). In many psychological treatment studies, blinding of participants and personnel is not possible due to the interpersonal nature of the treatment. In these cases, we rated studies as having "unclear" risk of bias for this criterion, providing no other factors warranted a rating of "high". Consistent with similar reviews of heterogeneous studies with complex interventions (Christensen et al., 2010), we sought agreement between reviewers for all items by comparing ratings and resolved disagreements through post-assessment discussion.

3.6 Results

3.6.1 Description of Studies

Our initial search identified 2,151 articles (after removal of duplicates), and 207 full-text articles were screened. Eighteen articles reporting 17 studies met all inclusion criteria. Interrater agreement for extracted variables was 89.3%. Updated searching in April 2020 identified only one further study for inclusion (from an initial 95 articles published since our original search). Of the 191 articles excluded after full-text screening, 71 were excluded on the basis of being conducted in a country without universal health care (all from the USA). Thirty-one of these articles were publications from a single, large study of collaborative care for anxiety (Roy-Byrne et al., 2010). The full study selection process can be seen in Figure 3.1.

A total of 19 articles reporting 18 studies met all criteria and were included in our review. Two articles reported separate steps of the same study (Seekles et al., 2011a, 2011b), and eight studies involved more than one active treatment condition (Blomhoff et al., 2001; Kendrick et al., 2005; Klein et al., 2006; Laakmann et al., 1998; Lader & Scotto, 1998; Llorca et al., 2002; Power et al., 2000; Sharp et al., 2004; van Boeijen et al., 2005). Across all studies, there were 28 comparisons of active treatment with a control group (placebo, waitlist control, or care as usual [CAU]). Key characteristics of the included studies are available in Table 3.3.

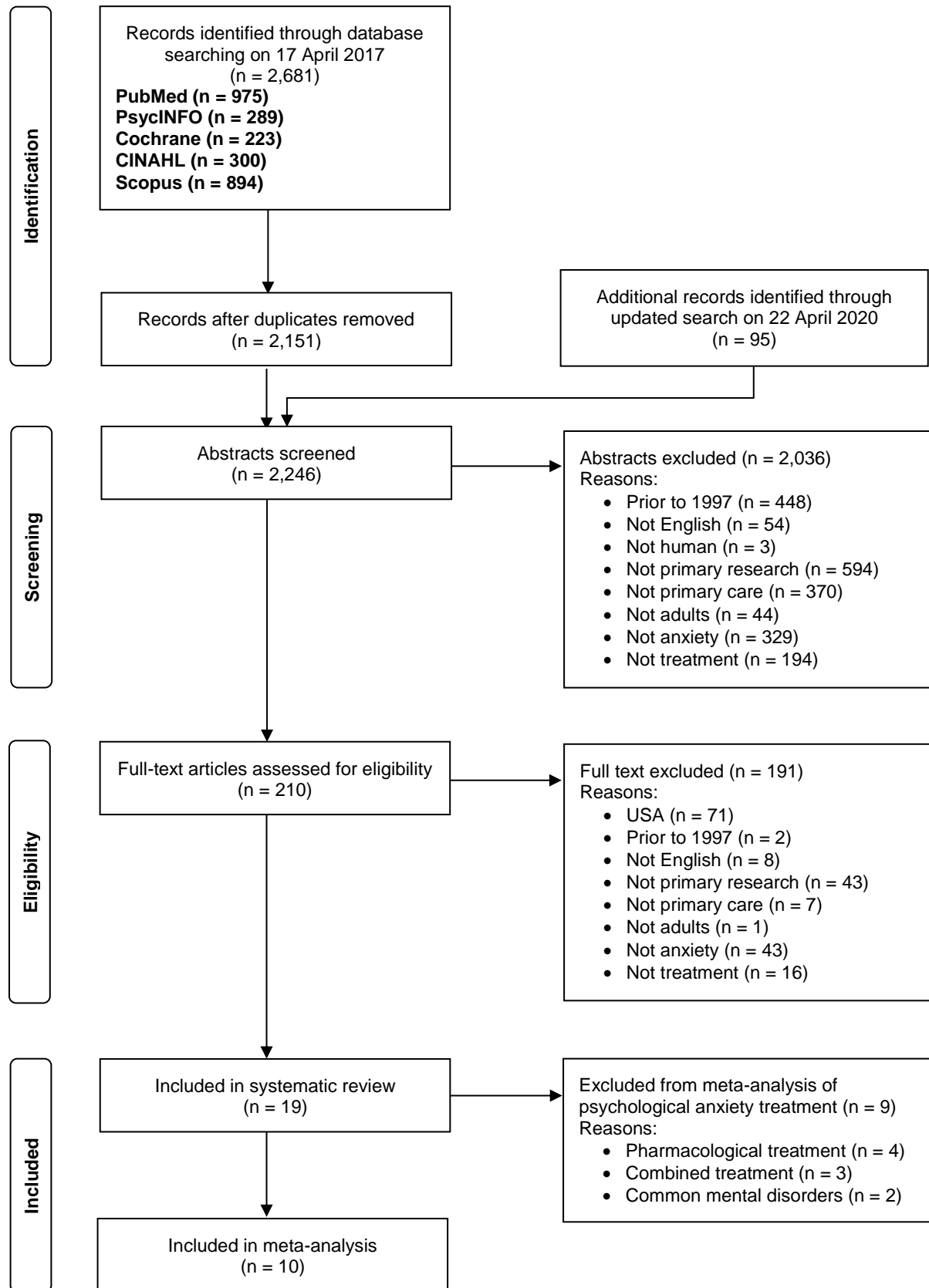


Figure 3.1. Study selection process using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.

Table 3.3. Characteristics of included studies.

First Author, Year	Country	n	FU	Disorder	Outcome	Treatment	Modality	Provider	Control
Psychological Treatment Studies									
Berger, 2017	Germany/Switzerland/Austria	139	6-mth	Anx	BAI	CBT	Online	Self	CAU
Gensichen, 2019	Germany	419	6-mth	Anx	BAI	CBT	Guided bibliotherapy	GP	CAU
Kendrick, 2005 (1)	United Kingdom	247	4-mth	CMD	HADS-A	Other	F2F	Mental health nurse	CAU
Kendrick, 2005 (2)						Other	F2F	Mental health nurse	CAU
Klein, 2006 (1)	Australia	55	3-mth	Anx	PDSS	CBT	Online	Psychologist	Waitlist
Klein, 2006 (2)						CBT	Bibliotherapy	Trainee psychologist	Waitlist
Newby, 2013	Australia	99	3-mth	CMD	GAD-7	CBT	Online	Unspecified clinician	Waitlist
Nordgren, 2014	Sweden	100	10-mth	Anx	BAI	CBT	Online	Trainee psychologist	Waitlist
Power, 2000 (1)	Scotland	104	6-mth	Anx	HAM-A	CBT	Guided (std.) bibliotherapy	Clinical psychologist	CAU
Power, 2000 (2)						CBT	Guided (min.) bibliotherapy	Clinical psychologist	CAU
Seekles, 2011a	Netherlands	108	-	Anx	HADS-A	Other/CBT	Guided online/bibliotherapy	Mental health nurse	CAU
Sharp, 2004 (1)	United Kingdom	97	3-mth	Anx	HAM-A	CBT	F2F	Clinical psychologist	Waitlist
Sharp, 2004 (2)						CBT	F2F – group	Clinical psychologist	Waitlist
Sundquist, 2015	Sweden	215	-	CMD	HADS-A	Other	F2F – group	Psychologist/counsellor	CAU
van Boeijen, 2005	Netherlands	142	10-mth	Anx	STAI-S	CBT	Guided bibliotherapy	GP	CAU
Pharmacological Treatment Studies									
Laakmann, 1998 (1)	Germany	125	-	Anx	HAM-A	Buspirone	Tablet	GP	Placebo
Laakmann, 1998 (2)						Lorazepam	Tablet	GP	Placebo
Lader, 1998 (1)	France and United Kingdom	244	-	Anx	HAM-A	Hydroxyzine	Tablet	GP	Placebo
Lader, 1998 (2)						Buspirone	Tablet	GP	Placebo
Lenox-Smith, 2003	United Kingdom	244	-	Anx	HAM-A	Venlafaxine	Tablet	GP	Placebo
Llorca, 2002 (1)	France	334	-	Anx	HAM-A	Hydroxyzine	Tablet	GP	Placebo
Llorca, 2002 (2)						Bromazepam	Tablet	GP	Placebo
Combined Treatment and Stepped Care Studies									
Blomhoff, 2001 (1)	United Kingdom	387	-	Anx	SPS	Sertraline+CBT	F2F + tablet	GP	Placebo
Blomhoff, 2001 (2)						Sertraline	Tablet	GP	Placebo
Blomhoff, 2001 (3)						CBT	F2F	GP	Placebo
Muntingh, 2014	Netherlands	180	9-mth	Anx	BAI	Stepped Care	Multiple	Multiple	CAU
Oosterbaan, 2013	Netherlands	158	4-mth	CMD	HAM-A	Stepped Care	Multiple	Multiple	CAU
Seekles, 2011b	Netherlands	120	-	CMD	HADS-A	Stepped Care	Multiple	Multiple	CAU

Note. Anx = anxiety disorders only; CMD = common mental disorders; BAI = Beck Anxiety Inventory; GAD-7 = Generalized Anxiety Disorder 7-item Scale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety Subscale; HAM-A = Hamilton Anxiety Scale; PDSS = Panic Disorder Severity Scale; SPS = Social Phobia Scale; STAI-S = State Trait Anxiety Inventory-State Subscale; CBT = Cognitive Behaviour Therapy; PST = Problem Solving Treatment; F2F = face-to-face therapy; GP = general practitioner; CAU = care as usual; FU = follow-up length post-treatment; n = total n for study

3.6.2 Participants

In the included studies, 2,059 participants were randomised to an active treatment condition and 1,247 to a control condition. Participants ranged in age from 18 years to 80 years, with the average age in each study between 34.2 years and 51 years. All studies had a higher proportion of women than men.

Thirteen studies investigated anxiety disorders specifically; four generalised anxiety disorder (22.2% of 18), four panic disorder with or without agoraphobia (22.2% of 18), and five investigated multiple anxiety disorders (including mixed anxiety/depression; 27.8% of 18). Five studies (27.8% of 18 studies) included participants with “common mental disorders” as their primary diagnosis, which referred to one or more of anxiety disorders, depression, mixed anxiety/depression, and stress/adjustment disorders. One study reported separate outcomes for participants with an anxiety disorder only (Seekles et al., 2011a) and anxiety-only data was obtained from the authors for another study (Kendrick et al., 2005).

Most studies reported moderate mean anxiety severity at baseline among participants, as measured by either clinician (e.g., CGI-S, HAM-A) or self-report (e.g., BAI) measures. Two studies reported mild-to-moderate anxiety severity at baseline (Kendrick et al., 2005; Seekles et al., 2011b), and five studies reported moderate-severe or severe anxiety (Gensichen et al., 2019; Klein et al., 2006; Laakmann et al., 1998; Lenox-Smith & Reynolds, 2003; van Boeijen et al., 2005).

3.6.3 Treatment and Control Group Type

The majority of included studies were of psychological treatments (10/18, 55.5%). Four studies investigated one or more pharmacological treatments (22.2% of 18), and one study compared psychological and pharmacological treatments (and their combination). The remaining three studies investigated the effect of stepped care, which included both psychological and pharmacological treatments. Pharmacological studies

tended to be older (published between 1998 and 2003) than psychological studies (published between 2000 and 2019).

In the 10 psychological treatment studies, four compared treatment with a waitlist control (i.e., no treatment) and six used a CAU control. The care received by control group participants was described in four of the six CAU-controlled studies (Gensichen et al., 2019; Power et al., 2000; Sundquist et al., 2015; van Boeijen et al., 2005), and most commonly included antidepressants, benzodiazepines, CBT, or referral for specialist mental health care. These studies reported that most control group participants received at least one of these treatments, though did not report actual numbers for the different types of care, with the exception of one study (Gensichen et al., 2019). All three studies of stepped care used CAU as a control and provided descriptions of the care received by participants. At least half of control group participants in these studies received medication (antidepressants or benzodiazepines), referral to a specialist mental health professional, or both. All pharmacological treatment studies used placebo controls.

3.6.4 Psychological Interventions

Four psychological treatment studies investigated the effects of two different treatments with a control. With the addition of the psychological treatment arm from the study of combined treatment (Blomhoff et al., 2001) as well as the article reporting outcomes for the self-help step (Seekles et al., 2011a) of a stepped care study (Seekles et al., 2011b), there were a total of 16 comparisons of psychological treatment with either CAU or waitlist control.

Psychological treatments were predominantly CBT-based ($n = 13$, 81.2% of 16) and provided on an individual basis. One study involved group treatment (Sundquist et al., 2015), and one study compared individual treatment with group treatment (Sharp et al., 2004). Treatment was delivered either face-to-face with a health professional ($n = 6$, 37.5% of 16) or through self-help manuals/internet programs with support from a

professional ($n = 10$, 62.5% of 16). Treatment was provided by specialists (clinical psychologists or psychologists) in six treatment conditions (37.5% of 16). In the other ten treatment conditions, treatment was provided by trainee psychologists ($n = 2$), mental health nurses ($n = 3$), GPs ($n = 3$), an unspecified clinician ($n = 1$), and the participant themselves ($n = 1$), all of whom we coded as non-specialists in this review.

3.6.4.1 Effect on Anxiety Disorders

We conducted meta-analysis on the studies of psychological treatment for anxiety disorders; to limit heterogeneity, we excluded the studies of common mental disorders and mixed anxiety/depression from this analysis (Kendrick et al., 2005; Newby et al., 2013). The effect of psychological treatment on common mental disorders is instead described below using narrative synthesis. Meta-analysis included 14 comparisons of psychological treatment with a control group, taken from ten studies (Figure 3.2, Table 3.4). The model found a large effect size for psychological treatment compared to waitlist control ($g = 1.16$, 95%CI = 0.63 – 1.69), and no significant effect compared to CAU control ($Z = 1.21$, $p = .225$). Considerable heterogeneity was present ($I^2 = 81.25$).

Due to a lack of power, we were only able to investigate the effects of one moderator variable. Treatment provider was chosen as this variable was more relevant to the aims of the review. Meta-regression analysis found that treatment effect was significantly moderated by treatment provider ($z = 2.61$, $p = .009$). Results are presented in Table 3.4. The inclusion of this moderator accounted for 53% of the total amount of heterogeneity. However, the resulting test for residual heterogeneity was significant ($Q_E = 36.22$, $df = 11$, $p < .001$).

Treatment provided by a non-specialist compared with CAU did not produce a significant effect on anxiety symptoms ($p = 0.468$). However, compared with waitlist control a large effect was found ($g = 0.80$, 95%CI = 0.31 – 1.28). Treatment provided by

a specialist was associated with large effects regardless of the comparison group (CAU: $g = 0.76$, 95%CI = 0.27 – 1.25; waitlist: $g = 1.46$, 95%CI = 0.96 – 1.96).

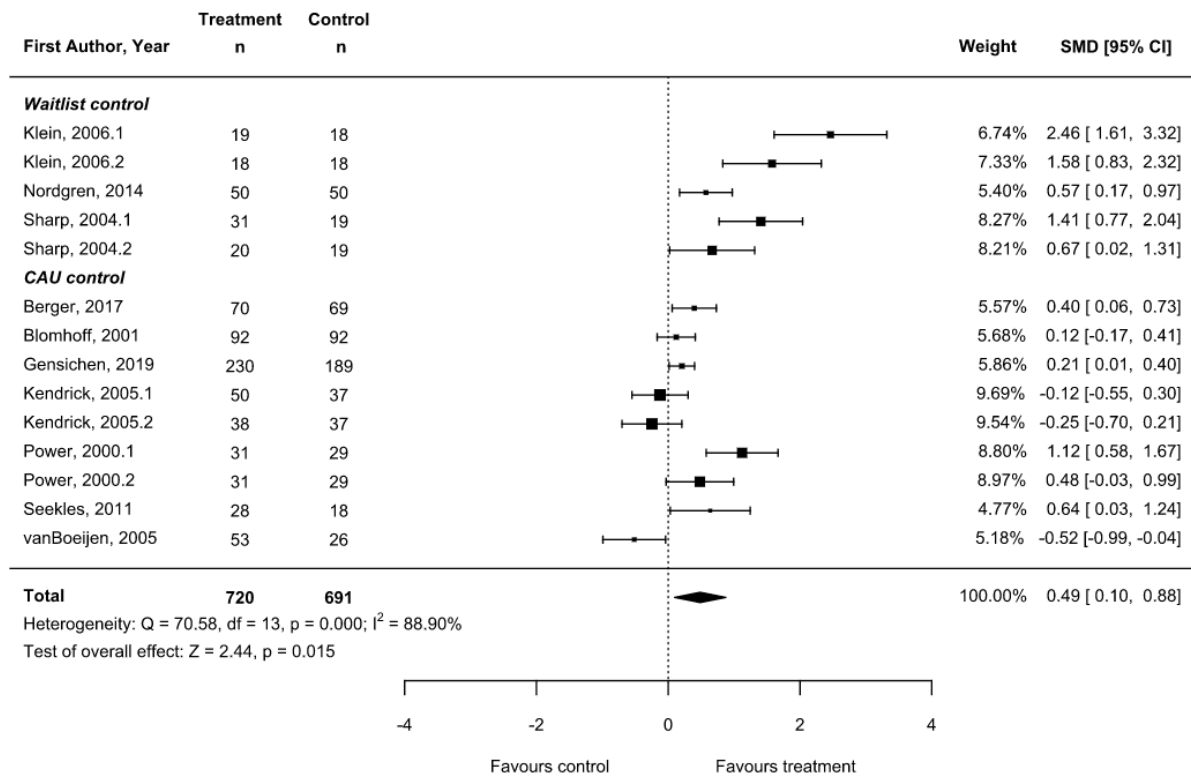


Figure 3.2. Forest plot for comparison of psychological treatments with control, for studies of anxiety only.

Table 3.4. Meta-analytic results for effect of psychological treatment on anxiety symptoms.

	n	g	se	95% CI	z	p
All studies	14	0.49	0.20	0.10 – 0.88	2.44	.015
Treatment vs. CAU	9	0.20	0.17	-0.12 – 0.53	1.21	.224
Treatment vs. waitlist	5	1.16	0.27	0.63 – 1.69	4.28	<.0001
Non-specialist provider	9					
CAU control	7	0.10	0.13	-0.16 – 0.35	0.73	.468
Waitlist control	2	0.80	0.25	0.31 – 1.28	3.22	.001
Specialist provider	5					
CAU control	2	0.76	0.25	0.27 – 1.25	3.04	.002
Waitlist control	3	1.46	0.26	0.96 – 1.96	5.71	<.001

Note. n = number of comparisons in analysis; se = standard error; CAU = care as usual.

Egger's regression test showed significant funnel plot asymmetry ($z = 3.70$, $p < .001$), indicating the presence of publication bias. No influential outliers were identified, though Cook's distance for one study (van Boeijen et al., 2005) was substantially larger ($D = 0.23$) than for other studies and close to the threshold of 0.29 ($4/n$), suggesting this study had a larger influence on the model than the other observations.

3.6.4.2 Effect on Common Mental Disorders

One study investigated two types of psychological treatment (problem-solving and generic mental health nurse care) for common mental disorders (anxiety, depressive, stress, and adjustment disorders) and found no significant treatment effect for either compared with CAU (Kendrick et al., 2005). The authors for this study also provided us with results for participants with anxiety only, which are reported in the meta-analysis above. A second study investigated online CBT for mixed anxiety and depression and found a large effect size of $g = 0.85$ (95% CI = 0.43 – 1.27) compared with waitlist control (Newby et al., 2013).

3.6.5 Pharmacological interventions

All four pharmacological studies investigated medications for generalised anxiety disorder (GAD), with three examining the relative efficacy of two different medications. There were a total of eight comparisons of pharmacological treatment with placebo, including the pharmacological treatment arm of the study of combined treatment (which studied generalised social phobia; Blomhoff et al., 2001). Meta-analysis was not possible for these comparisons due to incomplete reporting of outcome statistics in the primary articles.

Two comparisons of benzodiazepines with placebo (Laakmann et al., 1998; Llorca et al., 2002) found no significant difference between groups at post-treatment. Authors in two studies (Laakmann et al., 1998; Lader & Scotto, 1998) also reported no effect of buspirone compared with placebo. Both studies comparing hydroxyzine with

placebo found a significant treatment effect; one reported a moderate effect size of $g = 0.47$ (95% CI = 0.16 – 0.78) at post-treatment (Lader & Scotto, 1998), and the other found a similar effect size of $g = 0.32$ (95% CI = 0.05 – 0.60; Llorca et al., 2002).

Likewise, both studies of SSRI/SNRI medications reported a treatment effect, with small effects of $g = 0.29$ (95% CI = 0.00 – 0.58) found for sertraline compared with placebo (Blomhoff et al., 2001), and $g = 0.25$ (95% CI = 0.00 – 0.50) for venlafaxine compared with placebo (Lenox-Smith & Reynolds, 2003).

3.6.6 Combined Interventions

We did not perform meta-analysis on studies of combined interventions due to the small number of studies and the clinical diversity among them. The sole study of combined psychological and pharmacological treatment investigated the relative effects of exposure therapy, sertraline, and exposure therapy plus sertraline compared with placebo (Blomhoff et al., 2001). The results for psychological treatment and pharmacological treatment in this study have been reported above. A significant treatment effect was also found for combined treatment compared with control, with an effect size of $g = 0.35$ (95% CI = 0.07 – 0.64). Although combined treatment produced the largest effect size, this was not significantly different from the other active treatment groups.

In the three studies of stepped care (Muntingh et al., 2014; Oosterbaan et al., 2013; Seekles et al., 2011b), treatment was provided by multiple professionals, including mental health nurses and psychiatrists. Higher and more intensive steps of these interventions included medication combined with psychological therapy. Two studies found small, significant effects of stepped care compared to CAU for common mental disorders $g = 0.23$ (95%CI = -0.13 – 0.58; Seekles et al., 2011b) and $g = 0.31$ (95%CI = -0.01 – 0.63; Oosterbaan et al., 2013). The third study investigated stepped care for

anxiety only, and also found a significant effect ($g = 0.21$, $95\%CI = -0.12 - 0.54$; Muntingh et al., 2014).

3.6.7 Longer Term Follow-Up

Follow-up of at least three months post-treatment was reported in 11 of the 18 included studies. Outcomes were difficult to synthesise due to variability in how these statistics were reported and are described below using narrative methods. All but one of the psychological treatment studies (Sundquist et al., 2015) reported follow-up data. For studies where a waitlist control was used, three studies reported maintenance of gains within the treatment group at three-month (Klein et al., 2006; Newby et al., 2013) and 10-month (Nordgren et al., 2014) follow up. Control group data was not recorded in these studies as these participants received the intervention after the waiting period. A fourth study, which investigated the effect of group and individual CBT, reported gains in the group CBT condition were maintained at follow-up, but the rate of clinically significant change decreased in the individual CBT condition (Sharp et al., 2004).

Among studies comparing to a CAU control, four reported outcomes for both control and treatment groups at follow-up. There was no significant difference between treatment and control groups in two of these studies (Kendrick et al., 2005; van Boeijen et al., 2005), though authors also reported that post-treatment and follow-up scores did not differ significantly in any of the groups. One study (Gensichen et al., 2019) reported an effect size of $g = 0.31$ ($95\%CI = 0.08 - 0.53$, $p = .01$) for self-help CBT compared with control at follow-up, and another study reported maintained rates of clinically significant change from post-treatment (Power et al., 2000). One further study reported sustained treatment gains in treatment group participants for whom follow-up assessments were conducted (Berger et al., 2017).

Two (out of four) studies of combined treatment reported follow-up; one reported an effect size of $g = 0.37$ ($95\%CI = 0.02 - 0.72$, $p = .04$) for stepped-care compared with

CAU (Muntingh et al., 2014), and the other reported maintenance of gains within the treatment group, but no significant effect of stepped-care compared to CAU due to improvements in the control group at follow-up (Oosterbaan et al., 2013). Follow-up was not reported in any of the pharmacological treatment studies.

3.6.8 Risk of Bias in Included Studies

The majority of included studies had an unclear risk of bias for one or more key domains (see Figure 3.3 for risk of bias in each study, and Figure 3.4 for a summary of risk of bias items across all studies). Interrater agreement between authors ELP and DBF was 85.3% for risk of bias information. In psychological and combined treatment studies, the risk of performance bias was unclear in most studies, as participants were often not blinded. These studies were also at risk of detection bias due to the use of self-report measures (and unblinded participants) or unblinded outcome assessors. Risk of reporting bias was considered low for studies of psychological or combined treatment, and risk of selection bias was low-to-unclear, with most studies assessed as low risk. Studies of any treatment type tended to report equal rates of drop-out across treatment conditions and used intention-to-treat analyses.

For the majority of pharmacological treatment studies, risk of bias was unclear-to-high across domains. All four studies reported inadequate information about random sequence generation and allocation concealment. Three studies had a high risk of bias due to selective outcome reporting, as they presented results visually without reporting outcome statistics (i.e., one or more of the following were missing: means, standard deviations, results of statistical analyses). Furthermore, three of the studies were funded or partially funded by pharmaceutical companies (Lader & Scotto, 1998; Lenox-Smith & Reynolds, 2003; Llorca et al., 2002) and for all four studies no conflict of interest statement was included.

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)
Berger 2017	+	+	?	-	+	+
Blomhoff 2001	+	+	+	-	?	-
Genischen 2019	+	+	+	+	+	+
Kendrick 2005	+	+	?	+	+	+
Klein 2006	?	+	?	-	+	+
Laakmann 1998	?	?	?	?	+	-
Lader 1998	?	?	?	?	+	+
Lenox-Smith 2003	?	?	?	?	+	-
Llorca 2002	?	?	+	?	+	-
Muntingh 2013	+	+	?	?	+	+
Newby 2013	+	+	?	?	+	+
Nordgren 2014	+	+	?	?	+	+
Oosterbaan 2013	+	+	?	+	+	+
Power 2000	?	?	?	+	?	-
Seekles 2011	+	+	?	?	+	+
Sharp 2004	?	?	?	+	-	+
Sundquist 2015	?	+	?	?	+	+
van Boeijen 2005	+	+	?	?	+	+

Figure 3.3. Assessment of each study across risk of bias items. Figure produced using RevMan ("Review Manager (RevMan) [Computer Program]. Version 5.3.," 2014).

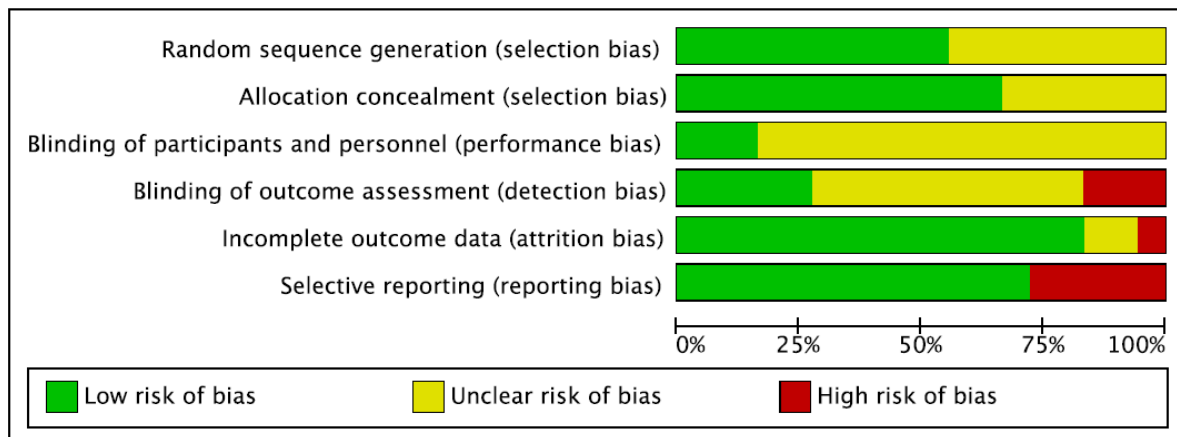


Figure 3.4. Assessment of each risk of bias item, presented as proportion of studies with low, unclear, and high risk of bias. Figure produced using RevMan ("Review Manager (RevMan) [Computer Program]. Version 5.3.," 2014)

3.6.9 Secondary Outcomes

Most included studies ($n = 15$, 83.3% of 18) measured depressive symptoms as secondary outcomes, or as combined primary outcomes along with anxiety symptoms. The majority of these ($n = 8$) reported no significant difference in depressive symptoms between control and treatment groups. The seven studies that found a significant treatment effect on depressive symptoms reported effect sizes ranging from $g = 0.35$ to 1.00. Less than half of the studies ($n = 7$, 38.8% of 18) included measurements of quality of life. Three studies reported no significant difference in quality of life between groups, and four studies found significant treatment effects ranging from $g = 0.31$ to 1.36.

3.7 Discussion

Our review investigated both psychological and pharmacological treatments for anxiety and explored the effects of treatment provider on psychological treatment effectiveness. Studies of psychological treatment were diverse and could broadly be categorised into two subgroups – those that investigated anxiety specifically, and those that investigated common mental disorders (anxiety, depressive, stress, and adjustment disorders).

Meta-analysis demonstrated that for those with primarily anxiety-related difficulties, psychological treatments (predominantly CBT) are effective for reducing anxiety symptoms when provided in primary care. However, the magnitude of this improvement differs depending on who is providing treatment, and is relative to the comparison group. When a specialist provides treatment, large improvements are seen in anxiety symptoms regardless of the type of control group, though the effect is smaller when treatment is compared to other usual treatments than waitlist control. Treatments provided by a non-specialist are also associated with large improvements compared to waitlist control (i.e., no care at all), but were not found to improve anxiety over other usual treatments. These findings are consistent with a previous review of psychological treatment for anxiety in primary care, which demonstrated a superior treatment effect for interventions provided by specialist mental health professionals compared with non-specialists (Seekles et al., 2013). Previous research has also demonstrated that for both face-to-face CBT and computerised CBT, effect sizes are smaller when comparing to CAU (which involves active treatment) than inactive control groups such as waitlist or placebo (Andrews, Basu, et al., 2018; Seekles et al., 2013).

Cognitive behaviour therapy is well documented as an effective treatment for anxiety (Andrews, Bell, et al., 2018; Seekles et al., 2013), though further research is needed on long-term effectiveness in primary care. In the studies included in our review, CBT was predominantly provided via bibliotherapy or computerised methods, with varying degrees of support from a clinician. The effectiveness of self-help CBT has been demonstrated in other reviews (Andrews, Basu, et al., 2018; Andrews et al., 2010), and our results provide support for the implementation of these interventions for anxiety in primary care. Computerised CBT has the additional benefit of high fidelity, as interventions can be delivered exactly as designed. This is in contrast to face-to-face therapy where fidelity is impacted by experience and training of the provider and their

adherence to treatment manuals, which may be particularly relevant for non-specialist treatment providers (Andrews, Bell, et al., 2018).

The results for longer-term follow-up in psychological treatment studies included in our review were mixed. However, most reported treatment gains were maintained within the treatment group, and were superior to gains seen in control group participants who received other usual treatments. Limited data on long-term follow-up is a limitation in the field, though studies not specific to primary care settings have found that the effect of psychological treatment for anxiety tends to be well maintained at follow-up (Mörtberg et al., 2011; van Dis et al., 2020).

The studies investigating treatment for common mental disorders were summarised using narrative synthesis as there were too few studies to conduct meta-analysis. The pattern of results across these studies was similar to that of the studies on anxiety only; psychological treatments did not produce a significant effect compared with CAU control groups, though large effects of treatment were seen when compared to waitlist control.

Only a small number of included studies involved pharmacological treatment, and only two (Blomhoff et al., 2001; Lenox-Smith & Reynolds, 2003) involved current first-line agents for anxiety (sertraline and venlafaxine; NICE, 2014). Both medications produced small, superior effects compared to placebo, indicating they are effective for reducing anxiety symptoms in primary care. Across an additional three studies, hydroxyzine also produced small to moderate effects, while buspirone and benzodiazepines were not found to reduce anxiety compared with placebo. However, hydroxyzine and buspirone are not considered first-line agents for anxiety, and benzodiazepines are only recommended in specific conditions such as during the initiation phase of an SSRI (Ravindran & Stein, 2010). Furthermore, the majority of pharmacological treatment studies were funded by pharmaceutical companies and had a high risk of bias due to

selective outcome reporting, questioning the validity of these results. Overall, we did not find a strong body of research documenting the use of pharmacological treatments in primary care. This was true irrespective of the exclusion of studies from countries without universal health care, as only one additional study of medication (an SSRI) would have been included if not for this restriction.

None of the included studies of pharmacological treatment reported on longer-term follow-up, so we were not able to investigate the effectiveness of these medications beyond the acute treatment phase. Previous research has demonstrated that the risk of relapse is high when pharmacological interventions are discontinued following acute treatment, and it is therefore advised that treatment continue for between six and 24-months after remission (Bandelow et al., 2012). Given pharmacological interventions are the dominant treatment strategy provided in primary care, further research is needed to determine the effectiveness of these treatments in this setting.

The combined use of medication and psychological therapy was directly investigated in only one study (Blomhoff et al., 2001). This demonstrated combined treatment was effective in comparison to control but no more effective than either treatment alone. Although combined treatment is commonly used in practice, there is limited evidence to indicate this leads to better outcomes (Andrews, Bell, et al., 2018). Stepped care interventions, including both pharmacological and psychological treatment steps, appear effective for treating anxiety based on the three studies included in our review. Results from these studies are consistent with the emerging body of evidence for collaborative stepped care in primary care, with small to moderate effect sizes found in a previous review (Muntingh et al., 2016).

3.7.1 Limitations

Our review had several limitations. Studies were heterogeneous and meta-analytic results for the effects of psychological treatment should be interpreted with

caution. Several factors may have contributed to heterogeneity in this review. For example, across the included studies there was a mixture of self-report and clinician assessed measures, and treatment was provided using a variety of modalities (e.g., online, individual face-to-face, group). Likewise, multiple anxiety disorders were investigated both within and between studies, and different disorders may have responded differently to the treatments used. Unfortunately, additional moderators, including the planned investigation of treatment modality, were not able to be explored due to the small number of included studies. It is important to note the heterogeneous nature of primary care, and diversity among included studies can be considered a reflection of the real-world treatment provided in this setting. The decision to pool studies using meta-analysis is based on both statistical and theoretical considerations. Combining studies of diverse interventions may not provide meaningful information about the individual effects of each intervention, but can be useful in answering broader questions (e.g., summarising the average effect of a class of drugs by combining studies of different drugs within that class; Deeks et al., 2020). Although heterogeneity limits the strength of conclusions that can be drawn from our meta-analytic results, we believe our findings are useful in contributing to the broader question of how well psychological interventions work for anxiety in primary care.

Another limitation of our review is that the effect of psychological treatments compared with CAU is difficult to interpret, as CAU was poorly described in the included studies. Control group participants could receive medication, other psychological treatments, general advice, or no treatment at all, and most studies did not report the rates of different care. However, studies reported that at least half of control group participants received some form of active intervention, including referral for specialist mental health care and antidepressant medication. This may have reduced the apparent effectiveness of treatments provided by non-specialists in particular, as participants in

the control condition may have received a higher intensity treatment such as specialist psychological treatment, medication, or both.

As with all systematic reviews, our search strategy and inclusion criteria may have excluded relevant studies of treatment for anxiety in primary care. This is particularly true of studies conducted in countries without universal health care systems (most notably, the USA), and studies that were published in languages other than English. We also identified very few studies of primary care specific pharmacological treatment, and may have identified further studies if we had searched additional biomedical databases (e.g., Embase). Unfortunately, we did not have access to Embase for this review.

Despite attempts to maximise identification of studies with non-specialist treatment providers, we identified relatively few studies of psychological treatments provided by GPs. Combined with the limited number of pharmacological treatment studies, the body of evidence identified is inconsistent with the real-world treatment of anxiety disorders in primary care (Britt, Miller, Henderson, et al., 2016; Wang et al., 2007) and limits our ability to describe the effectiveness of this treatment. The generalisability of our findings to low-income countries and high-income countries without universal health care is also limited. Finally, only one study was identified that directly compared medication and psychological treatments in primary care, making it difficult to comment on the relative effectiveness of the two. Other reviews have noted the lack of comparison between psychological and pharmacological treatments as a serious limitation in the field, particularly in the case of computerised CBT programs versus medication (Andrews, Basu, et al., 2018).

3.7.2 Implications for Clinical Practice

Despite the limitations, our review has several important implications for primary care. Results support previous research in this area, demonstrating that CBT-based

psychological treatments for anxiety are effective, and that specialist treatment (i.e., provided by a psychologist or clinical psychologist) is preferable (Seekles et al., 2013). Our results also extend upon previous findings by providing information about treatment delivered by non-specialists, which is important given that access to specialists is not always possible in primary care. Although we did not find that psychological treatment provided by non-specialists is superior to other usual treatments, we also did not find it to be inferior. This indicates that non-specialist psychological treatment may be at least as good as other usual treatments, and an appropriate option for consumers. Additionally, our results demonstrated that non-specialist treatment is associated with significant and large improvements in anxiety compared with no treatment at all.

Although pharmacological treatments are effective for anxiety generally (Ravindran & Stein, 2010) and have advantages in terms of cost and ease of access, we did not find strong evidence for their use in primary care due to a small number of studies and high-risk of bias among those studies. Medications for anxiety disorders carry side effects (Wang et al., 2018), and benzodiazepines, which remain commonly prescribed despite no longer being a recommended first-line treatment (Sonnenberg et al., 2012; Stephenson et al., 2013), carry risks of both physiological and psychological dependence. Furthermore, benzodiazepines may in fact prolong anxiety symptoms if used alone due to their use as a safety behaviour and potential to impair fear extinction (Hart et al., 2014; Westra et al., 2002). This may be particularly true when physiological anxiety sensations themselves are the feared stimuli (e.g., in panic disorder), and exposure to these symptoms is avoided through the use of benzodiazepines.

We therefore recommend that pharmacological treatments be used with caution in primary care until further research is conducted, and that CBT-based psychological treatments, including those provided online and via self-help, be offered as first-line treatments for anxiety disorders in this setting. This treatment should be provided by a

specialist such as a psychologist or clinical psychologist if available and affordable for the consumer. However, non-specialists should still offer psychological treatment if specialist treatment is not possible.

3.8 Conclusions

Overall, our review demonstrated that, in countries with universal health care, a greater alignment of research and practice is needed to more effectively manage anxiety disorders. Additional research is needed to investigate the use of pharmacological treatments in primary care and to determine their relative effectiveness when compared with psychological interventions in this setting. Future research on psychological treatments should aim to more closely mirror the treatment that is delivered in real-world primary care settings (i.e., in terms of treatment provider). This research should be conducted alongside implementation science involving both provider and consumer perspectives, that explores barriers to the delivery of psychological treatments for anxiety in primary care.

CHAPTER FOUR

ANXIETY MANAGEMENT IN AUSTRALIAN GENERAL PRACTICE: AN ANALYSIS OF ENCOUNTERS FROM 2006 – 2016

The previous chapter synthesised evidence from controlled trials of psychological and pharmacological anxiety treatments in primary care. While psychological treatments were found to be effective for reducing anxiety symptoms, implementing these treatments in practice is difficult due to several factors. For instance, it is often impractical for GPs to deliver traditional therapies due to high workloads and short consultation times, and other trained providers (e.g. nurses, psychologists) are not well integrated (Richards et al., 2004; Wakida et al., 2018). Fee-for-service funding models – the dominant model in Australian general practice – also hinder the implementation of traditional psychological interventions, which require preparation outside of billable hours (Australian Medical Association, 2020; Fleury et al., 2012). Further, alternatives to face-to-face therapy such as e-mental health programs are also not well integrated in primary care, and GPs report limited time to investigate appropriate evidence-based programs (Whitton et al., 2021). As noted previously, medication tends to be the most frequently used approach to manage common mental health conditions such as anxiety in primary care. However, little research has explored management practices in detail, particularly in Australia.

The study described in this chapter aimed to examine the real-world management of anxiety by Australian GPs. The current study involved analysis of the largest and most current dataset that exists on GP encounters within Australia, collected for the Bettering Evaluation and Care of Health (BEACH) project by researchers at the University of Sydney. BEACH was Australia's longest-running study of general practice activity, conducted from 1998 to 2016. Each year, it involved a different random sample of 1,000 GPs collecting data on 100 consecutive consenting patient encounters,

including the problems managed, treatments provided, and any referrals to other health professionals. The current study analysed GP encounters for anxiety since the introduction of the Better Access initiative in 2006, which introduced Medicare rebates for services with mental health professionals in secondary care settings.

Results demonstrated anxiety is accounting for a growing proportion of GP encounters, increasing by almost 40% from 2006 to 2016. Over the period studied, referrals to psychologists tripled, prescription of selective serotonin / serotonin-noradrenalin reuptake inhibitors (SSRIs/SNRIs) increased by 68%, and prescription of benzodiazepines decreased by almost 40%. Systematic differences in management were found according to patient and GP characteristics, including high rates of management with benzodiazepines in older adults and patients with a Government health care concession card. Younger and female GPs, as well as those working in practices with other doctors were less likely to manage anxiety with benzodiazepines and more likely to use SSRI/SNRI medications, referrals, and counselling.

Using the most comprehensive and current dataset on GP activity available, this study indicated anxiety is accounting for more of the GP workload, year on year. The findings also suggest patterns of management are becoming more closely aligned with treatment guidelines, though issues remain in certain patient groups that require attention.

4.1 Publication Status

This article has been submitted to the journal *BMC Primary Care* and is currently under review. This chapter is presented as the submitted manuscript.

Parker, E. L., Banfield, M., Fassnacht, D. B., Phillips, C. B., & Harrison, C. (under review). Anxiety management in Australian general practice: An analysis of encounters from 2006 – 2016 [Manuscript submitted for publication to *BMC Primary Care*].

4.2 Author Contributions

Parker conceptualised the study with input from Banfield and Fassnacht. Analyses were planned between Parker, Banfield, and Harrison. The BEACH dataset is complex with hundreds of thousands of records and numerous variables, and researchers are not permitted to analyse the data themselves. Instead, access to the data and required analyses is purchased through agreement with the University of Sydney. For these reasons, Harrison (the BEACH data custodian) conducted the data analysis for this study. Results were interpreted by Parker, with intellectual input from Banfield, Phillips, and Harrison. The article was drafted by Parker and revised by all authors.

**Anxiety management in Australian general practice:
An analysis of encounters from 2006 – 2016**

Erin L Parker¹, Michelle Banfield², Daniel B Fassnacht^{1,3}, Christine B Phillips⁴, and
Christopher Harrison⁵

¹Research School of Psychology, Australian National University, Canberra, ACT, Australia

²Centre for Mental Health Research, Australian National University, Canberra, ACT, Australia

³Órama Institute for Mental Health and Wellbeing, Flinders University, Adelaide, SA, Australia

⁴Medical School, Australian National University, Canberra, ACT, Australia

⁵Menzies Centre for Health Policy and Economics, School of Public Health, University of Sydney, Sydney, NSW, Australia

4.3 Abstract

Background: Anxiety disorders are highly prevalent mental health conditions managed predominantly by general practitioners (GPs). This study aimed to examine the management of anxiety by Australian GPs since the introduction of the Better Access to Psychiatrists, Psychologists and General Practitioners initiative in 2006. **Method:** We conducted secondary analysis of Bettering the Evaluation and Care of Health data on GP encounters for anxiety from 2006 to 2016 (N = 28,784). We calculated point estimates and used multivariate logistic regression to explore the effect of GP and patient characteristics on rates and types of management. **Results:** The management rate of anxiety increased from 2.3% of GP encounters in 2006 to 3.2% in 2016. Patients were more likely to have anxiety managed if they were female, aged 25-59, socioeconomically advantaged, not Aboriginal or Torres Strait Islander, from an English speaking background, and a Commonwealth Health Care Card holder. GPs were more likely to manage anxiety if they were female, older, and working in less remote practice locations. Anxiety problems were most commonly managed with medication, though education, advice, or counselling was more common than any medication type. Over the 10-year period, increases were seen in referrals to psychologists (AOR = 1.09, 95%CI = 1.07-1.11, $p < .0001$) and selective serotonin / serotonin-noradrenalin reuptake inhibitors (AOR = 1.05, 95%CI = 1.03-1.06, $p < .0001$), and benzodiazepines decreased (AOR = 0.94, 95%CI = 0.92-0.95, $p < .0001$). Systematic differences in management were found for patient and GP characteristics, including high rates of benzodiazepines in certain groups. **Conclusions:** Anxiety is accounting for more of the GP workload, year on year. GP management of anxiety has become more closely aligned with practice guidelines since 2006. However, high rates of benzodiazepine prescribing in certain groups remains a concern. Further research is needed into GP treatment decision making for anxiety.

4.4 Introduction

Anxiety disorders are highly prevalent mental health conditions that are predominantly managed in primary care (Burgess et al., 2009). In Australia, primary mental health care may be delivered in a range of settings (e.g., general practices, community health centres, allied health practices), and by a range of health professionals (e.g., general practitioners, nurses, psychologists; AIHW, 2019). General practitioners (GPs) provide more mental health services than any other provider type (Britt, Miller, Henderson, et al., 2016), are often the first point of contact for people seeking help for anxiety, and serve multiple roles including primary treatment, coordination of care and ongoing management, and referral to mental health professionals (AIHW, 2019).

Best practice treatment of anxiety involves stepped-care including both psychological and pharmacological interventions (Andrews, Bell, et al., 2018), most of which is provided or facilitated through primary care. Choice of treatment should be based on severity of symptoms and functional impairment, co-occurring difficulties, consumer preferences, and previous treatment (Andrews, Bell, et al., 2018; NICE, 2014), with psychological interventions generally recommended as first-line. However, pharmacological interventions are the most commonly provided treatment irrespective of anxiety severity, and less than half of people seeking help in primary care receive adequate evidence-based treatment (Harris et al., 2015).

In the past 20 years, there have been major reforms of mental health care in Australia. A key focus has been to improve primary mental health care by realising the role GPs have to play. In particular, new Medicare Benefits Schedule items were introduced in 2006 for mental health professionals under the Better Access to Psychiatrists, Psychologists and General Practitioners (Better Access) initiative (Australian Government Department of Health, 2022a). Under Better Access, consumers are able to access rebates for evidence-based psychological services provided by allied

health professionals (mainly psychologists). In this system, GPs act as both gatekeepers to specialist services and primary providers of treatment, and those who undertake additional training can provide 'focussed-psychological strategies' directly to consumers.

Previous research has investigated the impact of these reforms on mental health care, though little has focussed on anxiety specifically. For instance, a 2012 study found that following the introduction of Better Access, rates of depression management within primary care increased, as did referrals to psychologists (Harrison et al., 2012).

However, absolute rates of specialist referral for mental health conditions remained relatively low, with referral to psychologists (the most common type) occurring in less than 10 per cent of mental-health related encounters. Reports on general practice activity in subsequent years have displayed a continued increase in referral rates (Britt, Miller, Henderson, et al., 2016), though trends for anxiety disorders have not been examined in detail. Despite the lowering of financial barriers for psychologists through Better Access, psychological treatment remains expensive and GPs are limited by a shortage of psychologists for private referral.

Anxiety disorders tend to be chronic if inadequately treated, resulting in substantial impairment for the individual and high economic costs (Bandelow & Michaelis, 2015; Baxter et al., 2014). There has been ample discussion about the effective treatment of anxiety over the last two decades, and updated clinical practice guidelines have been published in Australia and internationally (Andrews, Bell, et al., 2018; Bandelow et al., 2012; NICE, 2014). In particular, as the overuse and limitations of benzodiazepines for anxiety are well documented (e.g., Stephenson et al., 2013), practice guidelines emphasise a move away from these medications. Formal monitoring and restrictions on benzodiazepines have also been introduced, and the use of these medications generally has been declining (AIHW, 2021a). However, little research has

investigated the rates of treatment for anxiety within Australian primary care, and in particular, current prescribing practices.

The current study aimed to address these gaps by examining general practice encounters for anxiety in the 10-year period following the introduction of the Better Access program. The Bettering the Evaluation and Care of Health (BEACH) dataset represents the most current and comprehensive record of GP activity in Australia (AIHW, 2021c; Britt, Miller, Henderson, et al., 2016). In addition to annual reports on general practice activity produced by the BEACH research team, several studies have analysed the dataset to explore rates of access and management for various mental health conditions such as suicide-related contacts (Harrison et al., 2013), general psychological problems (Harrison & Britt, 2004), and serious mental illness (Banfield et al., 2019; Farrer et al., 2018). However, the data on anxiety have not been previously examined in detail. Thus, the current paper describes the rates of different management strategies used by GPs, including medications, counselling provided by the GP, and referral to specialist mental health professionals (e.g., psychologists). Further, we explored the effect of GP and patient characteristics on the likelihood of different treatments being used to manage anxiety problems.

4.5 Method

The BEACH program was a continuous, national study of general practice activity conducted over 18 years, from April 1998 to June 2016. Each year, a different random sample of 1,000 currently practicing GPs provided details on 100 consecutive consenting patient encounters. For each visit, GPs recorded the reason for the visit, the problem managed during the encounter, any treatment delivered (e.g., clinical treatments, prescriptions provided), and any referrals to other health professionals. In total, the database includes approximately 1.78 million patient encounters, recorded by

11,000 GPs. Further details about the methods used in the BEACH program have been published previously (Britt, Miller, Bayram, et al., 2016).

The BEACH study has approval from both the Human Research Ethics Committee of the University of Sydney (Protocol 2012/130) and from the AIHW Ethics Committee for the years they collaborated (2006-11). Extraction and analysis of BEACH data for the current study was approved by the Australian National University Human Research Ethics Committee (Protocol: 2020/542).

4.5.1 Participants and Measures

At each encounter, GPs could record up to four problems managed. The reason for encounter, problems managed, and non-pharmacological treatments were coded by trained research staff according to the International Classification of Primary Care Version 2 PLUS (ICPC-2 PLUS, Family Medicine Research Centre, 1998). Data were then automatically classified to ICPC-2 (Classification Committee of the World Organization of Family Doctors, 1998). Pharmacological treatments were coded according to the Anatomical Therapeutic Chemical (ATC) classification system (WHO Collaborating Centre for Drug Statistics Methodology; 2015). For the current analyses, we defined anxiety using the following codes 'P01' (feeling anxious), 'P74' (anxiety disorder), or 'P76018' (anxiety with depression')

In addition, we extracted data on the following patient variables: sex, age, Commonwealth Health Care Card status, language background (i.e., language spoken at home; English speaking vs. non-English speaking), and Aboriginal or Torres Strait Islander status. We used patient residential postcode to define relative socioeconomic advantage according to the Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (IRSAD; ABS, 2013). We compared patients from "most advantaged" (top five IRSAD deciles) areas to those from "most disadvantaged" (bottom five IRSAD deciles) areas in our analyses. Data were also

extracted on the following GP characteristics: sex, age, practice size, and practice location (major cities vs. inner regional vs. outer regional/remote) according to the Australian Statistical Geography Standard (ASGS; ABS, 2011).

4.5.2 Statistical Analysis

All point estimates were calculated as proportions for ease of interpretation, that is, outcomes that could happen more than once per instance (e.g., medications used in treatment) were only counted once. The BEACH study has a single cluster design with each GP having a cluster of 100 patient encounters around them. We used the `surveymeans` procedures in SAS v9.4 (SAS Institute Inc, 2013) to produce robust 95% CIs as this procedure adjusts for any intracluster correlation. For our descriptive analyses, we judged two point estimates as being significantly different by non-overlapping 95% confidence intervals. This method is far more conservative than the usual alpha of 0.05 (Austin & Hux, 2002).

We also performed several multivariate logistic regression analyses to identify the independent predictors of anxiety being managed at an encounter as well as independent predictors of certain treatments being used to manage anxiety (selective serotonin reuptake inhibitors [SSRIs]/serotonin noradrenalin reuptake inhibitors [SNRI], benzodiazepines, education / advice / counselling [EAC], referral to a psychologist). We explored these treatments specifically as they are the most commonly used by GPs and the most relevant in terms of clinical practice guidelines. We created a combined outcome category for education, advice, or counselling provided by the GP (which included, for example, psychoeducation about anxiety, advice about lifestyle factors, supportive counselling, counselling about medication use). We also combined SSRI and SNRI medications into one outcome category due to both being recommended first-line agents for anxiety problems commonly presenting in primary care (Bandelow et al., 2012; NICE, 2011b).

4.6 Results

4.6.1 Management Rate of Anxiety 2006 – 2016

Over the 10-year study period, 9,721 GPs recorded 972,100 encounters with patients. A total of 28,849 anxiety problems were recorded at 28,784 encounters, accounting for 3.0% of general practice encounters (95% CI 2.9 – 3.0). Figure 4.1 shows the management rate of anxiety from 2006 – 2016, measured as the proportion of all encounters per year. There was an almost 40% increase in the management rate of anxiety, from 2.3% (95%CI = 2.1-2.4) in 2006-07 to 3.2% (95%CI = 3.0-3.4) in 2015-16.

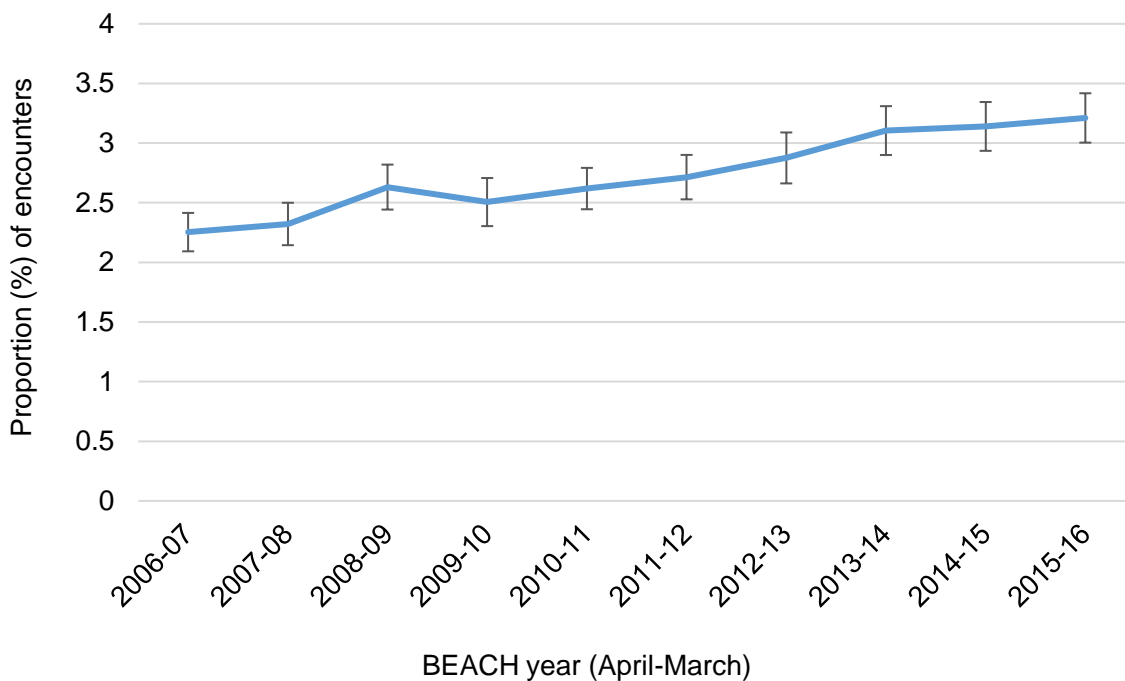


Figure 4.1. Proportion of GP encounters where anxiety was managed by year 2006-16 (error bars = 95% CIs).

Most anxiety problems (71.7%) were recorded using the codes 'P01' (feeling anxious) or 'P74' (anxiety disorder), and 28.3% were recorded under mixed anxiety/depression ('P76018'). New anxiety problems (N = 5,023) accounted for 17.4% of total anxiety problems, and 62.4% (N = 18,014) were recorded as an existing condition. Data were missing for this variable in the remaining encounters.

Table 4.1 reports the management rate of anxiety over the 2006 – 2016 period by patient and GP characteristics. Patients were more likely to have anxiety managed at an encounter if they were female, socioeconomically advantaged, not Aboriginal or Torres Strait Islander, from an English speaking background, and a Commonwealth Health Care Card holder. Patient age was also associated with likelihood of having anxiety managed at an encounter, with the highest proportion found in 25-39 year olds, followed by 40-59 year olds. Patients under 15 years of age were the least likely to have anxiety managed. GPs were more likely to manage anxiety if they were female, older, and working in less remote practice locations. Practice size did not predict likelihood of managing anxiety.

4.6.2 Management Strategies Used

A summary of management strategies used for anxiety problems is reported in Table 4.2. GPs were significantly more likely to manage anxiety with psychotropic medications than any other approach. There was a significant, linear reduction in the proportion of anxiety problems managed with benzodiazepines across the 10 years (see Figure 4.2, Table 4.3), reducing from 40.5% (95%CI = 37.0 – 44.0) in 2006 to 24.7% (95%CI = 22.3 – 27.1) in 2016. Additionally, the use of SSRI/SNRI medications increased year on year, from 15.7% (95%CI = 13.7 – 17.7) in 2006 to 26.3% (95%CI = 24.2 – 28.5) in 2016.

The most common single strategy used by GPs was education, advice, or counselling (EAC), which occurred at higher rates than prescriptions of benzodiazepines and SSRI or SNRI medications. Referrals were given for 17% of anxiety problems, and were most commonly to psychologists (12.2% of anxiety problems). The rate of psychologist referral increased substantially over the period studied, from 4.9% (95%CI = 3.8 – 5.9) in 2006 to 15.9% (14.2 – 17.7) in 2016.

Table 4.1. Management rate of anxiety 2006 - 2016 by patient and GP characteristics.

Variable	Total sample (N = 972100)	Anxiety encounters (N = 28784)	Proportion (95% CI)	Adjusted OR (95%CI)
Patient sex (missing)	(8522)	(235)		<i>p</i> <.0001
Male	391,152	9032	2.31% (2.24-2.38)	Ref group
Female	572,426	19517	3.41% (3.34-3.48)	1.31 (1.27-1.35)
Patient age (missing)	(19222)	(730)		<i>p</i> <.0001
0-14 years	110,864	705	0.64% (0.58-0.69)	0.48 (0.43-0.54)
15-24 years	81,201	2792	3.44% (3.27-3.61)	2.56 (2.37-2.77)
25-39 years	148,287	6406	4.32% (4.18-4.46)	3.33 (3.11-3.57)
40-59 years	254,450	10201	4.01% (3.90-4.12)	3.02 (2.83-3.22)
60-80 years	259,108	6157	2.38% (2.30-2.45)	1.41 (1.33-1.49)
80+ years	98,968	1793	1.81% (1.72-1.91)	Ref group
Socioeconomic advantage (missing)	(22692)	(607)		<i>p</i> <.0001
Most advantaged	573,803	17396	3.03% (2.96-3.10)	1.08 (1.04-1.12)
Most disadvantaged	375,605	10781	2.87% (2.79-2.95)	Ref group
Indigenous status[§] (missing)	(95622)	(2561)		<i>p</i> = .014
Indigenous	14,791	427	2.89% (2.54-3.23)	0.86 (0.76-0.97)
Non-Indigenous	861,687	25796	2.99% (2.93-3.06)	Ref group
Language background (missing)	(95865)	(2575)		<i>p</i> <.0001
Non-English speaking	74,672	1642	2.20% (2.05-2.34)	0.65 (0.6-0.7)
English speaking	801,563	24567	3.06% (3.00-3.13)	Ref group
Commonwealth HCC (missing)	(80058)	(2202)		<i>p</i> <.0001
Yes	396,992	13450	3.39% (3.30-3.48)	1.73 (1.67-1.8)
No	495,050	13132	2.65% (2.59-2.72)	Ref group
Practice location (missing)	(1400)	(29)		<i>p</i> <.0001
Major city	687,500	21046	3.06% (2.99-3.13)	1.34 (1.24-1.45)
Inner regional	187,800	5515	2.94% (2.81-3.06)	1.27 (1.17-1.38)
Outer regional/remote	95,400	2194	2.30% (2.15-2.45)	Ref group
Practice size (missing)	(18900)	(533)		<i>p</i> = .991
Solo	48,600	2921	2.82% (2.60-3.04)	Ref group
2-4 GPs	127,600	8177	2.85% (2.74-2.96)	0.99 (0.90-1.09)
5-9 GPs	108,200	10962	3.00% (2.91-3.09)	1.00 (0.91-1.10)
10-14 GPs	28,700	4307	3.16% (2.99-3.32)	1.01 (0.91-1.12)
15+ GPs	10,000	1884	3.11% (2.87-3.35)	1.00 (0.89-1.13)
GP sex (missing)	(0)	(0)		<i>p</i> <.0001
Male	583,200	15383	2.64% (2.56-2.71)	Ref group
Female	388,900	13401	3.45% (3.35-3.54)	1.23 (1.17-1.28)
GP age (missing)	(6400)	(122)		<i>p</i> <.0001
Less than 45 years	250,500	6883	2.75% (2.65-2.85)	Ref group
45-59 years	473,400	14404	3.04% (2.96-3.13)	1.19 (1.13-1.25)
60 years or older	241,800	7375	3.05% (2.92-3.18)	1.25 (1.17-1.33)
Data collection year	N/A	N/A	N/A	<i>p</i> <.0001 1.05 (1.04-1.05)

OR = odds ratio, HCC = health care card, GP = general practitioner. ^aAboriginal and/or Torres Strait Islander (patient self-report)

Table 4.2. Management strategies used for anxiety 2006 - 2016.

Management Strategy	Anxiety problems (N = 28849)	Proportion of anxiety problems (95% CI)
Psychotropic medication	15,238	52.8% (52.0-53.7)
Benzodiazepine	8,664	30.0% (29.2-30.9)
SSRI or SNRI	6,084	21.1% (20.5-21.7)
Education / advice / counselling	12,601	43.7% (42.8-44.6)
Referral	4,900	17.0% (16.5-17.5)
Psychologist	3,522	12.2% (11.7-12.7)
Psychiatrist	543	1.9% (1.7-2.0)
Pathology	1,312	4.5% (4.3-4.8)
Imaging	138	0.5% (0.4-0.6)

More than one management strategy could be recorded for each encounter, so proportions add to more than 100%. SSRI = selective serotonin reuptake inhibitor, SNRI = serotonin noradrenalin reuptake inhibitor.

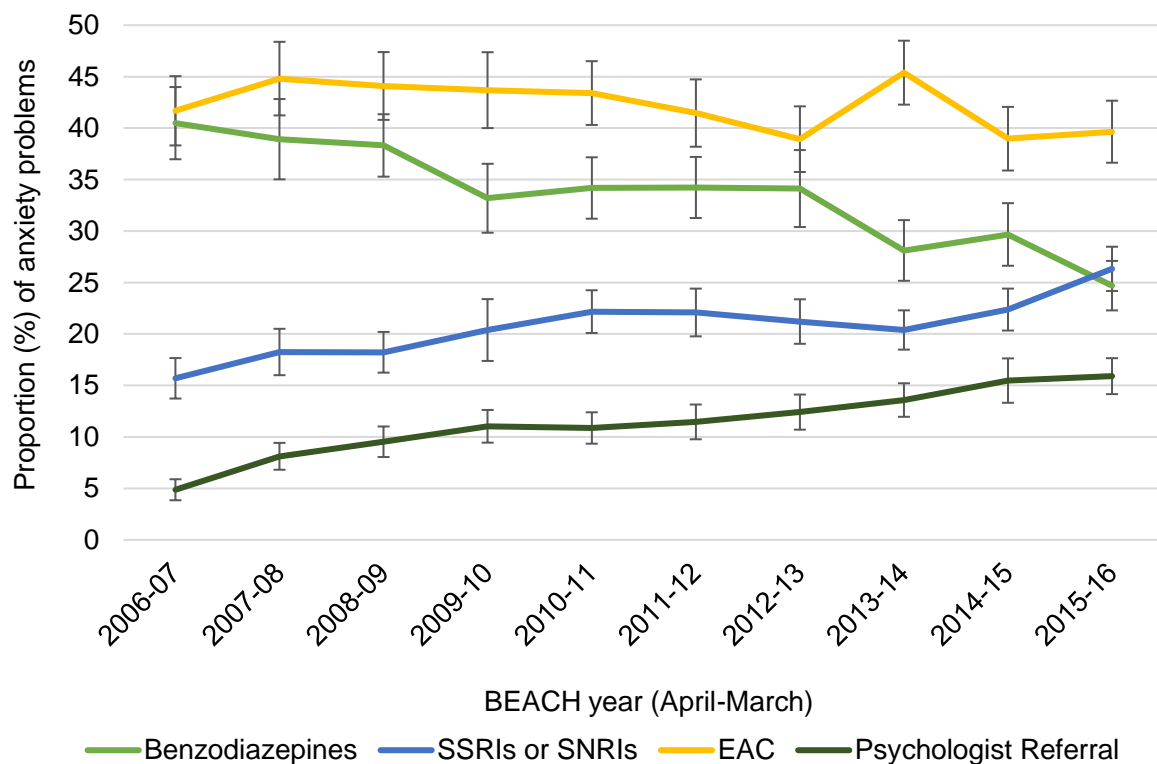


Figure 4.2. Proportion of anxiety problems where management strategy was used by year 2006 - 2016 (error bars = 95% CIs). EAC = education / advice / counselling

Unadjusted proportions for anxiety management with benzodiazepines, SSRIs/SNRIs, EAC, and referral to a psychologist by year and patient and GP characteristics are reported in Table 4.3 (pharmacological strategies) and Table 4.4 (non-pharmacological strategies). The independent effect of each variable was

investigated in a multivariate logistic regression (see adjusted odds ratios in Table 4.3 and Table 4.4). After adjusting for all other significant variables, all variables except Aboriginal or Torres Strait Islander status significantly predicted likelihood of at least one of the four strategies being used to manage anxiety.

4.6.2.1 Effect of Patient Characteristics

Patient sex. Female patients were 23% less likely to receive benzodiazepines, and 21% more likely to receive EAC than their male counterparts. There was no significant difference by patient sex on the likelihood of receiving an SSRI/SNRI or referral to a psychologist.

Patient age. Older patients were more likely to receive benzodiazepines, less likely to receive SSRIs/SNRIs or EAC (with the exception of people under the age of 15, who were the least likely for both), and less likely to receive a referral to a psychologist. Patients aged less than 15 years were the most likely to receive a referral to a psychologist.

Socioeconomic advantage. Socioeconomic advantage was only associated with likelihood of receiving benzodiazepines; the most advantaged patients were 18% less likely to have anxiety problems managed with a prescription for benzodiazepines than the most disadvantaged patients were.

Indigenous status. After accounting for other variables, Aboriginal and Torres Strait Islander status did not predict likelihood of receiving different management strategies.

Language background. Patients from a non-English speaking background were approximately three quarters as likely to receive management with benzodiazepines or SSRIs/SNRIs, and two thirds as likely to receive a psychologist referral than patients from an English speaking background. However, they were 28% more likely to receive EAC from their GP.

Commonwealth Health Care Card status. Holding a HCC was associated with two and a half times the likelihood of receiving a benzodiazepine, and a decreased likelihood of anxiety being managed with any of the other three strategies.

Type of anxiety problem. Existing anxiety problems were twice as likely to be managed with benzodiazepines and 61% more likely to be managed with SSRIs/SNRIs than new anxiety problems. The opposite pattern was seen for psychologist referrals and EAC from the GP, with existing anxiety being half as likely as new anxiety to be managed with either of these strategies.

4.6.2.2 Effect of GP Characteristics

GP sex. Female GPs were almost half as likely to manage anxiety with benzodiazepines, 22% more likely to use SSRIs/SNRIs, 29% more likely to provide EAC, and 30% more likely to refer to a psychologist than their male peers.

GP age. Older GPs were also more likely to manage anxiety using benzodiazepines and less likely to use other management strategies. Compared with those aged under 45 years, GPs over 60 years old were 65% more likely to use benzodiazepines, and significantly less likely to use any of the other strategies to manage anxiety problems.

Practice size and location. GPs working at practices with other GPs were 36 – 56% more likely to manage anxiety with SSRIs/SNRIs, and 30 – 48% more likely to refer to a psychologist than solo GPs. Compared with outer regional/remote locations, GPs working in major cities were 11% less likely to manage anxiety with SSRIs/SNRIs and 19% more likely to refer to a psychologist. Practice location (but not practice size) was also associated with likelihood of managing anxiety with EAC, with GPs in major cities 26% more likely to provide EAC than those in outer regional/remote areas.

Table 4.3. Rates of pharmacological management by patient and GP characteristics.

Variable	Benzodiazepines		SSRIs or SNRIs	
	Proportion (95%CI)	Adjusted OR (95%CI)	Proportion (95% CI)	Adjusted OR (95%CI)
Patient sex		$p < .0001$		$p = .055$
Male	34.3% (32.8-35.7)	Ref group	19.9% (18.9-20.8)	Ref group
Female	28.1% (27.2-29.0)	0.81 (0.75-0.87)	21.6% (20.9-22.3)	1.08 (1.00-1.17)
Patient age		$p < .0001$		$p < .0001$
0-14 years	0.1% (-0.1-0.4)	0.01 (<0.001-0.04)	6.5% (4.7-8.3)	0.37 (0.25-0.55)
15-24 years	10.1% (8.9-11.4)	0.25 (0.20-0.30)	26.4% (24.6-28.1)	1.90 (1.56-2.31)
25-39 years	26.3% (24.8-27.8)	0.72 (0.62-0.84)	24.5% (23.3-25.6)	1.78 (1.49-2.14)
40-59 years	32.2% (30.9-33.4)	0.87 (0.75-0.99)	22.2% (21.3-23.1)	1.55 (1.30-1.85)
60-80 years	39.1% (37.8-40.5)	0.88 (0.77-1.01)	17.0% (16.0-18.0)	1.30 (1.08-1.56)
80+ years	44.0% (41.5-46.4)	Ref group	13.0% (11.4-14.6)	Ref group
Socioeconomic advantage		$p < .0001$		$p = .380$
Most advantaged	27.0% (26.0-27.9)	0.85 (0.78-0.92)	21.3% (20.5-22.0)	1.04 (0.95-1.13)
Most disadvantaged	35.4% (34.0-36.7)	Ref group	20.6% (19.7-21.5)	Ref group
Indigenous status^s		$p = 0.227$		$p = .445$
Indigenous	37.9% (32.3-43.5)	1.18 (0.90-1.54)	21.9% (17.7-26.0)	1.11 (0.85-1.46)
Non-Indigenous	30.5% (29.5-31.4)	Ref group	20.8% (20.2-21.5)	Ref group
Language background		$p < .0001$		$p = .003$
Non-English speaking	28.2% (25.5-30.8)	0.73 (0.63-0.85)	15.4% (13.5-17.3)	0.77 (0.65-0.92)
English speaking	30.8% (29.8-31.7)	Ref group	21.2% (20.6-21.9)	Ref group
Commonwealth HCC		$p < .0001$		$p < .0001$
Yes	42.2% (40.9-43.5)	2.50 (2.31-2.72)	17.2% (16.4-17.9)	0.66 (0.61-0.71)
No	18.4% (17.6-19.2)	Ref group	24.9% (24.0-25.8)	Ref group
Type of anxiety problem		$p < .0001$		$p < .0001$
New	16.3% (15.2-17.4)	0.43 (0.39-0.48)	16.9% (15.8-18.1)	0.62 (0.56-0.68)
Old	34.6% (33.4-35.7)	Ref group	23.6% (22.8-24.3)	Ref group
Practice location		$p = .641$		$p = .004$
Major city	29.2% (28.2-30.2)	1.04 (0.89-1.23)	20.6% (19.8-21.3)	0.90 (0.77-1.05)
Inner regional	32.0% (30.1-34.0)	0.99 (0.83-1.18)	23.2% (21.8-24.6)	1.08 (0.91-1.28)
Outer regional/remote	32.7% (29.8-35.6)	Ref group	21.3% (19.3-23.4)	Ref group
Practice size		$p = .315$		$p = .001$
Solo GP	42.0% (38.1-46.0)	Ref group	14.4% (12.7-16.1)	Ref group
2-4 GPs	31.2% (29.5-32.9)	0.87 (0.71-1.07)	20.8% (19.7-21.9)	1.46 (1.21-1.76)
5-9 GPs	27.9% (26.7-29.1)	0.82 (0.67-1.00)	21.8% (20.9-22.7)	1.40 (1.17-1.68)
10-14 GPs	26.2% (24.3-28.0)	0.82 (0.66-1.02)	22.9% (21.4-24.5)	1.36 (1.11-1.67)
15+ GPs	28.0% (24.4-31.5)	0.8 (0.62-1.04)	23.9% (21.3-26.6)	1.56 (1.23-1.97)
GP sex		$p < .0001$		$p < .0001$
Male	38.0% (36.7-39.3)	Ref group	18.6% (17.8-19.4)	Ref group
Female	20.8% (19.9-21.8)	0.56 (0.51-0.62)	23.9% (23.0-24.8)	1.22 (1.11-1.33)
GP age		$p < .0001$		$p < .0001$
<45 years	22.1% (20.9-23.3)	Ref group	26.1% (24.9-27.3)	Ref group
45-59 years	28.4% (27.3-29.6)	1.18 (1.06-1.31)	20.9% (20.1-21.7)	0.82 (0.74-0.90)
60 years +	40.6% (38.6-42.7)	1.65 (1.44-1.88)	16.8% (15.6-18.0)	0.70 (0.62-0.80)
Data collection year	n/a	$p < .0001$ 0.94 (0.92-0.95)	n/a	$p < .0001$ 1.05 (1.03-1.06)

OR = odds ratio, SSRI = selective serotonin reuptake inhibitor, SNRI = serotonin noradrenalin reuptake inhibitor, GP = general practitioner. ^sAboriginal and/or Torres Strait Islander (patient self-report)

Table 4.4. Rates of non-pharmacological management by patient and GP characteristics.

Variable	EAC		Psychologist Referral	
	Proportion (95% CI)	Adjusted OR (95%CI)	Proportion (95% CI)	Adjusted OR (95%CI)
Patient sex		$p < .0001$		$p = .729$
Male	39.5% (38.2-40.8)	Ref group	11.8% (11.1-12.6)	Ref group
Female	45.6% (44.7-46.6)	1.21 (1.13-1.29)	12.4% (11.9-12.9)	1.02 (0.92-1.12)
Patient age		$p < .0001$		$p < .0001$
0-14 years	39.5% (35.7-43.4)	0.76 (0.60-0.96)	39.1% (35.3-42.9)	26.06 (15.9-42.73)
15-24 years	50.2% (48.0-52.3)	1.38 (1.17-1.63)	23.1% (21.4-24.9)	14.14 (8.86-22.55)
25-39 years	45.3% (43.8-46.9)	1.20 (1.05-1.39)	16.7% (15.7-17.7)	10.00 (6.29-15.90)
40-59 years	43.9% (42.7-45.2)	1.22 (1.06-1.39)	10.5% (9.8-11.1)	6.73 (4.25-10.65)
60-80 years	41.0% (39.5-42.4)	1.12 (0.99-1.28)	5.0% (4.4-5.5)	3.43 (2.15-5.49)
80+ years	37.9% (35.5-40.4)	Ref group	1.5% (0.9-2.1)	Ref group
Socioeconomic advantage		$p = .095$		$p = .317$
Most advantaged	45.6% (44.5-46.7)	1.07 (0.99-1.16)	13.3% (12.7-13.9)	1.06 (0.95-1.18)
Most disadvantaged	40.6% (39.3-41.9)	Ref group	10.4% (9.8-11.1)	Ref group
Indigenous status[§]		$p = .179$		$p = .529$
Indigenous	35.1% (29.6-40.6)	0.83 (0.62-1.09)	12.3% (8.9-15.8)	1.12 (0.78-1.61)
Non-Indigenous	43.9% (43.0-44.9)	Ref group	12.1% (11.6-12.6)	Ref group
Language background		$p = .0005$		$p = .0001$
Non-English speaking	51.6% (48.7-54.6)	1.28 (1.11-1.47)	7.9% (6.5-9.3)	0.64 (0.51-0.80)
English speaking	43.3% (42.3-44.2)	Ref group	12.3% (11.8-12.9)	Ref group
Commonwealth HCC		$p < .0001$		$p < .0001$
Yes	39.1% (37.9-40.3)	0.80 (0.75-0.86)	8.0% (7.5-8.6)	0.78 (0.70-0.86)
No	48.5% (47.4-49.7)	Ref group	16.3% (15.6-17.0)	Ref group
Type of anxiety problem		$p < .0001$		$p < .0001$
New	55.6% (54.0-57.2)	1.85 (1.71-2.01)	20.8% (19.6-22.1)	2.05 (1.85-2.27)
Old	40.6% (39.5-41.7)	Ref group	10.0% (9.5-10.5)	Ref group
Practice location		$p = .003$		$p = .035$
Major city	45.2% (44.1-46.2)	1.26 (1.07-1.48)	12.8% (12.3-13.4)	1.19 (0.97-1.47)
Inner regional	39.8% (37.9-41.7)	1.09 (0.92-1.30)	10.7% (9.8-11.7)	1.02 (0.81-1.28)
Outer regional/remote	39.2% (36.2-42.3)	Ref group	9.9% (8.5-11.4)	Ref group
Practice size		$p = .658$		$p = .017$
Solo GP	39.3% (35.8-42.9)	Ref group	6.5% (5.4-7.6)	Ref group
2-4 GPs	44.4% (42.7-46.1)	1.07 (0.88-1.29)	11.2% (10.4-12.0)	1.33 (1.05-1.70)
5-9 GPs	43.9% (42.6-45.3)	1.08 (0.90-1.30)	13.5% (12.7-14.3)	1.48 (1.17-1.87)
10-14 GPs	45.7% (43.4-47.9)	1.15 (0.93-1.40)	14.0% (12.7-15.2)	1.39 (1.08-1.79)
15+ GPs	42.5% (38.8-46.2)	1.02 (0.80-1.31)	13.5% (11.5-15.4)	1.30 (0.97-1.73)
GP sex		$p < .0001$		$p < .0001$
Male	39.1% (37.9-40.4)	Ref group	9.7% (9.1-10.3)	Ref group
Female	48.9% (47.6-50.2)	1.29 (1.18-1.41)	15.1% (14.4-15.8)	1.30 (1.16-1.44)
GP age		$p < .0001$		$p < .0001$
<45 years	45.5% (43.7-47.2)	Ref group	16.4% (15.4-17.4)	Ref group
45-59 years	45.8% (44.5-47.1)	1.08 (0.97-1.19)	12.4% (11.7-13.0)	0.89 (0.80-1.00)
60 years +	37.8% (36.0-39.6)	0.82 (0.72-0.94)	8.0% (7.3-8.8)	0.68 (0.58-0.81)
Data collection year		$p = .009$		$p < .0001$
		0.98 (0.96-1.00)		1.09 (1.07-1.11)

OR = odds ratio, EAC = education / advice / counselling, GP = general practitioner. [§]Aboriginal and/or Torres Strait Islander (patient self-report)

4.7 Discussion

4.7.1 Management Rate of Anxiety 2006 – 2016

Over the period analysed, this study demonstrated that anxiety was accounting for a larger proportion of GP workload year by year. In the absence of any other significant health reforms that would impact the management rate of anxiety, it is reasonable to assume that the observed linear increase would have continued from 2016 to 2021. The drivers of this increase are likely multifaceted, including changes to help-seeking, access, and prevalence. The introduction of Better Access was intended to lower barriers to accessing psychologists through the creation of GP mental health care plans and Medicare rebates for mental health services (Harrison et al., 2012), and organisations such as Beyond Blue have also emphasised seeking care from a GP in line with these changes. The background prevalence of anxiety may also have increased over the period studied, though this is difficult to determine due to the lack of recent large scale studies on the prevalence of mental health conditions in Australia (AIHW, 2021c). As a result of the COVID-19 pandemic, rates of general practice encounters for anxiety may have increased further in 2020 and 2021 due to increased onset of new anxiety, exacerbation of existing conditions, or increased help-seeking due to stressors and a lack of alternative coping strategies (Batterham, Calear, McCallum, et al., 2021; Dawel et al., 2020).

4.7.2 Management Strategies Used

Psychotropic medications were the most common treatment category, but GPs managed anxiety problems with EAC more often than either of the most common medications used (benzodiazepines and SSRI/SNRIs). Rates of referral were relatively low, though referrals to psychologists tripled from 2006 to 2016. Non-pharmacological strategies were also particularly more common for new anxiety problems.

Although approximately one third of anxiety problems were managed with a benzodiazepine, the use of these medications reduced substantially over the 10 years. Issues with benzodiazepines have been well documented, and reducing their use has been the focus of a significant amount of education and policy. Benzodiazepines work quickly, and very well, for managing anxiety in the short-term. However, they are associated with poorer long-term outcomes compared to other treatments (NICE, 2011b) and can prolong anxiety disorders by promoting safety behaviours and avoidance of feared physiological symptoms (Westra et al., 2002). New Australian guidelines for the use of benzodiazepines in general practice were released in 2015, including specific recommendations for managing anxiety (The Royal Australian College of General Practitioners, 2015), which may have led to further decreases in benzodiazepine prescribing for anxiety from 2016 to the current time.

4.7.3 Effect of Patient and GP Characteristics

There was a complex interaction between sex of GPs and patients. Female patients were more likely than males to have anxiety managed, consistent with the higher prevalence of anxiety in women (Bandelow & Michaelis, 2015; Baxter et al., 2013) and greater likelihood of seeking help for mental health problems (Harris et al., 2016). However, female patients are also more likely to see female GPs (Delgado et al., 2011), who were more likely to manage anxiety in our sample.

While female and male patients received similar rates of SSRI/SNRI medications and referrals to psychologists, female patients were more likely to receive EAC and less likely to receive benzodiazepines than male patients. This again may be explained, in part, by higher likelihood of seeing a female GP, who were much more likely to manage anxiety with EAC and much less likely to use benzodiazepines. Older and male GPs were more likely to manage anxiety with benzodiazepines, and less likely to use other management strategies than younger and female GPs. This is consistent with patterns of

management for other conditions, which has shown female GPs are more likely to provide preventative care, referrals, and counselling (Harrison et al., 2011). Overall, the pattern also suggests younger and female GPs manage anxiety in ways more closely aligned to clinical practice guidelines, though this may be influenced by the patients they see.

In our sample, patients aged 25-59 had the highest rates of anxiety management, and rates were lowest in those under 15 years and over 80 years old. Young and middle-aged adults have the highest prevalence of anxiety, which typically peaks in middle age and decreases in older age (Bandelow & Michaelis, 2015; Baxter et al., 2013). Further, the age of onset for anxiety disorders most commonly seen in primary care (GAD and panic disorder) is early adulthood (Bandelow & Michaelis, 2015), though long delays in help-seeking mean people may not present for treatment until a decade after symptom onset (Thompson et al., 2008).

In older patient groups, there was a substantially increased likelihood of anxiety being managed with benzodiazepines and decreased likelihood of being referred to a psychologist. Benzodiazepine use is known to increase with age, with high rates of chronic use in the elderly (Jorm et al., 2000; Windle et al., 2007). GPs report reluctance to cease benzodiazepines in these groups due to concerns about withdrawal and resistance from patients (Cook et al., 2007; Sim et al., 2007). People in older age groups are also more likely to receive management for an existing anxiety problem than a new problem, and may previously have received other treatments including referral to a psychologist. However, the high rate of benzodiazepines for anxiety in the elderly is concerning; people over 60 years have a much higher risk of adverse effects relating to falls and confusion (The Royal Australian College of General Practitioners, 2015).

Patients under 15 years received very low rates of medication for anxiety, and relatively high rates of referral to a psychologist (26 times the likelihood of those aged

over 80 years). These findings are consistent with recommendations for anxiety in children that emphasise psychological treatment as first-line (NICE, 2013). People in this age group were also the least likely to receive EAC from the GP, though this was still provided for about 40% of anxiety problems.

The influence of socioeconomic factors was mixed. Anxiety was managed more often in patients from socioeconomically advantaged areas compared with disadvantaged areas, but HCC holders were 1.75 times more likely to have anxiety managed than non-card holders. It may be the case that people with a HCC, who are older, have a disability, or are low-income earners, experience higher rates of anxiety due to psychosocial stressors, financial disadvantage, and chronic illness. HCC holders were also almost three times as likely to receive benzodiazepines as people without a health care card, but significantly less likely to receive other management strategies. Socioeconomic area, on the other hand, did not predict the type of management received. These findings suggest that socioeconomic area does not appear to impact the way anxiety is managed, but HCC holders receive less preventative care for their anxiety, mirroring the management they receive for other health problems (Charles et al., 2003).

People from a non-English speaking background were far less likely to have anxiety managed at an encounter. Language background, although not a measure of ethnicity, is strongly predictive of being a member of a minority racial group (Bastos et al., 2018). Stigma, perceived barriers to mental health care, and cultural differences in recognition and help-seeking practices may mean people may visit their GP fewer times for anxiety management (Bastos et al., 2018; Youssef & Deane, 2006). Systematic differences in the way anxiety was managed were also found for language background. People from a non-English speaking background were very unlikely to be referred to a psychologist, occurring for less than 10% of anxiety problems. People from non-English speaking backgrounds were also less likely to receive medication for anxiety than their

English speaking counterparts, but were more likely to receive EAC from their GP. Language barriers and a lack of culturally competent psychologists may mean GPs are less likely to refer these groups for psychological therapy. Furthermore, stigma may result in reluctance, or perceived reluctance by the GP, to receive treatment for a mental health problem (Youssef & Deane, 2006). The treatments available in a migrant group's country of origin are also likely to impact expectations about treatment in Australia (e.g., Misev & Phillips, 2019). Finally, it may also be the case these findings are related to lower overall rates of consultations for anxiety.

Aboriginal and Torres Strait Islander people were less likely to have anxiety managed than non-Indigenous people. However, Aboriginal and Torres Strait Islander people are known to have higher rates of mental health difficulties than non-Indigenous people (ABS, 2019b), and it may therefore be expected that they have anxiety managed at higher rates.

4.7.4 Strengths and Limitations

BEACH represents the most comprehensive and current dataset available on GP encounters within Australia. Unfortunately, the BEACH program was defunded and data are no longer being collected, so we were unable to track the treatment of anxiety in general practice beyond 2016 to describe the current management practices. However, examining 10 years of data provides information about trends that can be extrapolated to the current time. A limitation of the BEACH data is that they are cross sectional, meaning we were not able to determine whether a patient had received other management strategies at a previous encounter, or would at a future encounter. People could also receive more than one treatment at an encounter, and exploring the number of problems being managed with a single strategy (e.g., only benzodiazepines) was beyond the scope of this study.

Anxiety was recorded using two codes, one of which refers to a diagnosis of an anxiety disorder (P74), and another (P01) which includes the term “Anxiety”. We also included anxiety recorded under a third code (P76018) which refers to anxiety with depression. The use of multiple codes in the current study may have resulted in the inclusion of sub-clinical anxiety presentations, leading to an overestimation of the prevalence of anxiety disorder. Furthermore, the ICPC codes used by BEACH do not contain information about anxiety severity, so we are unable to determine any differences in management across this variable.

The results for EAC were also difficult to interpret, as the data are not fine-grained enough to determine exactly what GPs are providing when they record this as a management strategy. For instance, it may involve psychoeducation about anxiety, information about medications, advice about lifestyle factors, or brief psychological interventions. Furthermore, unlike medication and referrals, deciding whether education, advice, or counselling has been provided depends on interpretation from the GP, and the same strategy is likely to be recorded differently across different practitioners. Although we combined multiple categories of education, advice, and counselling into one outcome in our study, it was not meaningful to examine them separately due to the factors above.

There may also have been variations in estimations introduced by the nature of the data. Each anxiety problem managed did not represent an individual patient. Patients are likely to have had their anxiety managed multiple times across the 10 years and could have received the same or different strategies at each encounter. Benzodiazepines can only be prescribed in small amounts for a limited period and will therefore require more GP encounters than a patient being treated with antidepressant medication (which can be provided for a period of six months under the Pharmaceutical Benefits Scheme) or psychologist referral. This is also reflected in high rates of EAC, which is a strategy that can be provided at every encounter unlike medications and psychologist referral.

4.7.5 Future Research and Clinical Implications

Our results suggest that anxiety is accounting for an increasing proportion of GP workload. We can expect that if anything, fallout from the COVID-19 pandemic will result in a larger increase in anxiety presentations than the linear pattern seen over the last few years. While milder anxiety presentations may resolve spontaneously, anxiety disorders tend to be chronic if insufficiently treated and it is important that appropriate management is provided (Bandelow & Michaelis, 2015).

Trends across the period studied demonstrate the use of benzodiazepines to manage anxiety is reducing, and rates of recommended treatments (SSRI/SNRIs and referrals to psychologists) are increasing. Overall, this indicates practice is becoming more closely aligned with research and treatment guidelines. However, systematic differences in the way anxiety is treated across different patient groups warrant further investigation.

High rates of benzodiazepine use in certain groups, particularly the elderly, are a concern. While benzodiazepines do have a place in the treatment of anxiety, practitioners should continue to reserve these medications for short-term use and in conjunction with other evidence-based treatments (e.g., during initiation of an SSRI/SNRI). The limitations in terms of effectiveness and the possibility for them to prolong anxiety disorders should be discussed with patients as well as tolerance/dependence issues to allow informed treatment decision making. Emphasising psychological treatments and reducing benzodiazepine use for anxiety in the elderly should be a priority.

Further research should explore GP treatment decision-making for anxiety to examine drivers behind the use of different management options, and differences across patient populations. Future research should also seek to understand consumer priorities for anxiety treatment, as there is some indication that consumers prefer psychological

treatments over pharmacotherapy for common mental health problems (Mohlman, 2012; van Schaik et al., 2004).

Although there is research demonstrating psychological treatments are effective in primary care (Parker et al., 2021), Australian GPs have a limited capacity to provide these treatments themselves. Even with Better Access rebates for psychological services, the cost of treatment by a psychologist remains high and inaccessible for many people. Furthermore, GPs are limited in their ability to offer referrals by inadequate availability of psychologists. GPs should consider e-mental health options such as computerised CBT programs (see www.emhprac.org.au/directory for a directory of e-mental health resources), which are effective treatments for anxiety (Andrews, Basu, et al., 2018).

Finally, we are well aware that research often does not reflect real-world treatment settings and that practice guidelines frequently do not take into account the complexities of clinical practice. Implementation barriers should be explored in more detail to determine how the guidelines for treating anxiety can be made more accessible and practical for GPs.

CHAPTER FIVE

CONSUMER PERSPECTIVES ON ANXIETY MANAGEMENT IN GENERAL PRACTICE

The previous two chapters explored the effectiveness of treatments for anxiety disorders in primary care (Chapter 3) and the management practices of Australian GPs since the introduction of important health care reforms (Chapter 4). However, there is little research regarding direct consumer experiences and priorities in the area of anxiety management or primary care. Consumer perspectives are essential for evaluating and improving the management of mental health conditions (Daya et al., 2020). It is also important that consumers are given the opportunity to discuss these experiences in their own words (i.e., rather than solely through quantitative surveys of satisfaction), to ensure research accurately captures the aspects of health care experience that are most important to consumers (Banfield et al., 2014).

This chapter presents the results of an online survey of consumers who had sought help for anxiety from their GP. The aim of the current study was to explore consumer views on the management of anxiety in general practice, which is often the first service from which a consumer seeks professional support. There were three broad research questions: 1) what are consumer experiences of anxiety management in general practice, 2) what do consumers prioritise when considering treatment for anxiety and what are their preferences for type of treatment, and 3) how do consumers think care for anxiety could be improved?

Consumers reported generally positive views of their GP when seeking help for anxiety, though had mixed experiences of the approach taken to treatment. Consumers noted they prioritise effective treatment above other factors, and are less concerned with how quickly their treatment works. A preference for psychological intervention or

combined treatment with medication was apparent. Consumers noted key areas for improving care for anxiety were improving access and funding for psychological treatments, increasing community knowledge about anxiety, and better training for GPs.

5.1 Publication Details

This study was published in *International Journal of Environmental Research and Public Health* in May 2022, in the Special Issue *Lived Experience within Mental Health and Wellbeing Research*. The study is presented here as published, with the exception of minor changes to formatting of headings, citations, figures, and tables (including numbering). The published article is included in Appendix D and the citation is as follows:

Parker, E. L., & Banfield, M. (2022). Consumer perspectives on anxiety management in Australian general practice. *International Journal of Environmental Research and Public Health*, 19(9), 5706. <https://doi.org/10.3390/ijerph19095706>

5.2 Author Contributions

Parker conceptualised the study with intellectual input from Banfield. The survey was developed by Parker with input from Banfield and consumer and carer representatives. Parker conducted the analyses and interpreted data with contribution from Banfield in the qualitative analysis. Parker drafted the article, and both authors revised it critically for content and approved the version to be published.

Consumer perspectives on anxiety management in Australian general practice

Erin L Parker¹ and Michelle Banfield²

¹Research School of Psychology, Australian National University, Canberra, ACT,
Australia

²Centre for Mental Health Research, Australian National University, Canberra, ACT,
Australia

5.3 Abstract

The aim of the current study was to explore consumer perspectives on the management of anxiety in general practice, which is often the first service from which a consumer seeks professional support. We used a mixed methods survey to explore three broad research questions: 1) what are consumer experiences of anxiety management in general practice, 2) what do consumers prioritise when considering treatment for anxiety and what are their preferences for type of treatment, and 3) how do consumers think care for anxiety could be improved? Consumers reported generally positive views of their GP when seeking help for anxiety, though had mixed experiences of the approach taken to treatment. Consumers noted they prioritise effective treatment above other factors, and are less concerned with how quickly their treatment works. A preference for psychological intervention or combined treatment with medication was apparent. Consumers noted key areas for improving care for anxiety were improving access and funding for psychological treatments, increasing community knowledge about anxiety, and better training for GPs.

5.4 Introduction

Anxiety disorders are common in primary care, and are accounting for an increasing proportion of the reasons people seek help from a GP in Australia (Parker et al., under review). To date, much of the research evaluating the management of anxiety and other mental health conditions in primary care has focussed on description of service data (e.g., Burgess et al., 2009), the benefits and challenges of providing mental health services in this setting (e.g., Wakida et al., 2018), and treatment effectiveness according to clinical measures (e.g., Parker et al., 2021). However, the perspectives of people with a lived experience of mental health difficulties (hereafter: *consumers*) are vital in evaluating mental health services. Exploring consumer perspectives is necessary for understanding factors such as barriers in accessing mental health care, priorities for treatment, satisfaction, and areas of unmet need (Daya et al., 2020; Howard et al., 2003; Oermann & Templin, 2000). Consumers have diverse experiences of care, and understanding their perspectives assists in designing services that more appropriately meet the needs of the people they intend to help (Daya et al., 2020; WHO, 2018b). In addition to benefits for service evaluation and development, exploring consumer perspectives on mental health care helps identify areas for future research that are most relevant to those consumers, who are the ultimate end-users of health care research (Banfield et al., 2014; Banfield et al., 2011).

A handful of international studies have explored consumer perspectives of primary mental health care, including care for serious mental illness (Lester et al., 2006; Lester et al., 2005), experiences of diagnosis for anxiety (Archer et al., 2021), and expectations for care in anxiety and depression (Kadam et al., 2001). One recent study explored quality of care for depression and anxiety in North American integrated primary care settings, and found consumers emphasised the importance of accessibility, good technical care, trusting relationships with providers, and care meeting diverse needs

(Ashcroft et al., 2021). In Australia, consumer involvement has been a focus of mental health policy since 1992 (AHMAC National Mental Health Strategy Evaluation Steering Committee, 1997), but research in this area remains sparse, and studies that seek to evaluate care from a consumer perspective are few.

This study aimed to explore consumer perspectives on the management of anxiety, specifically in Australian primary care settings. As GPs provide the majority of management for anxiety and are often the first health professional a consumer will see (Britt, Miller, Bayram, et al., 2016; Burgess et al., 2009), we focussed on experiences with a GP specifically. There were three key research questions:

1. What are consumer experiences of anxiety management in general practice?
2. What do consumers prioritise when considering treatment for anxiety and what are their preferences for type of treatment?
3. How do consumers think care for anxiety could be improved?

Participants were also asked about their reasons for help-seeking and any barriers they experienced. We were interested in exploring participants' first experience of seeking help for anxiety as well as their more recent experiences in the past 12 months.

5.5 Materials and Methods

The ethical aspects of this research were approved by the Australian National University Human Research Ethics Committee (protocol 2019/910). We used a cross-sectional survey to explore consumer experiences and priorities. The survey used a combination of multiple choice, Likert scale, and free response questions and was divided into five broad sections: 1) decision to seek help and expectations, 2) experience and treatment preferences, 3) symptoms and diagnoses, 4) demographics, and 5) overall reflections and suggestions for improvement. The survey was piloted with small group of people with lived experience from the Consumer and Carer Advisory Group for ACACIA,

The Australian Capital Territory (ACT) Consumer and Carer Mental Health Research Unit, who provided feedback on survey content, flow, and length. Adjustments were made to questions following this feedback (i.e., wording, inclusion/exclusion of questions).

5.5.1 Participants and Recruitment

The survey was administered through the Qualtrics online survey platform. Participants were recruited primarily through 1) paid advertisements on social media platforms Facebook and Instagram, targeted at Australians aged 18 years and older, and 2) consumer peak bodies (Mental Health Australia, National Mental Health Consumer and Carer Forum, Consumer and Community Involvement Program [WA], Flourish [TAS], and ACT Mental Health Consumer Network [ACT]). We also intended to recruit directly from primary health care clinics via flyers placed in waiting rooms. However, due to the COVID-19 pandemic, many clinics had removed reading materials from waiting rooms and as such were not accepting advertising material. Large, multi-clinic organisations were contacted via email as an alternative, though only one organisation responded. The survey ran for 12 months (7 July 2020 to 6 July 2021). Multiple rounds of social media advertising were conducted during this period.

Participants were a non-random sample of adult Australians (18 years +) who had sought treatment for anxiety from their GP in the past five years. Those who sought help primarily for PTSD and OCD were excluded, as these conditions are no longer categorised as anxiety disorders in current classification systems (APA, 2013; WHO, 2018a). Participants were assessed as eligible based on their response to screening questions at the beginning of the survey. We intended to recruit a convenience sample of 200 participants in total, from all states and territories within Australia, to enable detection of small to moderate effects in quantitative analyses and explore themes among the experiences of a large group of consumers. Participants were not offered

incentives for participating in the research. Informed consent was obtained electronically by a) commencing the survey after reading the participant information sheet, and b) indicating consent for data to be used at the conclusion of the survey by clicking “submit to researcher”. Participants were informed that dropping out prior to submitting their responses would be taken as withdrawal of consent. The survey was administered anonymously, and participants were asked not to enter identifying information in free-response questions. Data were inspected for such information during analysis and any names of people or specific locations (e.g., GP clinics) were removed.

5.5.2 Survey Measures

The full survey is included in Appendix D. First, participants were asked about their decision to seek help for their anxiety symptoms, and whether they were looking for particular treatments, as well as about perceived barriers that prevented them from seeking help. Second, participants were asked about their experience with the care they received, including the perceptions of their GP and subsequent treatment approach, satisfaction with care, and perceived effectiveness of treatment. These questions were adapted from existing surveys of health care experience such as the CAHPS® Experience of Care and Health Outcomes (ECHO) Survey (Agency for Healthcare Research and Quality, 2016). Participant experiences with their GP were assessed using two scales, a 7-item questionnaire exploring perceptions of the knowledge, attitudes, and interpersonal approach of the GP (e.g., “my doctor listened carefully to me”, “my doctor seemed to have good knowledge about anxiety”) and a 5-item questionnaire about treatment approach (e.g., “my GP gave me as much information as I wanted about how to manage my anxiety”). Each statement was rated on a 5-point Likert scale from 1 “strongly disagree” to 5 “strongly agree”. Participants were asked these questions about their first experience of seeking help as well as recent experiences in the past 12 months.

Information about the location of where participants sought help (remoteness and Australian State or Territory) at both time points was also collected. Participants were also asked whether they had a current mental health treatment plan – a care plan developed with a GP that is required to access subsidised treatment with mental health professional. Each question set ended with a free response question “is there anything else you would like to say about this?” to ensure participants were given an opportunity to provide information they felt was important but may not have been captured by earlier questions.

Information was collected about participants’ demographic characteristics (age, gender, and ethnicity) and known clinical characteristics (lifetime mental health diagnoses, current symptoms). The Depression, Anxiety, and Stress Scale Short Form (DASS-21; Lovibond & Lovibond, 1995) was used to measure anxiety symptoms. The DASS-21 is a self-report, non-diagnostic tool, which measures the frequency of depression, anxiety, and stress symptoms experienced over the past week. This measure was chosen over other measures of anxiety symptomatology as it is used frequently in Australian primary care as a screening and assessment tool, and can provide information about symptoms that commonly co-occur with anxiety. Participants rate statements on a scale from 0 “never” to 3 “almost always”. Scores are summed within the three subscales with possible scores ranging from 0 to 21 for each subscale. Severity labels (normal, mild, moderate, severe, or extremely severe) are used to classify scores, and refer to symptom levels relative to the general population rather than severity of disorder. Scores on the anxiety subscale between 7 and 10 indicate moderate anxiety symptoms, 11-13 indicates severe anxiety symptoms, and scores of 14 or higher are considered extremely severe. Cut off scores for severity vary across the subscales. For example, “moderate” refers to scores of 10 to 12 for stress and 6 to 7 for depression.

The DASS-21 has demonstrated excellent internal consistency with Cronbach's alphas of .94 for the depression subscale, .87 for anxiety, and .91 for stress (Antony et al., 1998). The scales are moderately correlated with one another, consistent with the comorbidity seen in the syndromes they measure (depression-anxiety = .42; anxiety-stress = .46; depression-stress = .39; Lovibond & Lovibond, 1995). However, confirmatory factor analyses with clinical and non-clinical populations have shown that the DASS-21 items can be reliably grouped into the three separate scales (Lovibond & Lovibond, 1995). The individual DASS scales also show good convergent and discriminant validity with measures of related and unrelated constructs, respectively (Antony et al., 1998).

5.5.3 Analysis

Quantitative analyses were conducted using JASP, a free user interface for R available from <https://jasp-stats.org/> (JASP Team, 2022). Questions with multiple response selections were divided and coded as 0 (response not selected) or 1 (response selected). We calculated the frequency and proportion of all participants who selected the option as at least one of their responses. The number of responses selected by participants was also calculated for each question.

Participant gender was coded into three groups, male, female, and gender diverse. The overarching category “gender diverse” was used rather than individual categories reported by participants (e.g., non-binary, transgender) to protect confidentiality. Participant ethnicity was coded using the Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG; ABS, 2019a) based on free-response answers from participants. For Likert scale questions, missing data ($n = 3$) was imputed to minimise information loss using person-median substitution. Although suboptimal for larger amounts of missing data, this method was considered unlikely to

introduce bias in the current study due to the very small number of missing values (Zhang, 2016).

In order to explore whether certain variables predicted participant perceptions of their GP, principal components analysis was used as a dimension reduction method for the seven items. A single measure was calculated “perceptions of GP” and scores were compared at first experience and experience in the past 12 months using Wilcoxon signed rank tests. Linear regression was used to explore predictors of participant perceptions of their GP.

Qualitative responses were analysed using content analysis. The analysis used emergent coding, which draws on grounded theory (Glaser & Strauss, 1967) where codes are generated inductively from the data rather than from a pre-existing theory (Stemler, 2015). This process is used to analyse data where research questions are exploratory or broad (Stemler, 2015), and was chosen for this study as very little prior research exists regarding consumer views on anxiety care. Participant responses to each question were read for overall understanding by EP and open coding was used to generate and assign codes as concepts became apparent. Axial coding was then used to group similar codes into categories. Constant comparative analysis was used throughout the coding process to look at early and later text to ensure consistency in information being recorded by codes, and to refine the coding structure. Codes and categories for each question were finalised after no new concepts were identified from the data. To ensure the accuracy of coding and to address potential bias, EP discussed the coding structure and key pieces of text with MB, a lived experience researcher with extensive experience in consumer research and qualitative methods. Following these discussions, refinements were made to the coding structure, including combining codes that reflected similar concepts and separating others that represented distinct concepts.

5.6 Results

A total of 351 people responded to the advertisement and proceeded to the survey on Qualtrics. Of these, 138 completed the survey in full. Participants were advised non-completion of the survey would be interpreted as withdrawal of consent. As such, only complete responses were analysed. A flowchart demonstrating survey response rate can be seen in Figure 5.1. The median completion time for the survey was 26 minutes.

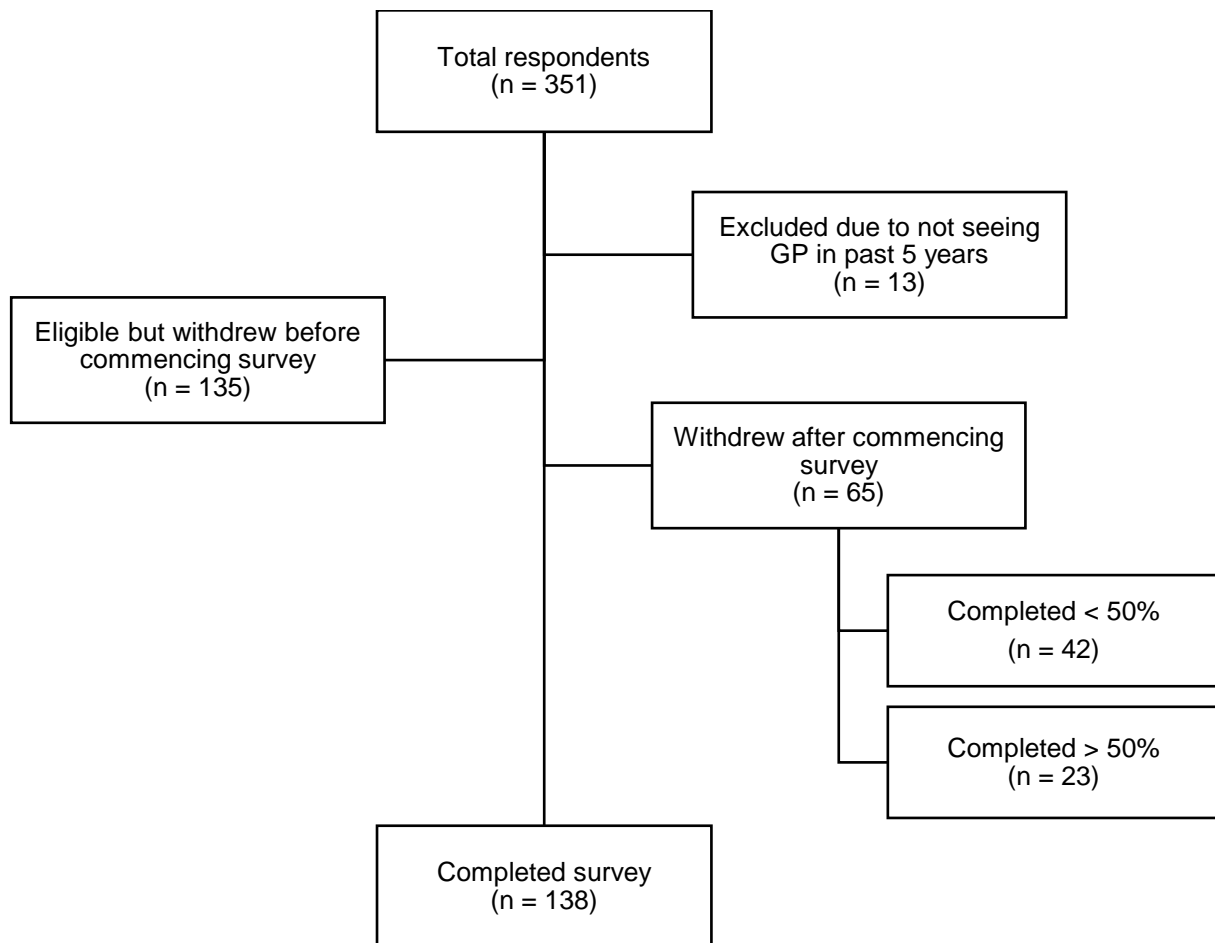


Figure 5.1. Flowchart demonstrating survey response rate.

5.6.1 Participant Characteristics

The demographic and clinical characteristics of participants are reported in Table 5.1. Participant ethnicity was classified according to ASCCEG narrow groups (e.g., Eastern European) as many participants did not report their specific cultural and ethnic group (e.g., Hungarian). The majority of participants were female and White, and the median age bracket was 35-44 years. Most commonly reported lifetime diagnoses included generalised anxiety disorder, followed by major depressive disorder. Participants reporting their diagnosis as “other” mostly listed unspecified anxiety or mixed anxiety/depression. Most participants reported having more than one lifetime diagnosis (median = 2). Furthermore, most participants (n = 77, 55.8%) reported they had a mental health treatment plan at the time of completing the survey

Mean scores on the DASS-21 were moderate to severe for the anxiety subscale (M = 7.4, 95%CI = 6.54 – 8.24). A quarter of participants' scores fell in the normal range (n = 37, 26.8%), 13.8% (n = 19) were classified as mild, 9.4% (n = 13) moderate, 17.4% severe (n = 24), and approximately a third extremely severe (n = 45, 32.6%). Mean scores were in the moderate range for depression (M = 9.0, 95%CI = 7.85 – 10.06) and stress (M = 10.7, 95%CI = 9.76 – 11.54) subscales. Most participants (n = 77, 55.8%) reported they had a mental health treatment plan at the time of completing the survey.

Table 5.1. Characteristics of participants (n=138).

Characteristic	Variable	Frequency (n)	Proportion of Participants (%)
Age	18-24	15	10.9
	25-34	39	28.3
	35-44	28	20.3
	45-54	22	15.9
	55-64	23	16.7
	65+	11	8.0
Gender	Female	112	81.2
	Male	19	13.8
	Gender diverse	7	5.1
Ethnicity^a	Australian		
	Australian	114	83.3
	Aboriginal or Torres Strait Islander	2	1.4
	New Zealander	1	0.7
	British	4	4.3
	Irish	1	0.7
	Western European	1	0.7
	Eastern European	3	2.2
	Chinese Asian	1	0.7
	Southern Asian	3	2.2
	South American	1	0.7
	Multiple	3	2.2
	Lifetime diagnosis	Generalised anxiety disorder	78
Panic disorder		17	12.3
Social anxiety disorder		16	11.6
Specific phobia		9	6.5
Agoraphobia		6	4.3
Major depressive disorder		57	41.3
Other depressive disorder		5	3.6
Obsessive compulsive disorder		15	10.9
Posttraumatic stress disorder		35	25.4
Adjustment disorder		7	5.1
Bipolar disorder		9	6.5
Autism spectrum disorder		5	3.6
Attention deficit hyperactivity disorder		4	2.9
Schizophrenia spectrum disorder		1	0.7
Substance use disorder		5	3.6
Personality disorder		9	6.5
Eating disorder		13	9.4
Other		11	8.0
No diagnosis		20	14.5
Unsure / prefer not to say		2	1.4
Lifetime diagnoses (n)	0	20	14.5
	1	28	20.3
	2	34	24.6
	3	31	22.5
	4	10	7.2
	5+	13	9.4
First help-seeking (year)	<2015	69	50.0
	2015	9	6.5
	2016	2	1.4
	2017	18	13.0
	2018	11	8.0
	2019	10	7.2
	2020	13	9.4
	Unsure	6	4.3

^aData missing for 4 participants

5.6.2 Help-Seeking

Frequencies for the reasons participants sought help for their anxiety are reported in Table 5.2. Most participants ($n = 123$, 89.1%) reported they sought help due to their symptoms becoming too severe to manage. For 89 people, this was the sole reason they sought help, while 26 reported encouragement from others had also prompted their help-seeking. Seven participants stated encouragement from others was their sole reason, while a further four stated finding out where to get help was their sole reason. A minority of participants selected combinations of two other reasons ($n = 9$, 6.5%), and three participants selected more than two reasons for help-seeking.

Half of the participants ($n = 69$) reported that they had first sought help for their anxiety prior to 2015. Three quarters of participants reported they experienced at least one barrier to seeking help for their anxiety. Most reported a single barrier ($n = 64$, 46.4%), 27 (19.6%) reported two barriers, and 13 (9.4%) reported three or more barriers. The most common barrier reported by participants was being afraid to ask for help (Table 5.2). Among participants who selected "other", the three most common responses were past negative experience ($n = 7$, 5.1% of total), shame or stigma ($n = 6$, 4.3% of total), and a lack of knowledge about anxiety or treatment options ($n = 5$, 3.6% of total).

Participants were further asked whether they believed the COVID-19 pandemic had affected their likelihood of seeking help. While almost half of the participants ($n = 67$, 48.6%) reported their likelihood of seeking help was unchanged, 59 participants (42.8%) stated the pandemic had made them more likely to seek help. A small number of participants ($n = 12$, 8.7%) reported decreased likelihood of help-seeking due to the pandemic.

The survey included separate questions about first experience of help seeking and experiences in the past 12 months. Quantitative and qualitative findings from these two sections are described separately below.

Table 5.2. Participant reported reasons for and barriers to seeking help for anxiety.

	Frequency (n)	Proportion of Participants (%)
Reason for help-seeking		
Symptom severity	123	89.1
Encouragement from others	36	26.1
Found where to go to get help	10	7.2
Other reason	7	5.1
Barriers^a		
Afraid to ask for help	54	39.1
Financial cost	29	21.0
Unsure where to seek help	24	17.4
Unable to access help	19	13.8
Other	36	26.1

Note. Participants could select more than one response so proportions add to more than 100%.

^aData missing for 1 participant

5.6.3 First Experience

Most participants sought help in urban areas (n = 95, 68.8%) in the south-eastern states of Australia (New South Wales: n = 42, 30.4%; VIC: n = 29, 21.0%; ACT: n = 23, 16.7%). Twelve participants (8.7%) each first sought help in Queensland and Western Australia, 11 (8.0%) in South Australia, and eight (5.8%) in Tasmania. There were no participants with help-seeking experiences in the Northern Territory.

5.6.3.1 Treatment Preferences

Participants were asked whether they had specific treatment preferences at the first appointment with their GP (Table 5.3). In total, 52 participants (37.7%) reported no preference for treatment at their first appointment (i.e., they had no expectations and/or were looking for general advice), while the majority of participants (n = 86, 62.3%) reported specific treatment preferences. Participants could select more than one response, though most reported a single specific treatment preference (n = 54, 39.1% of total participants). Approximately a fifth of participants reported two preferences (n = 28), and a small number (n = 4, 2.9% of total participants) indicated more than two preferences. Half (n = 69) reported they were seeking psychological treatment via a referral to a psychologist, and approximately a third (n = 43) indicated they were seeking

medication. Of the participants seeking medication, most indicated they were also looking for psychological treatment ($n = 31, 72.1\%$). Only 12 participants reported seeking medication alone. By contrast, just over half of the participants ($n = 38$) seeking referral to a psychologist reported they were looking for this alone.

Table 5.3. Preferences for treatment approach at first appointment with GP.

Treatment approach	Frequency (n)	Proportion of Participants (%)
Referral for a psychologist	69	50.0
Medication	43	31.2
No specific treatment	34	24.6
General advice	30	21.7
Other	10	7.2

Note. Participants could select more than one response so proportions add to more than 100%.

5.6.3.2 Treatment Offered

Participants were asked which treatments their GP offered at this first appointment. Results are presented in Table 5.4. Over half of the participants ($n = 79, 57.2\%$) reported at least one of the treatments they were offered was referral to a psychologist. The same number of participants ($n = 79, 57.2\%$) reported being offered medication (short term medication such as benzodiazepines, long term medication such as antidepressants or similar, or both). For both treatments (i.e., referral to psychologist or medication), 30 participants (21.7%) reported being offered one but not the other (i.e., medication with no psychologist referral or vice versa). However, most ($n = 49, 35.5\%$) noted being offered both medication and referral to a psychologist. A very small number of participants ($n = 3, 2.2\%$) reported being offered a short-term medication (i.e., benzodiazepines) alone.

Discrepancy scores were calculated for each participant to determine whether there was a difference between preferred treatment and that offered by the GP. For those who had specific preferences (excluding those who selected only "other", $n = 81, 58.7\%$), most reported they were offered at least one of the treatments they were

seeking (n = 62, 44.9% of total participants). Nineteen participants (13.8% of total participants) were not offered any of the treatments they were seeking.

Table 5.4. Treatments offered by GP at first appointment.

Treatment offered	Frequency (n)	Proportion of Participants (%)
Referral – psychologist	79	57.2
Medication – long-term	69	50.0
Lifestyle	60	43.5
Medication – short-term	27	19.6
Counselling by GP	18	13.0
Referral – psychiatrist	16	11.6
Referral – self-help	11	8.0
Other	11	8.0
None	9	6.5

Note. Long-term medication refers to antidepressants or similar, while short-term medication refers to short-acting drugs such as benzodiazepines.

In addition to the type of treatment offered by their GP, participants were asked to rate a series of statements about their GP's approach to treatment at this first appointment. Results are presented in Figure 5.2. Similar proportions of participants agreed and disagreed that their doctor gave them information about anxiety (46.7% agreed vs. 41.6% disagreed), treatment options (41.6% agreed vs. 45.3% disagreed), and asked about their preferences (44.5% agreed vs. 46.0% disagreed). When asked to rate whether they received enough information about how to manage anxiety, 38.0% of participants agreed and 52.6% disagreed, the remainder being neutral. While most participants (54.0%) agreed they felt able to refuse a specific treatment, more than one-fifth (22.7%) felt they could not refuse. Higher agreement was seen across all items for participants who were offered a treatment consistent with their preferences compared with those who were not (Figure 5.3).

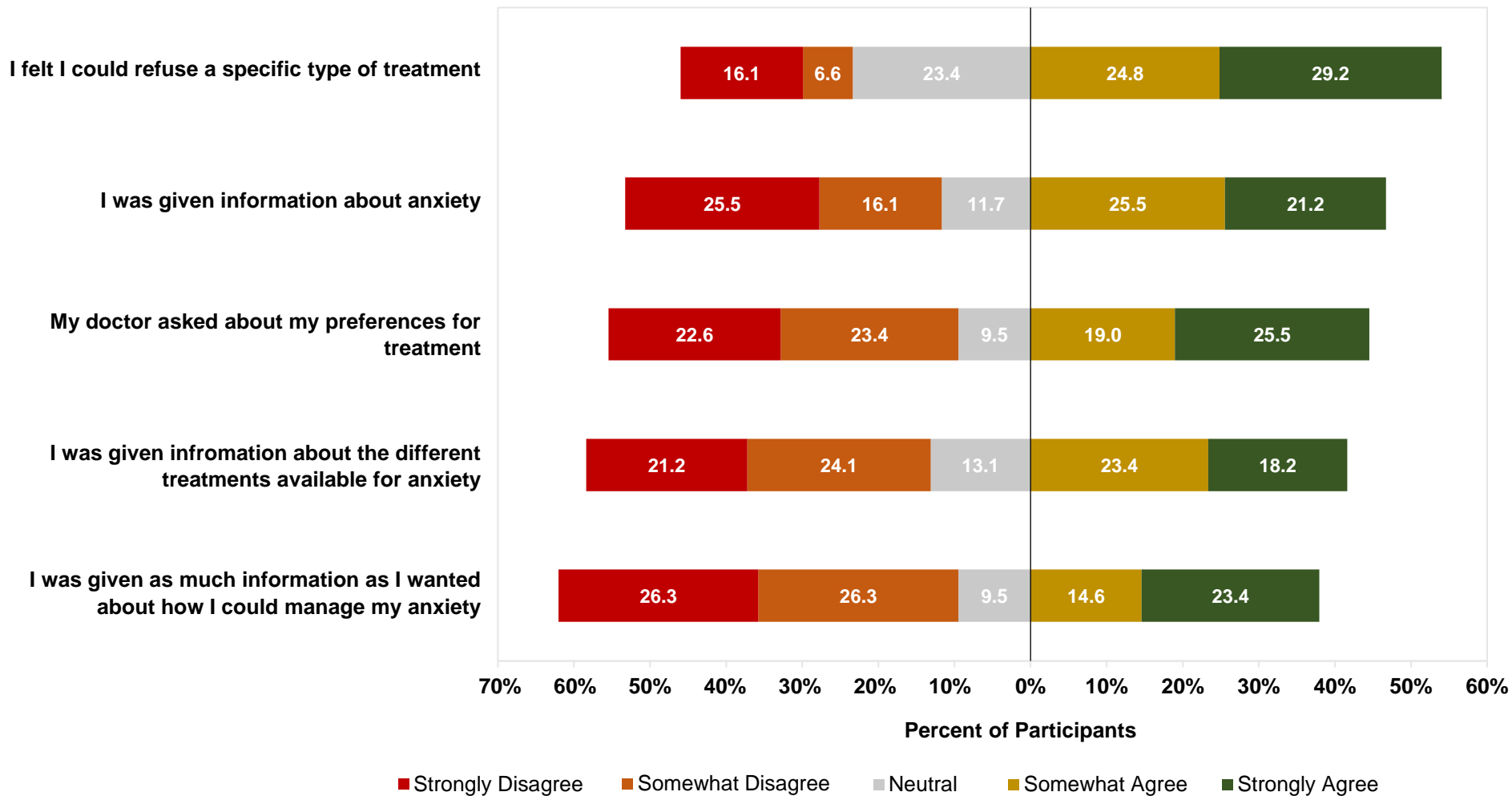


Figure 5.2. Participant ratings (n = 137) of GP treatment approach at first experience of seeking help for anxiety. Data missing for one participant.

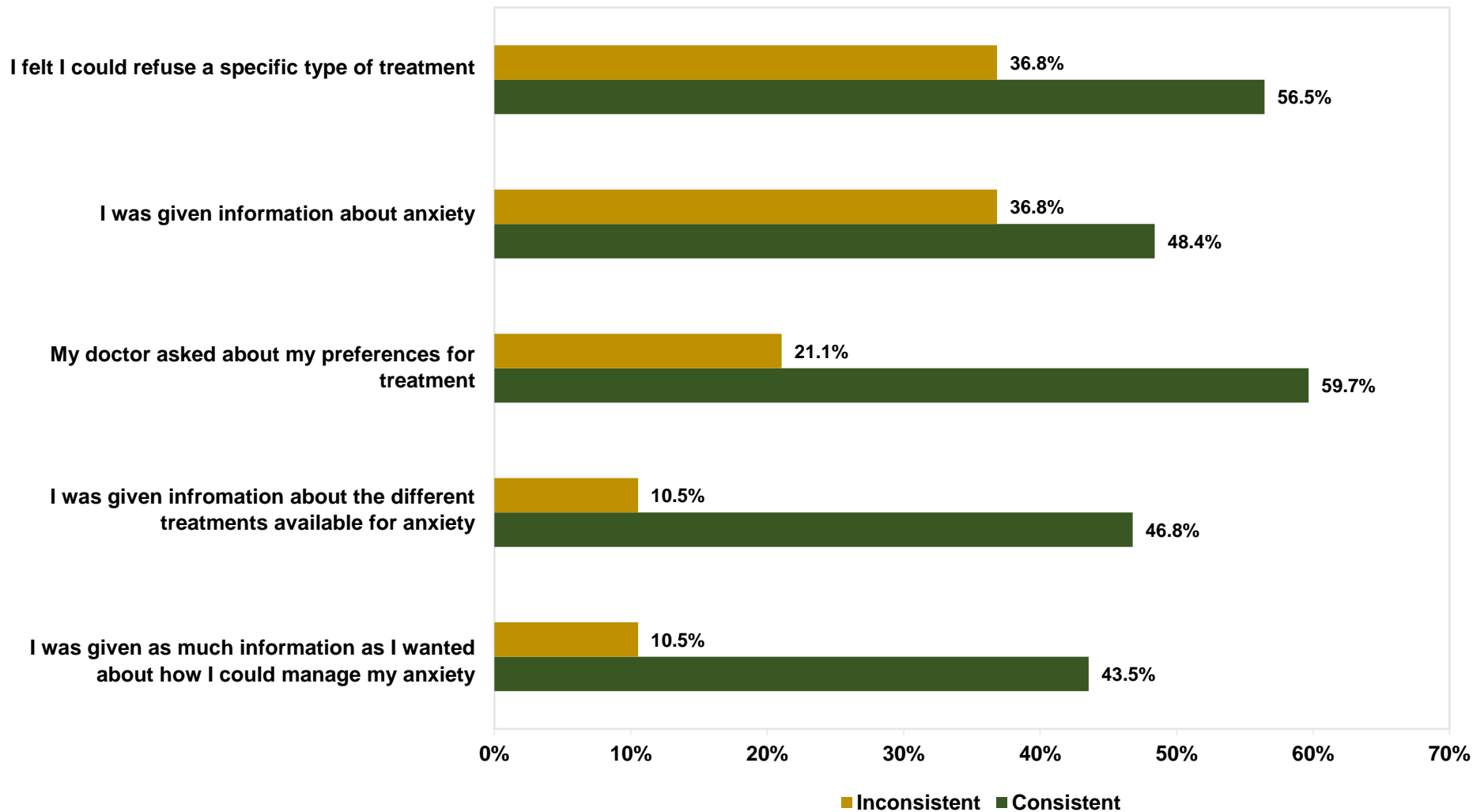


Figure 5.3. Comparison of agreement ratings with treatment items between participants who received a treatment consistent with their preferences (“consistent”, n = 62) and those who did not (“inconsistent”, n = 19).

5.6.3.3 Perceptions of GP

Participants reported generally positive experiences with their GP when they first sought help for anxiety (Figure 5.4). The highest agreement ratings were for the statement “my doctor showed respect for what I had to say” (70.3% agreed vs. 20.3% disagreed), and the lowest were for “my doctor seemed to have good knowledge about anxiety” (57.2% agreed vs. 23.2% disagreed).

Inspection of the correlation matrix for the seven items regarding perceptions of GP demonstrated correlations of at least 0.65 between all items. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.88 and Bartlett’s test of sphericity was significant; $\chi^2(21) = 1069.75, p < .001$. Principal component analysis was performed and identified one factor that accounted for 79.6% of the total variance. All items loaded onto the factor at 0.85 or above. A total score for perceptions of GP was therefore calculated ($M = 25.96, SD = 8.56$) for use in further analyses. Hierarchical linear regression explored the effect of discrepancy in preferred and offered treatment, age, and gender on perceptions of GP. The overall model was not significant when age and gender were included (and neither were significant independently), so they were omitted from the final model. The effect of discrepancy was significant; $F(2, 135) = 3.86, p = .024, R^2 = .054$, see Table 5.5. Perception of GP scores did not vary between participants with no specific treatment preferences and participants who received a treatment consistent with their preferences ($t = -0.98, p = .329$). However, treatment being inconsistent with participant preferences was associated with a 6.1 point reduction in ratings of the GP ($t = 2.78, p = .006$) compared with preference-consistent treatment. Comparison across individual items (Figure 5.5) demonstrated particularly low agreement ratings for statements “my doctor spent enough time with me” and “my doctor explained things in a way I could understand”.

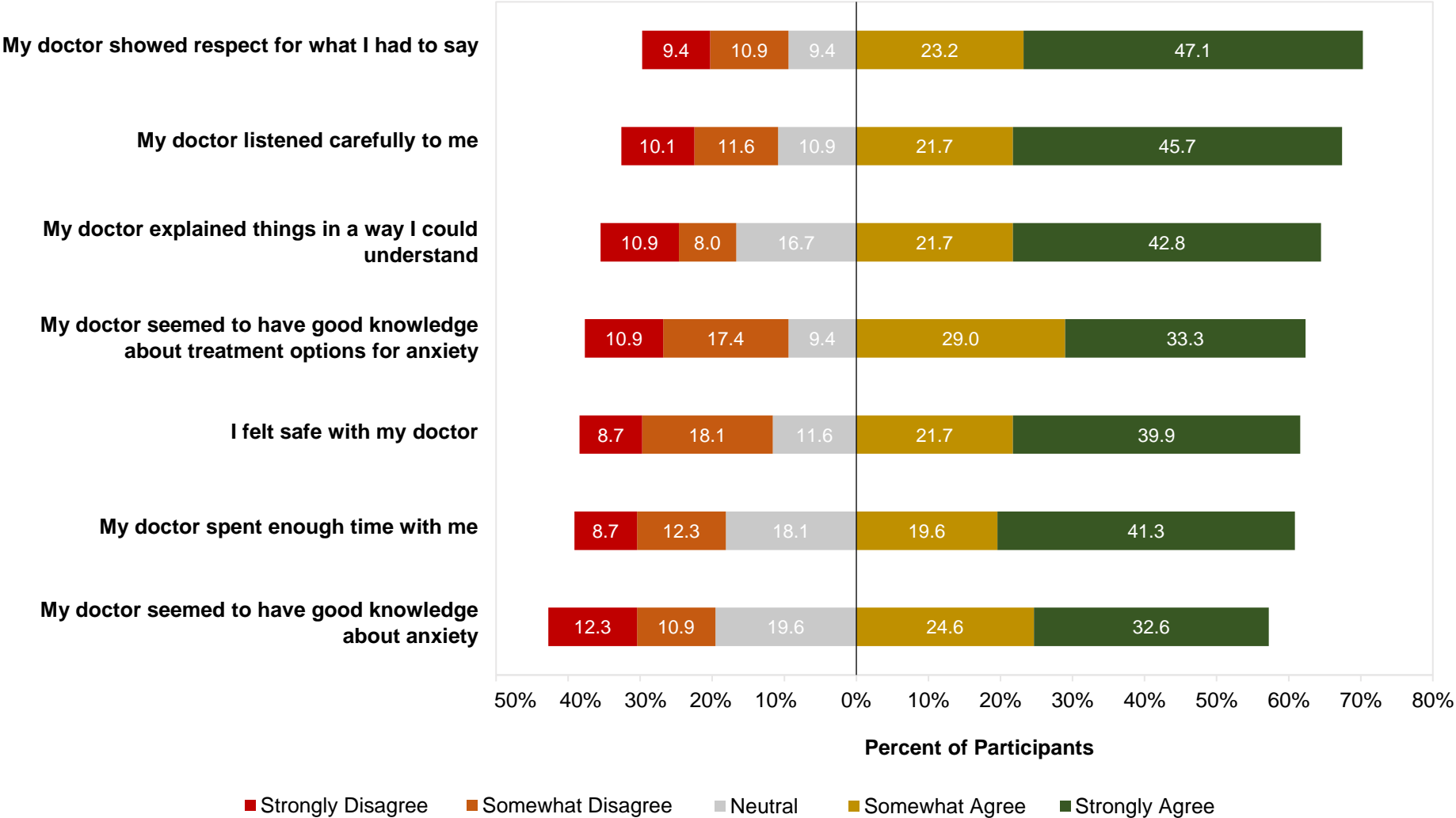


Figure 5.4. Participant ratings (n = 138) of perceptions of GP at first experience.

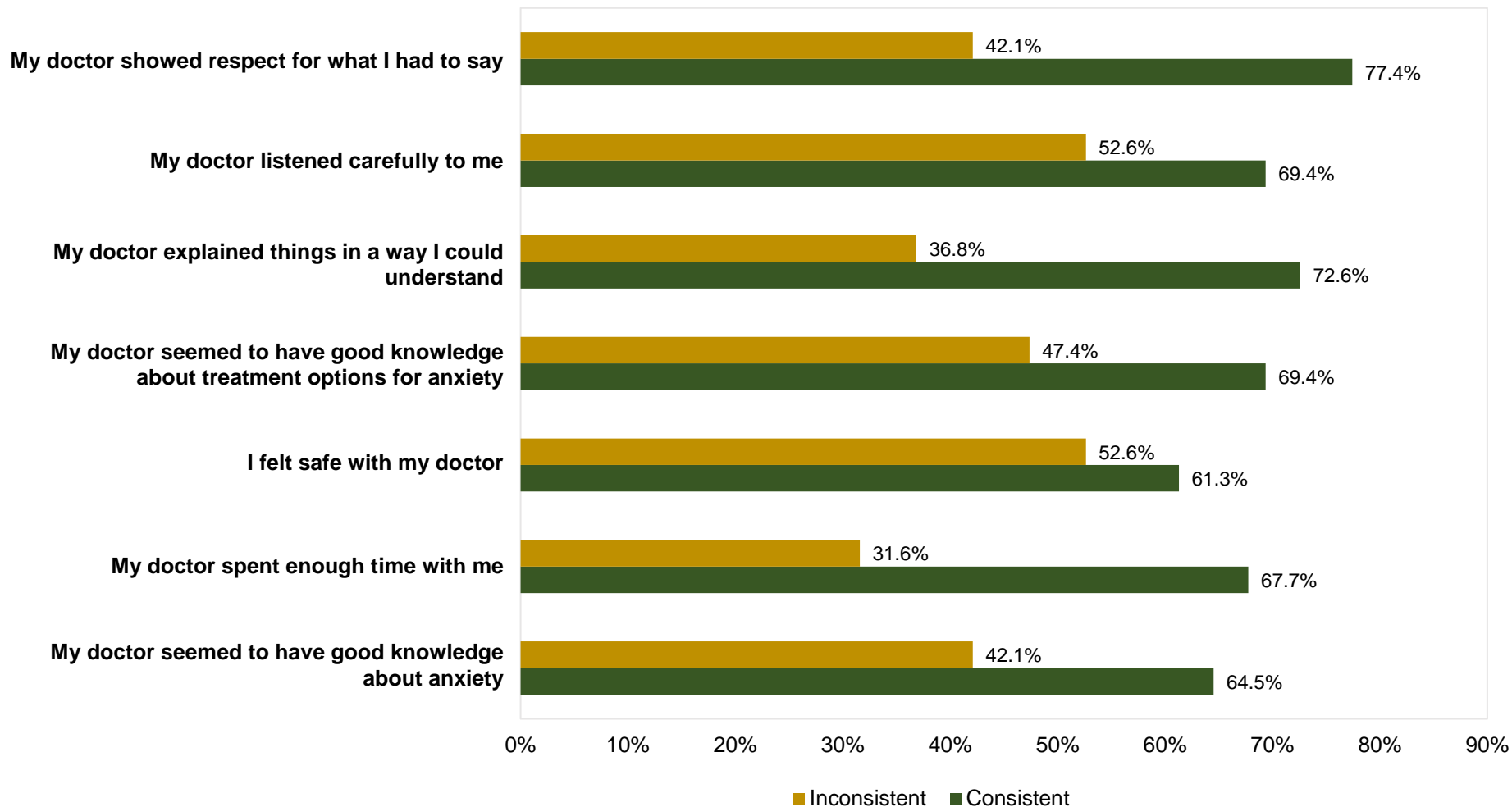


Figure 5.5. Comparison of agreement regarding perceptions of GP items between participants who received a treatment consistent with their preferences (“consistent”, n = 62) and those who did not (“inconsistent”, n = 19).

Table 5.5. Linear regression results for effect of treatment discrepancy on perceptions of GP.

	Estimate	se	t	95%CI		p
				LB	UB	
Intercept	27.42	1.07	25.75	25.31	29.52	<.001
Consistent (reference)	0.00					
Inconsistent	-6.10	2.20	-2.78	-10.45	-1.76	.006
No Preference	-1.51	1.54	-0.98	-4.55	1.55	.329

5.6.3.4 Overall Satisfaction and Improvement

About two thirds of participants agreed they were satisfied with their experience of seeking help from a GP; 20.3% (n = 28) somewhat agreed and 38.4% (n = 53) strongly agreed. Just over a quarter of participants reported they either somewhat disagreed (n = 12, 8.7%) or strongly disagreed (n = 25, 18.1%), and the remainder were neutral. Similarly, 60.6% of participants (n = 83) agreed their needs were met while 27.7% (n = 38) disagreed. Of the 115 (84.6%) participants who reported receiving at least one of the treatments their GP offered, most somewhat or strongly agreed it improved their symptoms (n = 77, 67.5%) and quality of life (n = 79, 68.7%).

5.6.3.5 Qualitative Responses

Participants were asked whether they wanted to provide additional information about their first experience seeking help in a free response question. In total, 64 participants (46.4%) answered this question. Two major themes were identified in the responses: beneficial experiences and adverse experiences.

In total, 25 participants (39.1% of those who provided responses to the open-ended question) mentioned having beneficial experiences with their GP. Many of these participants reported an overall positive experience without detailed information, though ten mentioned their GP being supportive and validating.

She listened, she took me seriously, she was gentle, and she recommended treatment immediately.

I think the best part about seeking help from my GP for the first time was that he listened carefully, was empathetic and validated my experiences. I was so scared before I went in. After telling him about what I was experiencing, I remember him saying "That must be really debilitating for you." I felt heard and like my problems were real.

Eight participants also spoke about being satisfied with the approach their GP took to helping them manage their anxiety.

She didn't overload me with information that I wasn't ready for, she just told me the things I needed to know, and what I could handle at that time.

It was very positive and her ability to take time to discuss my anxiety with me was really valuable.

In contrast, 23 participants (35.9% of those who provided responses to the open-ended question) mentioned having adverse experiences when first seeking help from their GP. A major sub-theme among responses was feeling dissatisfied with the treatment or approach the GP took. Ten participants reported this, and discussed treatment being inconsistent with their preferences or feeling they were not given enough information about different treatment options.

It was a terrible experience and I wish I had had a GP that would have explained my options rather than put me straight on medication.

...there was no depth into the symptoms and treatment options. I was given the DASS survey and referred on to a psychologist. It was only when I asked for medication that it was given as a 'stop gap'. I was given no information on other ways to help with anxiety

Seven participants also reported they found their GP being dismissive or invalidating.

She didn't listen to anything I said. She seemed to be following a script of her own, that was generic and not related to my situation.

I was told it was my imagination and I probably just needed a holiday.

I was met with complete disregard and my experience belittled. I was told that going outside would be adequate treatment for my crippling fear, which only added to my pain.

5.6.4 Previous 12 Months

Of the 138 participants, 88 (63.8%) indicated they had been to see their GP in the past 12 months for anxiety, not including people who saw a GP for the first time in the past 12 months ($n = 23$, 16.6%).

5.6.4.1 Treatment Offered

Almost three quarters of participants ($n = 65$, 73.9%) who had seen their GP in the past 12 months reported at least one of the treatments they were offered was referral to a psychologist (see Table 5.6). In total, 61 participants (69.3%) were offered medication (short term, long term, or both). Most who were offered either medication or psychologist referral were offered both ($n = 47$, 53.4%), while 18 participants (20.5%) were offered referral to a psychologist with no medication, and 14 (15.9%) reported the opposite. Again, a small number of participants ($n = 2$, 2.3%) reported being offered a short-term medication alone.

Table 5.6. Treatments offered by GP in the past 12 months.

Treatment	Frequency (n)	Proportion of Participants (%)
Referral – psychologist	65	73.9
Medication – long-term	56	63.6
Lifestyle	50	56.8
Referral – psychiatrist	24	27.3
Medication – short-term	17	19.3
Counselling by GP	8	9.1
Referral – self-help	6	6.8
Other	3	3.4
None	2	2.3

Participants appeared to rate the treatment approach of their GP more highly for experiences in the past 12 months (Figure 5.6). Agreement ratings were over 50% for most statements. Highest agreement ratings were for feeling able to refuse a specific type of treatment (77.2% of participants agreed). The lowest were for being given

information about anxiety (47.7% agreed), though most participants agreed they were given enough information about managing their anxiety.

5.6.4.2 Perceptions of GP

Participants again indicated positive perceptions of their GP in the past 12 months, with at least 70% of participants somewhat or strongly agreeing with all statements about their experience (Figure 5.7).

Results of principal components analysis found the same single factor model for perceptions of GP at 12 months, which accounted for 81.2% of the variance. Composite scores were calculated and the mean overall score for perceptions of GP was 28.47 ($SD = 7.66$). Results of the hierarchical linear regression found that selected participant characteristics (age and gender) and location of help-seeking (urban vs. rural/remote) did not predict perceptions of GP at 12 months; $F(9, 77) = 0.65, p = .755$. Due to skewed data, a Wilcoxon signed-rank test was used to compare perceptions of GP at the two time points. Results found significantly higher ratings for perceptions of GP in the past 12 months ($M = 28.47$) than at first experience ($M = 25.96$); $Z = 2.35, p = .015$, with a moderate effect size of $r = .35$.

5.6.4.3 Overall Satisfaction and Improvement

Most participants ($n = 64, 72.7%$) either somewhat or strongly agreed they were satisfied with the experience of seeking help from their GP in the past 12 months, and 73.9% ($n = 65$) agreed their needs had been met. Of the participants who received at least one of the treatments their GP offered during the past 12 months, most somewhat or strongly agreed it improved their symptoms ($n = 60, 73.2%$) and quality of life ($n = 61, 74.4%$).

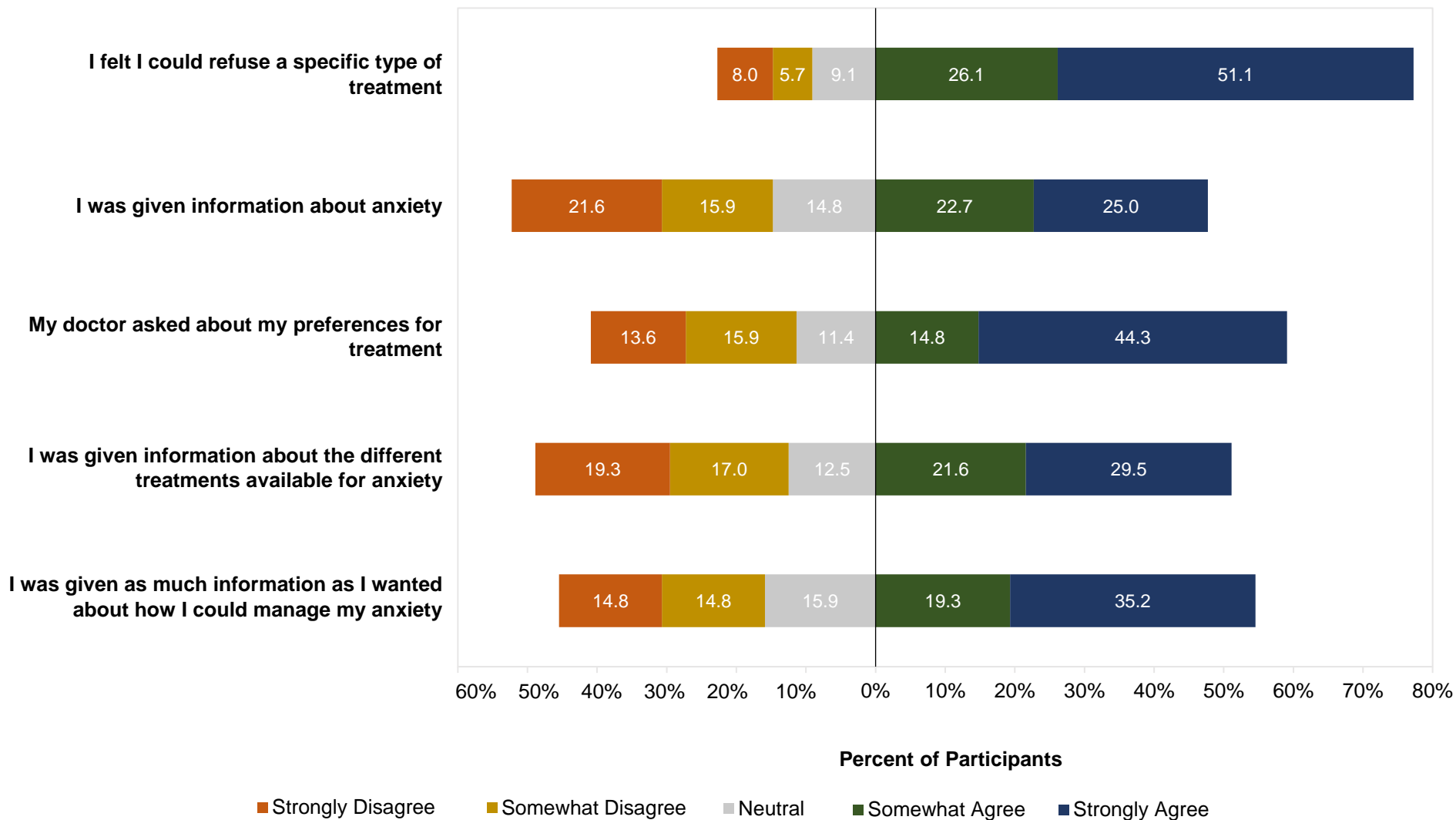


Figure 5.6. Participant ratings (n = 88) of GP treatment approach in the last 12 months.

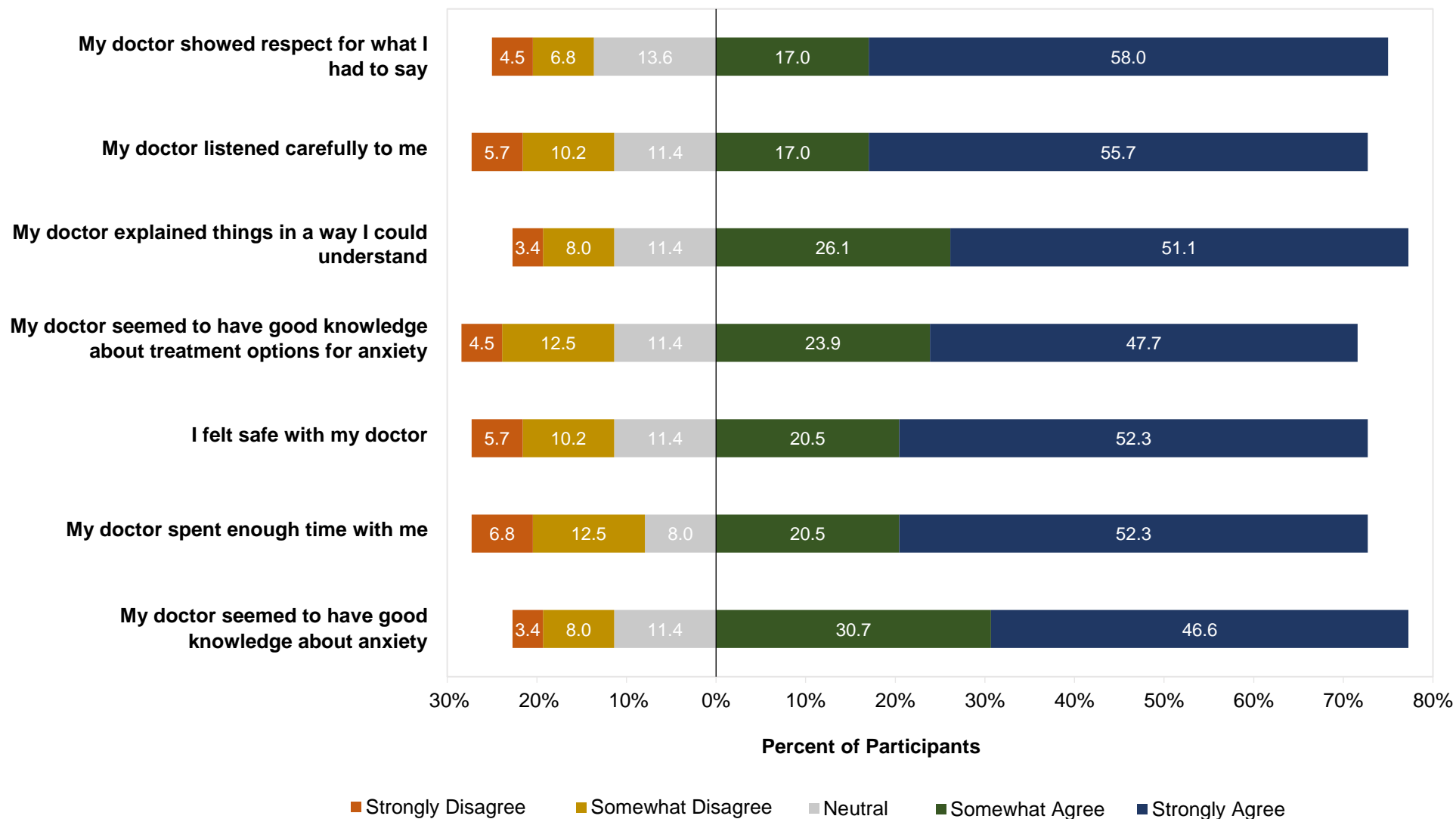


Figure 5.7. Participant ratings (n = 88) of perceptions of GP in the last 12 months.

5.6.4.4 Qualitative Responses

In total, 50 of the participants who had seen a GP in the past 12 months (56.8%) provided additional information about their experience. As with their first experience, participants' responses were broadly categorised into beneficial or adverse experiences. Many participants commented they had seen a different GP than at their experience, which was typically, though not always, related to having a more positive experience. A handful of participants also noted they had first sought help a long time ago and believed GPs now had improved training and awareness of mental health difficulties.

In total, 18 participants (36.0% of those who provided responses to the open-ended question) provided information about having beneficial experiences with their GP. A major subtheme among these responses (n = 7) was having a caring, supportive, and understanding GP.

My GP has continued to care for my mental health and anxiety issues, and I feel as though she understands me, and is a partner with me, helping me and guiding me, and willing to listen.

My current GP is the perfect example of how a practitioner should treat someone with concerns about anxiety. She listens to me very carefully and is very open and thorough about explaining options.

My GP in the last 12 months has always been very caring and has listened well to my concerns about my anxiety. I have no hesitation in approaching him if I needed help/ advice.

A further five participants spoke about their anxiety improving or being resolved.

I feel so much better and am proud of the progress I have made. I have an appointment every now and then when I want tips/refreshers on managing my anxiety.

In total, 16 participants (32.0% of those who provided responses to the open-ended question) mentioned adverse experiences with their GP in the past 12 months. This typically related to feeling dismissed by their GP, rather than factors related to any treatment offered.

I feel very rushed and as if my GP just doesn't have time to see me. She doesn't take my concerns very seriously anymore...

I felt the GPs I consulted were adversely biased [sic] because of my age, the result was to fail to register the severity of my symptoms.

5.6.5 Treatment Priorities

Participants were asked to select from a list of factors they thought important when considering treatment for anxiety. Participants could select as many of the options as they wished and were able to include other factors not on the list. Figure 5.8 reports the percentage of participants who designated the specific factor as important. Almost all participants ($n = 127$) selected how well the treatment works as important while considering treatment options, while less than half ($n = 59$) selected how quickly the treatment works. Most participants were concerned with any potential side-effects ($n = 91$) and factors related to access (e.g., cost: $n = 83$; ease of access: $n = 82$). After selecting the important factors, participants were asked to rank their choices from most to least important. Rankings across the five main treatment considerations (i.e., excluding “other”) are presented in Figure 5.9. Effectiveness of the treatment was the most important factor for most participants ($n = 65$), followed by cost ($n = 32$) and potential side effects ($n = 25$). Only small numbers of participants ranked ease of access ($n = 7$) or how quickly the treatment works ($n = 6$) as their top priority.

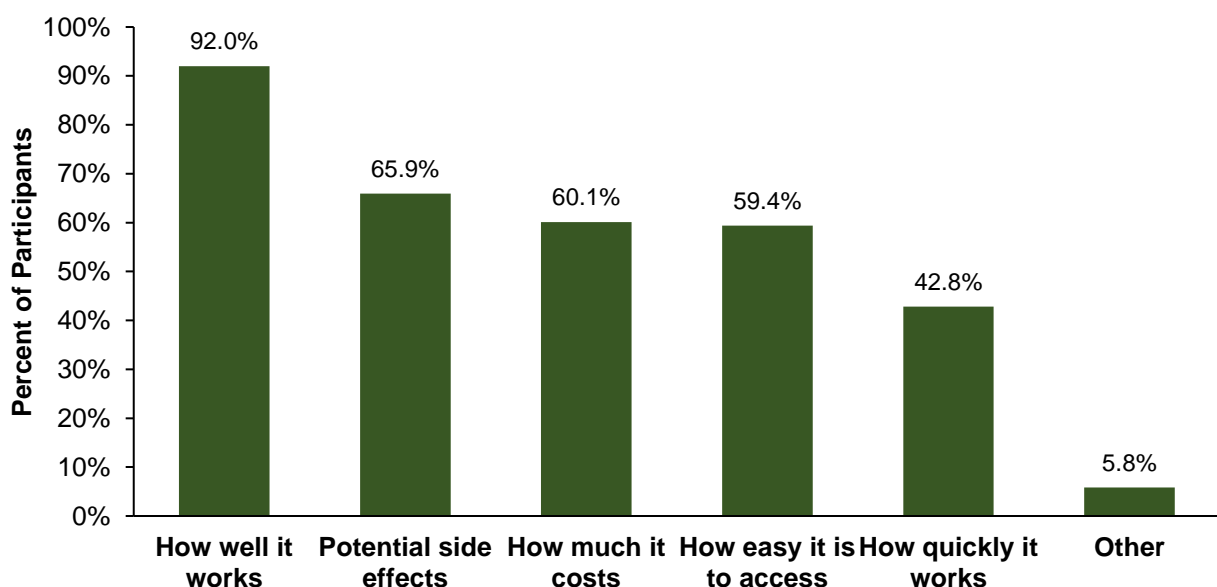


Figure 5.8. Important factors to participants when considering anxiety treatment.

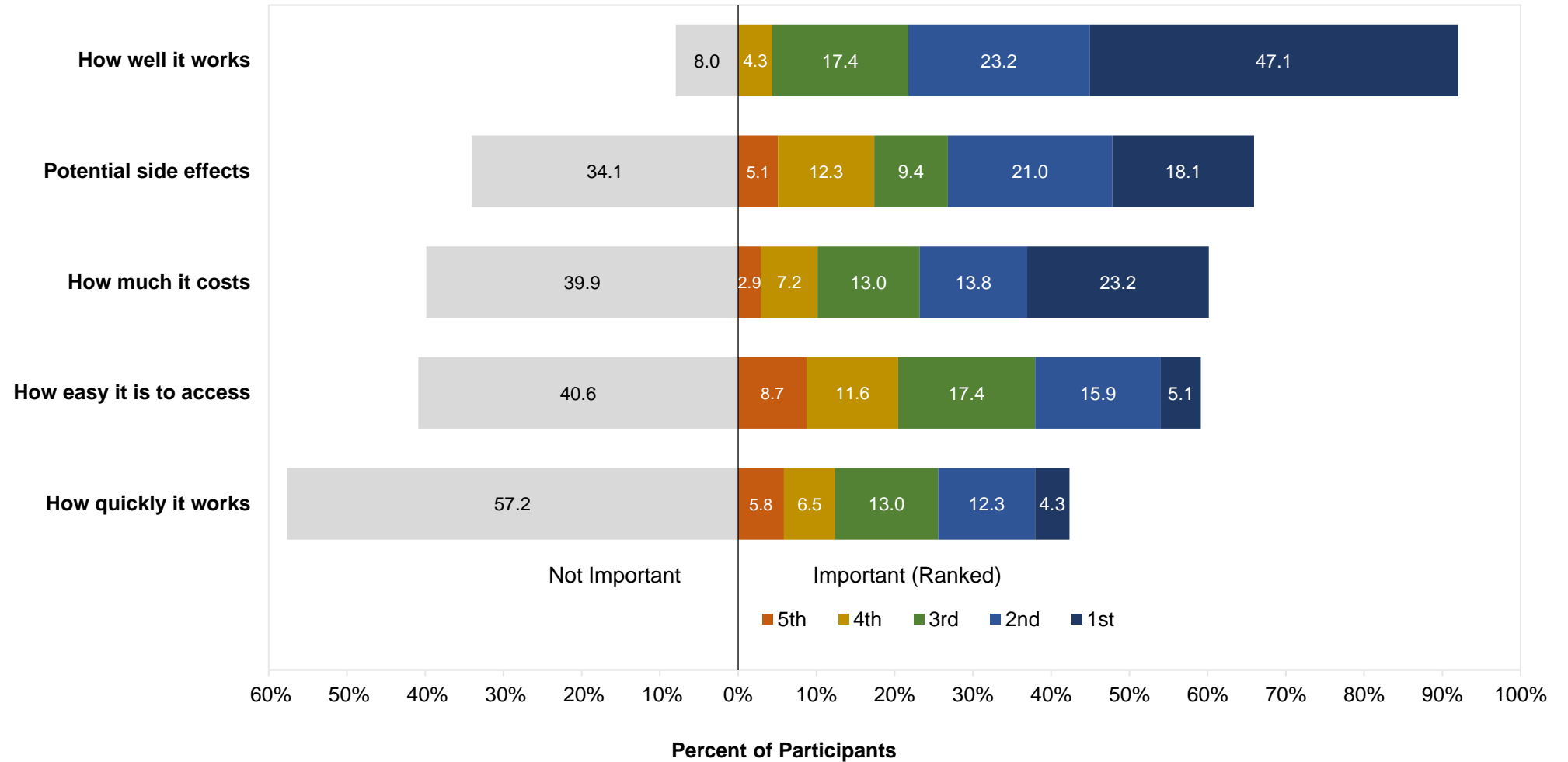


Figure 5.9. Participant importance rankings for each treatment consideration. “Not important” = percent of participants who did not select the option as important to them, “important” = percent of participants who selected the option as important and the rank they assigned it relative to other considerations (1 = most important to 5 = least important).

5.6.5.1 Qualitative Responses

In total, 40 participants (30.0%) provided additional information about their preferences for treatment in a free response question. Three major themes were identified among the responses: specific treatment preference, problems with treatment, and difficulty accessing treatment.

For example, 17 participants mentioned having a preference for a specific kind of treatment. Among these responses, six discussed a preference for psychological interventions and four expressed they did not want medication without specifying a preference for another kind of intervention.

These days I prefer psychological treatment above anything else, however I am always open to a medication to help regulate my symptoms, provided the benefits outweigh the side effects.

I am not interested in taking medication. I have done so in the past but prefer not to.

A further four participants discussed a preference for non-clinical or alternative treatments.

I have had shiatsu massage with mindful meditation as a part of the same treatment. I think there is a wealth of possible treatments that GPs have no idea about.

I would really like to get access to ketamine treatment through a psychiatrist as it has been the only effective treatment with no side effects.

Difficulty accessing treatment was reported by 14 participants, who most commonly spoke about financial cost. For the seven people who mentioned cost as a barrier, this typically related to access to specialist care.

I would prefer if [p]sychologist visits were better funded by Medicare, both the amount of the rebate and the number of sessions allowed.

As a student, cost can be a prohibitive factor for getting help.

Three people also discussed difficulty accessing treatment due to living in a rural or remote area. Again, this related mainly to specialist mental health care.

There definitely needs to be better access to mental health services in the country. There are also not enough [p]sychiatrist[s] in the regional areas.

Nine people spoke about problems with their treatment that were not associated with access issues. Most of these participants discussed concerns about medication side effects and a lack of recognition for this from their treatment providers.

Very little significance is placed on how the side effects of these medications impact your day to day life. Last time I went on a medication it severely increased my suicidal ideation and reduced impulse control.

5.6.6 Suggestions for Improvement

At the conclusion of the survey, participants were asked if they had suggestions for improving anxiety care in Australia. In total, 89 participants (64.5%) responded to this question. Four key themes were identified in the responses: better access and funding, improving knowledge and reducing stigma, better training for GPs, and better treatments.

5.6.6.1 Better Access and Funding

A clear theme in the responses was improving access and funding for mental health services, which was suggested by 34 participants. Typically, this related to access to psychologists although some participants also discussed access to psychiatrists and cheaper medications. Three key sub-themes were identified. Firstly, 15 participants mentioned wanting more affordable options for mental health care generally.

[D]ecrease costs of treatment - especially psychologists.

Make treatment free, I can't move all the money for treatment around so many times.

Cheaper counselling, free medication.

Further, 13 participants specifically mentioned increasing funding under MHTPs, either through increasing the number of sessions available or increasing the Medicare rebate for services.

Better Medicare rebates for [p]sychologists, both the amount of the rebate, and the number of sessions allowed.

I wish the mental health plan didn't run out after 10 a year. 10 sessions a year isn't much when there are 52 weeks of anxiety and depression to get through

Keep the 20 mental health care plan psychology appointments! There have been times in my life I have absolutely needed this and couldnt afford the treatment...

The third sub-theme was reducing wait-times or increasing numbers of mental health professionals, which was suggested by 11 participants.

I think more psychologists need to be made available. The wait lists are far too long.

Provide affordable support that you do not have to wait months to receive.

5.6.6.2 Improving Knowledge and Reducing Stigma

Improving community knowledge about anxiety and reducing stigma was mentioned by 32 participants. The majority of participants (n = 28) discussed increasing general public knowledge about anxiety symptoms, the available treatment options, and how to support those experiencing anxiety.

More education on recognising the symptoms of anxiety, how common it is, how it can manifest physically. More work to reduce the stigma of anxiety.

Teach people how to support someone with anxiety. Education about benzodiazepine use.

Greater community awareness, exposure and knowledge about it and its impacts could mean people with anxiety feel less isolated.

A sub-theme, mentioned by six participants, was improving awareness or reducing stigma specifically in the workplace.

I think we need to change how mental health is viewed and discussed in the workplace - it is not a personality weakness, it is an illness. Workplaces need to have better processes and attitudes when it comes to managing staff with anxiety or other mental health issues.

I think raising community awareness and making workplaces more anxiety friendly will assist in making the path to wellness much more smooth for people living and working with anxiety and other mental health issues in Australia.

5.6.6.3 Better Training for GPs

Improving training for GPs was suggested by 15 participants. For many, this related to a need for GPs to have better supportive counselling skills as well as knowledge about anxiety.

GPs need to have a lot more training in aspects of mental health and 'listening' in the doctor-patient relationship.

In light of Covid 19 and increased cases of anxiety in the general population, I think it is imperative that GP's are well-versed in treatment options for anxiety sufferers, how and whom to refer patients onto, and [are] able to [provide] access to concrete information/ ie handouts/ printouts/ phone numbers for patients seeking help for their anxiety.

For GPs to be educated more than they currently are about the best first line treatments and how to speak to a patient about their anxiety in a way that is not dismissive.

5.6.6.4 Better Treatments

Seven participants also mentioned a need for better treatments for anxiety. Four people discussed wanting better medication options and three discussed wanting alternative treatments to be available.

More medications which don't have side effects, or which are anxiety specific.

Medicinal cannabis is amazing for anxiety and becoming commonplace in places like the US.

Introduce alternative therapies such as kinesiology and aromatherapy.

5.7 Discussion

This study aimed to explore the experiences and priorities of consumers regarding anxiety care in general practice. Many consumers reported they were initially seeking general advice or information from their GP or had no specific preferences for treatment. However, for consumers who stated an initial treatment preference, it tended to be for referral to a psychologist or combined treatment with medication. Few participants noted preferring medication alone when they first sought help for anxiety. Most participants with specific treatment preferences reported that these were at least partially met.

Overall, participants reported positive perceptions of their GP. Participants indicated they felt listened to, respected, and commented on feeling supported or validated during their interactions with GPs. Qualitative responses tended to emphasise interpersonal aspects of care including among participants who had adverse experiences, noting this was often due to feeling dismissed or invalidated. This aligns

with previous research demonstrating that although consumers want providers with sound clinical knowledge, they value the relational aspects of their mental health care most highly (Kelly et al., 2019; Lang, 2005). Although perceptions of GPs were positive at first experience, satisfaction with care and the extent to which consumers felt their needs had been met was only moderate. This may be explained by less favourable ratings of the treatment approach taken by the GP at these first experiences, as many people indicated their GP had not asked about their treatment preferences and did not give them enough information about anxiety or treatment options. Qualitative responses echoed this, indicating consumers wanted more in-depth information from their GP to help them understand the different treatment options and make an informed choice.

Participants with unmet treatment preferences had particularly unfavourable perceptions of their GP, and the vast majority indicated their GP had not asked about their treatment preferences. By comparison, almost two thirds of those who received at least one of the treatments they were seeking indicated their GP had asked about treatment preferences. Consumers with unmet treatment preferences also indicated they were generally not given information about different treatment options or enough information about how they could manage their anxiety. Collaborative decision-making is important for consumer experiences of mental health care (NICE, 2011c; Slade, 2017), and a lack of ownership over treatment decisions is associated with increased likelihood of disengaging from treatment over time (Hunot et al., 2007). However, these approaches to care are not yet widely implemented (Care Quality Commission, 2021), and consumers have reported paternalistic experiences in primary care, where decisions about treatment are made for them rather than with them (Lester et al., 2006).

Consumers gave more positive ratings of their GP, the treatment approach, and their satisfaction with care in the past 12 months than when thinking about their first experience seeking help for anxiety from a GP. Several participants qualified this by

noting they had seen a different GP recently than at their first experience, or perceived care had improved since they first sought help some years ago. Most participants stated their doctor had both asked about treatment preferences and given them enough information about managing anxiety in the past 12 months, compared with less than half of participants who agreed with these statements regarding their first experience. However, it may be the case that participants who had not seen their GP in the past 12 months ($n = 50, 36.2\%$) were more likely to have had negative first experiences and not returned for further care. This may have created a selection bias for people with more positive experiences among those reporting 12-month experiences. Furthermore, half of participants reported their first experience was more than five years ago, potentially limiting the accuracy of their recollections.

When asked about their priorities for anxiety treatment, consumers reported the most important consideration was effectiveness and were much less concerned with how quickly the treatment works. GPs often report perceptions that consumers expect medications for anxiety, and have noted feeling pressure to provide “quick fix” treatments for mental health problems (Anthierens et al., 2010; Sim et al., 2007). Our results suggest this may be at odds with the preferences of consumers for anxiety. This may be particularly the case if the trade-off is long-term effectiveness, as in the case of benzodiazepines (NICE, 2011b). The majority of participants also reported potential side-effects as an important consideration in their treatment. This was echoed in qualitative findings, with several participants noting medication side-effects had been an issue with their treatment, and was a factor to consider in improving the care for anxiety. Adverse effects are a key reason consumers cease medication for mental health problems (Goethe et al., 2007; Hunot et al., 2007), and certain side-effects (e.g., sexual dysfunction) and their impact on quality of life are underemphasised in information provided to consumers (Higgins et al., 2010).

Strong themes were identified among responses from consumers about improving care, much of which related to better access and funding for psychological services. This has been noted in previous research on consumer perspectives and is a well-documented issue in the current Australian mental health system (National Mental Health Commission, 2014). Lack of specialists in regional and remote areas is also a particular concern, which were identified as a thread in participants' qualitative responses. Many consumers reported barriers to initial help-seeking related to stigma, problems with accessing treatment due to cost, and a lack of knowledge about services. The integration of mental health professionals in primary care is considered imperative in improving mental health care and addressing many of these issues, and trials of such models have been viewed favourably by consumers (Ashcroft et al., 2021; Rugkåsa et al., 2020). However, although this is becoming more common in Australia, this is not yet commonplace (Wakida et al., 2018), and although many practices have access to co-located mental health specialists, these are typically privately practicing clinicians working under secondary care referral arrangements (Britt, Miller, Henderson, et al., 2016).

The recently announced permanency of Medicare rebates for telehealth services are important for providing consumers with flexible care and help to address some access and funding issues. However, wait-times for psychologists remain long and the COVID-19 pandemic has resulted in even further demand for services (AIHW, 2021c). The finding that the pandemic either did not change or increased the likelihood of seeking help for most participants suggests increased help seeking among those with existing conditions may account for this increase. Workforce issues are complex to resolve, and rates of anxiety management are increasing in primary care. E-mental health options such as online treatment programs may serve as an appropriate

psychological treatment option for many consumers, which circumvents many issues about access and funding (Batterham et al., 2015).

There are many advantages to online interventions, which are available at any time, can be self-paced, and can be used as an adjunct to therapy with a psychologist. Guided versions of these interventions have good evidence and are suitable for GPs to administer in primary care, though purely self-directed programs are also effective (Andrews, Basu, et al., 2018; Parker et al., 2021). However, despite their effectiveness, uptake of these programs and adherence has been relatively low (Fleming et al., 2018). In line with this, few participants in the study noted being referred to self-help programs by their GP, and online treatments were scarcely mentioned in qualitative responses. Previous research on consumer views has found a preference for face-to-face over e-mental health interventions though consumers are generally not averse to considering these treatments (Meurk et al., 2016).

There is a perception among the public that e-mental health interventions are less helpful than face-to-face therapy, and professional support has been found to be essential for help-seeking intentions when experiencing psychological distress (Apolinário-Hagen et al., 2017). Normalising these interventions and emphasising their effectiveness has been found to be important in improving uptake (Gulliver et al., 2020), which can be in part facilitated by GPs. Consumers also tend to perceive guided online treatment programs as more acceptable than purely self-guided programs (Apolinário-Hagen et al., 2017), and as such these programs may be a more appropriate option for treatment at present. That said, GPs also require further education about the effectiveness of online treatment programs and the ways in which they could guide consumers through such programs (Anderson et al., 2020; Whitton et al., 2021).

Finally, participants suggested better education and training for GPs is needed to improve anxiety care more broadly, particularly regarding interpersonal and supportive

counselling skills. The evidence for training programs is mixed, and tends to focus on improving diagnostic accuracy and clinical treatment practices (e.g., use of medication, referrals), rather than the interpersonal aspects of care. Some research has found training programs, including brief programs (Naismith et al., 2001), are effective for improving confidence and competence in recognising and managing common mental health conditions (Sinnema et al., 2015). However, other research has found that education programs, on their own, are not sufficient for improving mental health care (Gilbody et al., 2003), and are costly to implement on a large scale. Further research is needed to explore the effectiveness of training programs in improving the aspects of care deemed most important to consumers.

5.7.1 Strengths and Limitations

There has been little prior research exploring consumer views of primary care management of anxiety, and almost none in Australia. This study provides important information about consumer experiences and priorities for treatment, which are vital in evaluating and improving anxiety management in Australian primary care. The use of a mixed-methods approach was a strength of the current study, as this provided rich, comprehensive data on the experiences of people with anxiety.

There are also several limitations of this research, primarily regarding the generalisability of the findings due to use of a non-random sample. Although anxiety is more common in women (Bandelow & Michaelis, 2015) and women are more likely to seek help (Harris et al., 2016), women were likely overrepresented in our data. Only a small number of men and an even smaller number of gender diverse people participated, limiting what can be said about their experiences of seeking help. The online nature of our survey and use of social media for advertising means those with limited access to technology or poorer internet-literacy are unlikely to have participated in the study. People also self-selected into our study after seeing the advertisement, and previous

research has demonstrated people with positive experiences are more likely to respond to surveys about health care satisfaction (Lin & Kelly, 1995; Mazor et al., 2002).

Furthermore, our survey was cross-sectional and more than half of participants reported their first experience was over five years ago. Due to the retrospective nature of the study, these reflections may be affected by recall bias and comparisons between consumers first experience and experience in the past 12 months should be interpreted with this in mind.

5.8 Conclusions

This research indicates consumers perceive interactions with their GP positively when seeking help for anxiety, though have mixed experiences of the approach taken to treatment. Consumers appear to prioritise effective rather than fast acting treatment, and in many cases want more information from their GP about how to manage their anxiety. It is important that GPs ask consumers about treatment preferences, as many may come to their first appointment seeking a particular treatment approach and tend to have more negative experiences of care if these expectations are not discussed. Further, it is important to provide information to consumers regarding the different treatment options so they can make informed decisions about their care.

Many consumers appear to prefer psychological interventions and see improving access and funding for these treatments as crucial in improving the care for anxiety in Australia. Raising the profile of e-mental health programs in the community and within primary care may give consumers more options for psychological intervention. Collaboration with consumers to develop information materials for use in primary care may also assist GPs in providing information to consumers about anxiety and the effective treatment options.

CHAPTER SIX

GENERAL DISCUSSION AND CONCLUSION

This research aimed to explore the management of anxiety disorders in Australian primary care. There were three key research questions:

- 1) What are the effective treatments for anxiety disorders in primary care?
- 2) How do GPs manage anxiety disorders in Australia?
- 3) What are consumer views on GP management of anxiety disorders?

This thesis began with a background literature review (Chapter 2) about the anxiety disorders and their management in Australia. The three research questions were then addressed through three, distinct studies described in Chapters 3, 4, and 5. Chapter 3 reported the findings of a systematic review and meta-analysis of treatment outcomes for anxiety in primary care, in countries with similar economic and health care systems to Australia. Chapter 4 described an analysis of data on real-world anxiety management in Australian general practice from a large, nationally representative dataset on GP activity. Chapter 5 reported a survey of Australian consumers regarding their experiences and priorities for anxiety care in general practice.

The current chapter draws together key findings from these studies, contextualises the body of work within the existing literature, and summarises what can be said about the way anxiety is managed in Australian primary care. Strengths and limitations of the current project, directions for future research, and implications for mental health policy and clinical practice are also discussed.

6.1 Key Findings and Comparison with Previous Literature

6.1.1 What are the effective treatments for anxiety disorders in primary care?

The first study in this research project synthesised contemporary evidence for primary care treatment of anxiety through a systematic review and meta-analysis. The

review focussed on exploring the effect of evidence-based psychological and pharmacological treatments applied in primary care populations. At the time of publication (May 2021), this was the first review to investigate pharmacological anxiety treatments in primary care. Other reviews have explored the effect of psychological treatments in this setting, though several issues warranted an updated synthesis of the evidence.

Firstly, past reviews have included studies of OCD and PTSD (e.g., Cape et al., 2010), which are now considered distinct from the anxiety disorders (Regier et al., 2013), or have focussed on depression and anxiety together (Cape et al., 2010; Høifødt et al., 2011; Twomey et al., 2015). Previous reviews have also included studies conducted in specific populations such as veterans with distinct experiences and health care needs compared to general primary care populations (Hodson & McFarlane, 2016; Oster et al., 2017), or older adults experiencing late-life anxiety (Seekles et al., 2013). Finally, much of the previous research regarding psychological interventions for anxiety has involved treatment provided by specialists such as clinical psychologists (e.g., Seekles et al., 2013), or did not quantify the effects of different treatment providers (e.g., Twomey et al., 2015). This is an important issue as specialists are usually not well integrated into primary care in most countries, including Australia (Wakida et al., 2018), and as such do not provide much of the real world management in this setting. Furthermore, primary care practitioners such as GPs do not necessarily or commonly have specialist skills relative to psychiatrists and clinical psychologists. Where this issue has been explored, specialist treatment tends to be more effective than treatment by generalists (Seekles et al., 2013). One previous review has explored the effect of psychological treatment provided by primary care providers (practice nurses, GPs, social workers, or other therapists without specialised training). However, this review explored depression and anxiety together, and included studies of OCD and PTSD as well as those conducted in

adolescent populations. Thus, the review described in Chapter 3 provides an updated synthesis of the evidence for psychological treatments focusing on current anxiety disorders (i.e., excluding OCD and PTSD) in general adult primary care populations, and specifically explored the effects of treatment provider.

6.1.1.1 Psychological Treatments

Psychological treatments in the included studies were predominantly CBT-based, and were effective for anxiety disorders in primary care. In the conducted meta-analysis, psychological treatments led to significant and large improvements in anxiety symptoms compared to inactive controls (i.e., waitlist), though were not significantly different from other usual treatments unless provided by a mental health specialist (psychologist or clinical psychologist). The quality of included studies was generally good with low risk of bias across domains in most trials, though the nature of psychological treatment studies limits blinding and most studies had some risk of bias introduced by the use of self-report measures. Importantly, competing interests and funding conflicts were rare among these studies. While exploring the effect of treatment provider accounted for some of the heterogeneity among studies, substantial heterogeneity remained. The pooled effect size may therefore not be a reliable estimate of the average effectiveness of psychological treatments for current anxiety disorders in primary care. That said, previous reviews have found similar effect sizes for CBT-based anxiety treatments in primary care (Cape et al., 2010; Høifødt et al., 2011; Seekles et al., 2013; Twomey et al., 2015). However, results typically demonstrate superiority of CBT over other usual treatments, which was not found in the current review unless treatment was provided by a specialist. Two previous meta-analyses of CBT delivered using multiple modalities (e.g., online, face-to-face) and by various treatment providers (psychologists, nurses, GPs) found the overall effect of CBT for anxiety was superior to both inactive control groups and usual care (Seekles et al., 2013; Twomey et al., 2015). Another review found CBT (predominantly iCBT) may be

more effective than other usual treatments for mild to moderate, but not severe, anxiety (Høifødt et al., 2011), though this was across only a small number of studies.

While some research has explored the effect of face-to-face CBT provided by primary care professionals (e.g., mental health nurses), face-to-face therapy is often impractical to deliver in primary care due to system constraints (e.g., inadequate support from management), provider workloads, and limited integration of other professionals who are trained to deliver such interventions (Richards et al., 2004; van Boeijen et al., 2005; Wakida et al., 2018). Online or computerised programs have been proposed as a solution to some of these issues, and a large proportion of the psychological treatment studies in the current and previous reviews involve computerised CBT programs rather than traditional face-to-face therapy. The results from the current review support the use of these programs in primary care, consistent with previous literature demonstrating the effectiveness of computerised programs more generally (Andrews, Basu, et al., 2018; Andrews et al., 2010; Olthuis et al., 2016).

Computerised CBT programs can be broadly divided into two types – those that are guided by a health professional, and those that are unguided. Guided interventions involve varying levels of support from a treatment provider, which may include email, phone, or face-to-face communication on an as-required basis, as well as more formalised reviews. Guided and unguided programs appear to have similar efficacy for anxiety disorders and produce similar improvements in mild to moderate anxiety as face-to-face CBT (Olthuis et al., 2016). A recent umbrella review also found roughly similar dropout rates for trials of guided and unguided programs, and that these were similar to the average dropout rate of face-to-face CBT trials (Treanor et al., 2021). Although these treatments have good evidence and are practical to implement in primary care, they are not well integrated and real-world uptake from consumers tends to be low (Fleming et al., 2018). In part, this is due to low acceptability ratings from consumers (Gulliver et al.,

2021), though guided programs tend to be associated with higher acceptability and increased adherence (Apolinário-Hagen et al., 2017; Treanor et al., 2021). Consumers surveyed in the third study of this research project reported very low rates of referral to these programs from their GP, and views regarding these programs were not specifically explored. Integration is also affected by providers' perceptions of acceptability, and many prefer these interventions as an adjunct to traditional interventions rather than a replacement (Sinclair et al., 2013).

Unfortunately, it was not possible to explore differential effects of various psychological treatments in the systematic review due to the small numbers of included studies on other treatments. Psychological interventions other than CBT are less well studied in primary care, though there is a small body of literature on certain other therapies. For example, brief problem solving treatment for mixed anxiety and depression has demonstrated small effects for improving symptoms compared with usual GP care (Cape et al., 2010). The current review identified one study of nurse-led problem solving treatment for anxiety specifically, though this was not superior to usual care provided by GPs (Kendrick et al., 2005). One study of mindfulness based group therapy was also identified, which was not superior to usual care, though produced similar effects to those seen by participants in the control group receiving CBT (Sundquist et al., 2015). At present, there is insufficient evidence to draw strong conclusions about therapies other than CBT in primary care.

Therapies other than CBT have an evidence base for anxiety more generally, including acceptance-based and mindfulness therapies, relaxation, psychodynamic therapy, and interpersonal psychotherapy (IPT). However, there are significantly fewer trials of these interventions than CBT (Bandelow et al., 2015). A large meta-analysis of anxiety treatment trials found mindfulness therapies and relaxation therapies had large effects for improving anxiety ($d = 1.56$ and 1.36 , respectively), which may be superior or

equal to CBT ($d = 1.30$). Significant effects were also found for psychodynamic therapy ($d = 1.17$) and interpersonal psychotherapy ($d = 0.78$), albeit smaller than for the aforementioned approaches and from a small number of studies (Bandelow et al., 2015).

6.1.1.2 Pharmacological Treatments

Whereas there is a solid body of evidence for CBT-based psychological anxiety treatments in primary care populations, the evidence-base for pharmacological treatments appears less well developed. A small number of pharmacological treatment studies were identified for inclusion in the systematic review, and only two explored first-line agents. Across five studies, six medications were explored – two benzodiazepines (lorazepam and bromazepam), buspirone, an antihistamine (hydroxyzine), an SNRI (venlafaxine), and an SSRI (sertraline). Small to moderate effects were found for venlafaxine, sertraline, and hydroxyzine, while the benzodiazepines and buspirone were not found to be effective compared with placebo.

It should be noted that many commonly used medications for anxiety were developed prior to the period for included studies (e.g., benzodiazepines were introduced in the 1960s; Lader, 2011), and may have been developed and studied outside the countries included in the review (the USA in particular). This is discussed further in the limitations section of this chapter. That said, the small number of identified studies highlighted the lack of recent research on medications for anxiety applied in primary care populations. There have also been relatively fewer advances in the pharmacological treatment of anxiety compared with other conditions such as depression and schizophrenia more generally (Garakani et al., 2020). This is despite the prominence of medications for anxiety treatment in practice, noted in previous research (Harris et al., 2015) as well as the second study in this thesis (Chapter 4). Notwithstanding limited recent efforts, medications for anxiety have good evidence more generally, including SSRI and SNRI medications, tricyclic antidepressants, and benzodiazepines in the case

of short-term treatment or where other treatments have not been successful (Bandelow et al., 2015; Garakani et al., 2020; Ravindran & Stein, 2010).

Guidelines for the use of medications for anxiety, both in primary care and other settings, emphasise SSRI and SNRI medications as first line for all disorders (Andrews, Bell, et al., 2018; Bandelow et al., 2012; NICE, 2014). SSRI and SNRI medications have good efficacy for improving anxiety symptoms across all current anxiety disorders; they tend to be well tolerated and have a good record of safety (Bandelow et al., 2015; Garakani et al., 2020). Unsurprisingly, the second study in this research project found they have become the dominant approach in general practice for managing anxiety problems in Australia.

Despite the efficacy of SSRI and SNRI medications and their more favourable side effect profiles compared with other medications, adherence to antidepressant medications can be a problem. Previous research in primary care settings has found that only about one fifth of consumers with anxiety and depression use antidepressants according to clinical practice guidance (i.e., continue for six months; Hunot et al., 2007). Non-use of antidepressants is usually associated with a general worry about taking medication, preferences for a different treatment, and concerns about side-effects (Hunot et al., 2007). Although SSRIs have fewer side effects than other medications, these effects can still have a significant impact on consumers. For instance, common side effects include sexual dysfunction, drowsiness, weight gain, insomnia, dizziness, headache, and dry mouth (Schatzberg & Nemeroff, 2017). SSRI/SNRI medications can also produce initial increases in anxiety and the onset of anxiolytic effects can take up to six weeks (Bandelow et al., 2015; Bandelow et al., 2012). Consumers surveyed as part of the current research project rated potential side effects as the second most important treatment consideration after effectiveness, and commented further in qualitative responses about side effects leading to a negative experience of treatment.

Benzodiazepines are fast acting, effective for reducing anxiety symptoms, and generally well tolerated (Bandelow et al., 2015; Garakani et al., 2020). However, they are associated with impaired cognitive function and psychomotor skills, and risk of falls in the elderly in particular (The Royal Australian College of General Practitioners, 2015). In the longer-term, benzodiazepines are associated with tolerance, dependence, and the potential for abuse (Lader, 2011). Discontinuation from these medications is difficult due to withdrawal symptoms and rebound anxiety, and requires medical supervision (Tanguay Bernard et al., 2018). For these reasons, benzodiazepines are not recommended as first-line treatments and are suggested only for short-term use, followed by gradual tapering, or where other treatments have been ineffective (Andrews, Bell, et al., 2018; Bandelow et al., 2012; Lampe, 2013). There were two studies investigating benzodiazepines in the current review. However, neither found the medication to be efficacious for the treatment of GAD in primary care populations. The second study in this thesis (Chapter 4) demonstrated that rates of management for anxiety with benzodiazepines have reduced since health care reforms in 2006, though remain a problem in certain high-risk groups such as the elderly.

Two other medications were explored among studies included in the review; buspirone and hydroxyzine. Buspirone is efficacious compared to placebo for GAD (Chessick et al., 2006), but less so than other medications (e.g., SSRI/SNRIs) and tends not to be recommended due to significant side effects. Hydroxyzine is an antihistamine medication that is efficacious compared with placebo for GAD, with a similar effect size to buspirone and benzodiazepines (Guaiana et al., 2010). Neither have a strong evidence base for other anxiety disorders and are typically not recommended as first-line due to side effects (Andrews, Bell, et al., 2018; Bandelow et al., 2012). The comparative effects of buspirone and hydroxyzine for GAD in primary care populations were explored in two studies in the current review. These studies found buspirone did not significantly

improve anxiety symptoms compared with placebo, but there were small to moderate effects for hydroxyzine. This suggests buspirone is not effective for GAD in primary care populations, while hydroxyzine may be. However, studies were impacted by a high risk of bias due to selective outcome reporting and funding by pharmaceutical companies. It should also be noted that hydroxyzine is not currently available in Australia, and as such is not as relevant for the treatment of anxiety in Australian populations (Andrews, Bell, et al., 2018).

Other medications with efficacy for anxiety include tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs), and pregabalin in the case of some disorders, though no studies of their use in primary care populations were identified in the current systematic review. TCAs have comparable efficacy to SSRI and SNRI medications (Bandelow et al., 2015), though due to unfavourable side effect profiles they are considered second-line to SSRIs or SNRIs (Andrews, Bell, et al., 2018; Garakani et al., 2020). MAOIs are effective for managing symptoms but have limited use due to issues with safety and tolerability (Andrews, Bell, et al., 2018). Pregabalin is also effective for GAD and some evidence supports its use in social anxiety disorder (Baldwin et al., 2013; Mayo-Wilson et al.). However, this medication is also not considered first line due to side effects combined with limited evidence regarding optimal duration and risk of relapse (Andrews, Bell, et al., 2018).

6.1.1.3 Combined Treatments and Relative Effectiveness

Determining the relative effectiveness of psychological and pharmacological interventions is difficult due to a lack of studies directly comparing them, as well as systematic differences in the types of control groups and outcome rating scales used between trials of the two treatments. Generally, in trials of medications, the active treatment is compared to a pill placebo and assessor rating scales are used to measure outcomes. In contrast, psychological treatments are typically compared to waitlist control

or “care as usual” and outcomes are measured using self-report scales. In the current review, only one study used a comparison design specifically, and found that sertraline (an SSRI), CBT, and their combination all were effective compared with placebo control, but not significantly different from one another (Blomhoff et al., 2001).

Combined treatment with medication and psychological therapy is common in practice and is seen as a clinically desired approach (Andrews, Bell, et al., 2018; Bandelow et al., 2012). However, there is not a strong evidence that this produces superior outcomes to monotherapy, with the exception of panic disorder where combined treatment with SSRIs and CBT has been found to be more effective (Bandelow et al., 2007; Bandelow et al., 2012). Outside of primary care, two previous reviews have explored the comparative efficacy of psychological, pharmacological, and combined treatment for anxiety disorders (Bandelow et al., 2015; Bandelow et al., 2007). The first of these reviews found CBT, medication, and combined treatment to be equally efficacious for conditions other than panic disorder, while the more recent review found larger pre-post effect sizes for medications than psychotherapy. However, as with the studies in the current review, much of the research focusses on short-term efficacy outcomes following treatment (e.g., 8-12 weeks) rather than long-term effectiveness.

In the long-term, CBT tends to perform better compared to psychopharmacological treatments as many consumers experience relapse of anxiety symptoms upon ceasing medications (Lampe, 2013). However, further research is needed on the long-term comparative effectiveness of treatments for anxiety and in primary care populations specifically. Ultimately, guidelines tend to conclude that treatments are likely to be comparable and choice between pharmacological and psychological interventions (or both) should be based largely on the preferences of consumers (Andrews, Bell, et al., 2018; Bandelow et al., 2015). However, a range of issues should also be considered, such as co-occurring mental health issues (e.g.,

benzodiazepines are not recommended in the case of substance use or depression; Bandelow et al., 2012), response to previous treatment, other clinical features (e.g., history of previous episodes, trauma), and physical health conditions.

6.1.1.4 Stepped-Care Models

Two studies exploring stepped care for anxiety or common mental disorders were included in the current review. Stepped care involves a staged approach to treatment with multiple levels of intervention that are arranged from least to most intensive and cut across providers and care settings (Cross & Hickie, 2017). This often includes watchful waiting and self-help interventions at the lower end of the spectrum, and high-intensity specialist treatment with medication, psychological therapy, or both, at the other (including in hospital settings, Cross & Hickie, 2017). In trials of stepped care, people exit treatment when they receive benefit, or are otherwise “stepped up” to the next level of care. This more closely mirrors real world treatment practices than clinical trials of individual treatments. Stepped care models are evidence-based for common mental health conditions (Clark, 2011; Muntingh et al., 2016) and have the potential to improve access to psychological treatments by offering a range of options that are matched to individual needs (Richards, 2012). Consistent with previous research, the studies in the current review found these approaches to be effective for treating anxiety in primary care.

Stepped care models have been the recommended system of care for common mental health conditions in other countries such as the United Kingdom since the mid-2000s (NICE, 2011a). The Australian Government announced plans to transition to a stepped care approach for mental health in 2015, facilitated through the newly established Primary Health Networks (PHNs) (Australian Government, 2015). However, implementation has been suboptimal and there have been very few programs developed and studied for common mental health conditions in Australia (a feasibility study was

published on the first in 2020; Anderson et al., 2020). To be effective, stepped care requires appropriately trained clinicians and health systems that monitor outcome data, a lack of which is an issue within the Australian mental health care system for some time (Richards, 2012). Furthermore, stepped care requires GPs to classify conditions as mild, moderate, or severe and assign appropriate level of intervention, but there has been little guidance for Australian GPs on how to do this (Cross & Hickie, 2017). Furthermore, lower-intensity steps often involve e-mental health interventions, which are not yet well integrated in Australian primary care. Despite training initiatives, GPs continue to have limited awareness and confidence with e-mental health interventions (Anderson et al., 2020; Whitton et al., 2021).

6.1.2 How do GPs Manage Anxiety Disorders in Australia?

The second study (Chapter 4) in this project explored the real-world management of anxiety by Australian GPs using one of the most robust sources of data collected within general practice. While several studies have explored the management of mental health conditions in this setting (e.g., Banfield et al., 2019; Farrer et al., 2018) and reports on mental health services in Australia are published each year (see AIHW, 2021 for most recent report), no previous research had investigated GP management of anxiety in detail. Hence, the second study in this thesis provides the first comprehensive analysis of GP anxiety management in Australia. Data were analysed from the Bettering the Evaluation and Care of Health (BEACH) project (University of Sydney), an annual cross-sectional study of Australian general practice activity that ran continuously from 1998 to 2016. The study explored anxiety management in the 10 years since the introduction of the Better Access initiative in 2006 that aimed to improve mental health care through the funding of services with GPs, psychiatrists, psychologists, and other allied health practitioners. Specifically, the study explored the effect of patient and GP characteristics on rates of anxiety management and the different treatments used.

6.1.2.1 Changes to Anxiety Disorder Management

The findings from this study highlight important changes over time, and demonstrate that rates of anxiety management are increasing in general practice. Over the period studied, benzodiazepine prescriptions saw a significant, linear reduction, while first-line pharmacological treatments steadily increased and referrals to psychologists tripled. In 2016, anxiety problems were managed by benzodiazepines at similar rates to SSRI/SNRI medications, though the actual number of patients being managed with benzodiazepines is likely much lower, as repeat scripts are not authorised for benzodiazepines and they therefore require more frequent visits to a GP (Australian Government Department of Health, 2022b). These changes occur in the context of important policy modifications regarding mental health, most notably the introduction of government subsidies (Medicare rebates) for psychological therapy in secondary care and restrictions on benzodiazepine prescriptions. The findings regarding anxiety management are also consistent with trends in psychotropic medication use more broadly in Australia. Pharmaceutical Benefits Scheme (PBS) data demonstrates the proportion of people prescribed anxiolytics by a GP has been decreasing since 2006, and the proportion of people prescribed antidepressants has been increasing (AIHW, 2021c). Furthermore, defined daily use within the population, which gives the number of people taking a standard dose of a drug every day, has demonstrated sertraline (an SSRI) is among the top 10 most commonly utilised drugs in the country ("Top 10 drugs 2020–21," 2021).

Education, advice, or counselling (EAC) was provided by GPs more than any other approach. However, similar to rates of benzodiazepines, the high rates of anxiety management with EAC are likely inflated due to this being the only approach a GP is able to provide at every encounter (i.e., patients being treated with SSRIs would only be recorded as having their anxiety managed with an SSRI every six months when they

need a new prescription). The actual treatment GPs were recording under EAC is also less clear than for other treatments studied. For instance, knowing whether a medication has been prescribed, which one, and the dose, is much easier to record than the type of counselling provided. For the purposes of the analysis, types of education, advice, and counselling were collapsed to create one outcome measure. EAC may have included any or all of supportive counselling, information about anxiety, education about lifestyle factors, brief psychological strategies (e.g., psychoeducation about the maintenance of anxiety, encouragement to confront fears gradually), and discussion of medication and side effects. However, in the majority of cases, GPs recorded the management strategy as “psychological counselling”. It is known that GPs do not routinely provide focussed psychological interventions such as relaxation training, exposure therapy or cognitive therapy (AIHW, 2021c), so it is unlikely the rates of counselling reflect psychological interventions analogous to those in study 1 (Chapter 3). There is also very little research about psychological interventions provided by GPs and issues such as fidelity and “dosage” of psychological treatment (e.g., adherence to established protocols, patient adherence to homework tasks) are rarely studied in primary care research. Furthermore, the data examined did not capture referral to online or other self-help programs, though previous research indicates these are underutilised (Fleming et al., 2018).

Previous literature has noted medications are the most common anxiety treatment provided in primary care (Britt, Miller, Bayram, et al., 2016; Harris et al., 2015), and that benzodiazepines are prescribed at high rates (Tanguay Bernard et al., 2018). The findings from the current study indicate this may have been the case in Australia previously, with very high rates of benzodiazepine use in 2006 (prescribed for 40% of anxiety problems). However, as of 2016 prescription of benzodiazepines had reduced significantly and was not the dominant strategy used to manage anxiety problems in general practice. That said, recent Australian research has demonstrated that a large

proportion of people who take benzodiazepines are on these medications for long periods of time, and are predominantly older (Islam & Wollersheim, 2019). This is consistent with international findings (Lagnaoui et al., 2004; Olfson et al., 2015), and is particularly true in general practice settings where the majority of people receiving benzodiazepines for their anxiety are long-term users (of more than three months; Tanguay Bernard et al., 2018).

6.1.2.2 Alignment with Clinical Practice Guidelines

Although treatment adequacy was not assessed in study 2, trends suggest the pattern of management (i.e., regarding treatment type) is becoming more closely aligned with practice guidelines, which emphasise psychological interventions and SSRI or SNRI medications as first-line. It was concluded that these trends, due to their linear nature, were likely to have continued from 2016 to 2021 due to the absence of any other significant health reforms in that period. However, the COVID-19 pandemic has resulted in increased presentations for anxiety, and greater demand for psychological services (AIHW, 2021c). The number of Government funded sessions with mental health specialists was also doubled (from 10 to 20) in response to the pandemic (AIHW, 2021c), placing additional pressure on psychologists, and a recent survey by the Australian Psychological Society found one in five Australian psychologists have closed their books to new clients (compared with 1 in 100 pre-pandemic; Australian Psychological Society, 2021). It may therefore be the case that patterns of anxiety management have changed throughout 2020 and 2021. Indeed, Pharmaceutical Benefits Scheme data supports this, showing a marked increase in rates of anxiolytic medications (diazepam in particular) in 2020 that was greater than increases seen for other psychotropic medications (Pearce & McLeod, 2020). It may be the case that limited availability of psychologists and the situational nature of stressors consumers present with (i.e., as opposed to chronic

anxiety symptoms) is leading GPs to prescribe more short-term medications such as benzodiazepines.

Study 2 also found that characteristics of GPs and patients systematically influenced the way anxiety was managed. Some of these differences indicate appropriate management for the population group, for example, predominantly psychological management in children and adolescents. However, other differences indicate areas that require further study and improvement. Anxiety problems in older adults were overwhelmingly managed with pharmacological strategies, and use of benzodiazepines was particularly high. Although age is confounded with duration of condition and likelihood of having previously sought and commenced treatment many years ago, it is known that elderly people receive low rates of psychological management for mental health conditions (Clark, 2018; Sanglier et al., 2011) This is despite research finding older adults may have a preference for psychological interventions over medication for anxiety (Mohlman, 2012). People over the age of 65 years have high rates of all psychotropic medications (AIHW, 2021c), though the rates of benzodiazepines have been of specific concern for a number of years (Lader, 2011; Windle et al., 2007; Woods et al., 2022). Older women, in particular, have been shown to have high rates of long-term use of benzodiazepines, and are at the highest risk of injury due to falls (Windle et al., 2007; Woods et al., 2022). Many older people may have commenced these medications numerous years ago and find them difficult to cease due to withdrawal and relapse of anxiety and insomnia symptoms (Windle et al., 2007). Furthermore, there is a perception that older people benefit less from psychological interventions, though a large-scale recent study demonstrated that after controlling for premorbid functioning, older adults with anxiety may actually benefit more from these interventions than working-age adults (Saunders et al., 2021).

The current study also found that anxiety was managed with benzodiazepines at higher rates by older and male GPs. Other research exploring patterns of prescribing of benzodiazepines has tended to focus on patient factors rather than provider characteristics. However, the combination of older male GPs and elderly patients may pose a particular risk for the use of long-term benzodiazepine prescription to manage anxiety. Reducing benzodiazepine use among elderly people has been a focus for several years (The Royal Australian College of General Practitioners, 2015), and PBS data for the past financial year indicates that although anxiolytic medications are still prescribed at the highest rates among the elderly of any age group, they have been decreasing at faster rates than for other age groups (AIHW, 2021c).

6.1.3 What are Consumer Views on GP Management of Anxiety Disorders?

The third and final study in this project (Chapter 5) explored the perspectives of Australian mental health care consumers on anxiety management in general practice. The experiences of consumers are a crucial part of evaluating mental health care, and examining consumer priorities for care helps to guide service reform (WHO, 2018b). Consumer perspectives on anxiety management have not been well studied, particularly in primary care, and little is known about priorities for treatment. This study surveyed consumers using a mixed-methods approach (i.e., both closed and open-ended questions) to explore key areas about the experience of anxiety care in general practice. The aim was to collect quantitative information that could be summarised to provide an overall picture of the kinds of experiences and priorities reported by consumers, while also giving consumers a voice to share individual experiences that add depth of understanding to the quantitative findings.

6.1.3.1 Experiences and Preferences for Treatment

There were several key findings from this study regarding consumer experiences. Consumers noted a preference for psychological or combined treatment,

with only a very small number of people preferring medication alone. Although little research has explored consumer preferences for anxiety treatment in primary care, this finding was consistent with research regarding anxiety treatment more generally, which has found preferences for psychological or combined treatment over medication alone (Arch, 2014; Deacon & Abramowitz, 2005; McHugh et al., 2013). Research on other common mental health conditions in primary care settings, such as depression, has also found consumers prefer non-pharmacological interventions (Dorow et al., 2018).

While consumers do not appear to have unfavourable views of the effectiveness of medication, they rate CBT as more likely to be effective in the long-term for anxiety (Deacon & Abramowitz, 2005). The reasons for this are not well understood. However, it has been suggested a preference for psychological treatment may relate to perceptions about the origins of the condition (i.e., biological versus psychosocial) and differing beliefs about the mechanisms of treatment (Deacon & Abramowitz, 2005). For example, that CBT helps to address the “root cause” of the issue and learn skills to cope into the future even after therapy has finished, while medications are seen to work only while they are being taken. This view is not entirely unfounded, as rates of relapse for anxiety following cessation of medication are high (Bandelow et al., 2012; Lampe, 2013), while CBT tends to be effective in the long-term (Mörtberg et al., 2011; van Dis et al., 2020). It was also found in this study and prior research (e.g., Kelly et al., 2019) that consumers value relational aspects of care highly, and it may be the case some see traditional therapy, where treatment is inherently interpersonal, as more valuable. Furthermore, consumers were also most interested in treatment that was effective over treatment that worked quickly. While access to timely treatment is important (Green et al., 2012), this finding has important implications for the assumptions that may be held regarding the best treatments (e.g., medications and their onset of effect), and the information that is communicated to consumers about the available treatments.

Most of the consumers surveyed in the current study reported that their preferences for treatment were met, or that they had no specific preference. However, it should be noted that consumers were asked to reflect on this retrospectively in the context of having already sought care. Although consumers in the current study reported generally positive experiences with their GP, those with unmet treatment preferences systematically rated their experience more negatively. This is consistent with previous literature, which emphasises the importance of exploring consumer treatment preferences and shared-decision making for health care experience (NICE, 2011c; Slade, 2017). A recent analysis of communication in primary care consultations found GPs initially treated consumers as decision makers approximately two thirds of the time, though became more directive if the consumer was resistant to treatment (resistance as rated by independent observers; Ford et al., 2019). A lack of ownership over treatment decisions leads consumers to feel disempowered, increases the risk of ceasing treatment prematurely (Hunot et al., 2007), and is likely to create negative experiences of care.

Receiving treatment consistent with preferences has also been shown to predict uptake of treatment and the development of a therapeutic alliance with the treating professional (Gelhorn et al., 2011). Consumers in the current study tended to emphasise relational factors in care, such as the GPs interpersonal skills, when evaluating their experience more so than clinical skills; positive experiences reported by consumers included feeling supported, listened to, and validated, while negative experiences often centred on feeling dismissed or invalidated. Additionally, some research has found that clinical outcomes may be better when consumers receive a treatment consistent with their preference. For example, one study found symptom reduction was greater for both CBT and SSRIs when the treatment was consistent with consumer preference, independent of treatment dropout or baseline severity (Mergl et al., 2011). Taken

together, this demonstrates the importance of exploring consumer preferences, shared-decision making, and interpersonally focussed care for anxiety.

6.1.3.2 Suggestions for Improving Care

Consumers had important suggestions for improving care for anxiety, which tended to centre on improving access and funding for psychological interventions. Most spoke about this in reference to secondary care (i.e., private psychologists), and views on e-mental health interventions or interventions provided by primary care workers were not specifically explored. As noted above, acceptability of e-mental health programs is typically low, and consumers have reported negative perceptions about the helpfulness of these interventions compared with face-to-face therapy (Apolinário-Hagen et al., 2017; Musiat et al., 2014). However, those who complete programs tend to indicate high levels of satisfaction with them (Treanor et al., 2021). Consumers also had unmet needs for information about anxiety from their GP. This is significant as consumers value understanding their experiences (Lang, 2005), and primary care is typically the first place a consumer seeks professional help, so psychoeducation may be an especially important component of GP management.

6.1.4 Overall Summary

Taken together, the findings from these three studies indicate several important points about the management of anxiety in Australian primary care. The second study in this thesis (Chapter 4) demonstrated rates of anxiety management in general practice are increasing in Australia. Despite this, there has been limited knowledge regarding their management in primary care settings relative to other common conditions like depression.

An important finding from the current research is that psychological treatments are well supported by research evidence and are preferred by consumers. These interventions should therefore be a mainstay of anxiety treatment in primary care where

possible. However, implementation of psychological treatments is complicated, and they are not yet well integrated in the Australian primary care setting (Anderson et al., 2020). GPs record providing high rates of education, advice, and counselling for anxiety problems, though little is known about the effectiveness of these interventions and whether they equate to evidence-based psychological treatment. However, there has been a marked increase in GP referrals to psychologists, whose very training has a greater emphasis on evidence-based psychological treatments for high prevalence disorders, to manage anxiety since the introduction of the Better Access reforms.

Consistent with previous research, this project found medication is a dominant treatment used by GPs, and likely used more commonly than formal psychological interventions. While pharmacological treatments are efficacious for anxiety and have an important place in treatment, they have received much less research attention over the past 20 years and within primary care populations despite their continued prominence in practice. Furthermore, medications for anxiety can be associated with significant side effects and complications such as dependency, withdrawal effects, and attributional biases. Reductions in benzodiazepines and increases in SSRI/SNRI medications indicate patterns of pharmacological management are becoming more closely aligned with practice guidelines (e.g., Andrews, Bell, et al., 2018) and that the gap between recommended and actual management of anxiety in primary care may be narrowing. However, it remains unclear how many people have their anxiety managed with each approach and the adequacy of the treatment they receive.

Clinical practice guidelines form an important component of evidence-based practice, providing a summary of the evidence for treating a particular condition, which providers can combine with their own experience and consumer factors (e.g., preferences, history) to make treatment decisions. However, these guidelines are only as good as the evidence on which they are based and there remain issues with the quality

and quantity of evidence available for anxiety disorder management in primary care. In particular, the evidence regarding the comparative effectiveness of medications and psychological treatments in both the short and long term requires further development. Furthermore, GPs' management of anxiety differs according to characteristics of consumers, such as age, sex, and socioeconomic factors, and some groups appear to receive patterns of management that are less consistent with recommended care. Going forward, greater focus is needed on consumer preferences and the needs of different groups in the primary care setting. This includes work to reduce barriers to preferred treatments, and in particular, providing effective, low-cost options for psychological intervention. The lower priority to consumers of how quickly treatment works compared with other factors such as effectiveness, potential side effects, and cost, is also important to consider. Finally, positive aspects of the primary care setting such as accessibility and the ability for GPs to provide comprehensive, interpersonally focussed care are important for consumer experiences.

Summary of Key Points:

- Anxiety disorders are common in primary care but there is surprisingly little specific knowledge on their management in this setting.
- As psychological interventions are strongly supported by research evidence and preferred by consumers, they ought to be the mainstay of treatment. However, issues regarding their implementation and fidelity in primary care need to be addressed.
- Psychotropic medications are an important treatment for anxiety and appear to be changing for the better in terms of patterns of usage. However, the limitations of medications with respect to consumer preferences and iatrogenic or quasi-iatrogenic effects (e.g., dependency, attributional biases) need further consideration in research and clinical practice.
- Going forward, the focus should be on understanding consumers' needs and preferences and reducing barriers to preferred evidence-based treatments.

6.2 Strengths and Limitations

This thesis contains a comprehensive body of work exploring the management of anxiety in Australian primary care. Although framed in an Australian context, the studies are also relevant for the management of anxiety internationally. This is particularly true for countries with similar economic and health care systems, such as the United Kingdom, Canada, Scandinavian countries, and the Netherlands, where results may be more appropriately generalised. One of the strengths of this project is the evaluation of anxiety management from multiple perspectives (i.e., treatment outcomes, real-world practice, and consumer perspectives). The use of both qualitative and quantitative information to explore consumer perspectives is also a strength, as this allows for more comprehensive analysis and contextualises answers to quantitative questions (Doyle et al., 2009). For example, the survey was able to explore not only the kind of treatment preferences consumers had, but also some of the reasons for those preferences.

There are also several limitations of this research project. Firstly, the systematic review conducted in Chapter 3 identified few studies of pharmacological treatment, and the analysis of the evidence base for medications in this thesis is less comprehensive than that of psychological treatments. Although the focus on more recent research in this review was deliberate, there have been few innovations in medication for anxiety in the past 20 years, and as such, the systematic review may not be an accurate reflection of the overall evidence base for pharmacological anxiety treatment in primary care.

The description of GP activity in Chapter 4 provides a good overview of trends in anxiety management in Australia. However, the data are cross-sectional, and did not distinguish repeat appointments for the same patient. The metrics used for this study “encounters for anxiety” and “anxiety problems” represent the problems recorded at an encounter by a GP (and how these problems were managed) rather than individual patients. This makes it difficult to determine how many people are presenting for anxiety

management and what kind of management they are receiving. In addition, the data did not allow for exploration of treatment adequacy or outcomes for the patients undergoing anxiety treatment. Exploring real-world outcomes alongside the studies conducted was outside the scope of this project, however, presents an important area for future study.

One of the key limitations of the consumer survey in this thesis was the possibility of measurement error. In particular, many consumers' first experience of seeking help was more than five years ago, and asking them to report on their preferences for treatment at this time, as well as which treatments they were offered by their GP, may not represent a reliable measure of these factors due to recall bias. Information about consumer preferences and whether treatment was consistent with preferences were drawn from these reports of first experiences, and should therefore be interpreted with caution. That said, a preference for psychological treatment was noted throughout other sections of the survey, including regarding current preferences.

Perhaps the most significant limitation of this body of work is the lack of a GP perspective. Provider perspectives are important in evaluating healthcare (Fleury et al., 2012), and have been understudied regarding anxiety management. GPs have important information to share about the way they make treatment decisions, the facilitators of effective treatment, and the challenges they face in managing anxiety disorders. A lack of provider perspectives is an issue in the literature more broadly, and GPs are a hard-to-recruit population for research due to system constraints and high workloads (Askew et al., 2002; Brodaty et al., 2013; Ferrand Devouge et al., 2019). As previously noted, a fourth study was planned to explore GP perspectives, though was not completed due to feasibility issues related to the COVID-19 pandemic; GPs experienced significant increases to their workload since early 2020 that continued throughout 2021 (AIHW, 2021c). However, this is important research and should be revisited at a later date, particularly in light of the increasing rates of anxiety management in general practice. To

obtain a GP perspective on the current research, we sought input from a key informant (a senior academic GP) in Chapter 4 regarding the interpretation of results, who is listed as an author on the published article.

6.3 Future Research

At present, there is limited research on GPs' perspectives and treatment decision making for anxiety management. Some research has found GPs who perceive high levels of confidence in their ability to recognise anxiety disorders are less likely to refer patients to specialists for treatment (Wittchen et al., 2002), and GPs have also previously reported insufficient knowledge of the diagnostic criteria for anxiety disorders and treatment approaches (Alexander & Fraser, 2008). Rates of treatment offered by GPs have been found not to differ by anxiety severity (Harris et al., 2015) despite recommendations for stepped care (Andrews, Bell, et al., 2018). Interestingly, the findings in Chapter 4 suggest GPs manage anxiety differently in different patient populations, including high rates of management with benzodiazepines in the elderly and those receiving Government benefits. There are also individual differences among GPs in terms of their training, attitudes, and knowledge that require further study in terms of how they impact anxiety management practices.

This thesis focussed on management of identified cases of anxiety and did not explore issues regarding detection and assessment. Anxiety disorders are notoriously under-recognised in primary care, particularly when they present without co-occurring depression, which is thought to lead to increased recognition due to higher distress (Roberge et al., 2015). However, the current rates of detection among Australian GPs are not well known and updated research is needed to understand how well they assess and identify anxiety disorders in their patients.

A qualitative (e.g., focus groups) or mixed-methods study would allow in-depth exploration of GP knowledge and attitudes about anxiety, perspectives on management,

and the way in which GPs make treatment decisions. Such a study would contribute to a more comprehensive examination of the management of anxiety in primary care and, combined with the research in this thesis, assist in improving care for anxiety in Australia.

The research base exploring consumer perspectives on anxiety care also requires further development. Larger and more representative samples of consumers regarding treatment preferences, priorities for care, and satisfaction could help establish a stronger evidence base to support policy and practice. Such studies should seek to understand the treatment preferences of consumers at the time of help-seeking, whether these preferences are met, and factors that facilitate positive experiences of care.

As discussed in Chapter 3, further research is needed to develop the evidence base for the treatment of anxiety in primary care populations. In particular, this should focus on the use of medications and their comparative effectiveness to psychological treatments. Network meta-analysis, which compares multiple interventions in a single analysis combining direct comparisons (i.e., of interventions in RCTs) and indirect comparisons (i.e., between different studies based on a common comparator; Higgins & Green, 2011), may be a particularly useful method for comparing the effectiveness of different interventions. The implementation of these treatments, including consumer and provider acceptability and real world treatment outcomes, should also be included in future research. There is also a clear need for consumers to be more involved in the development and evaluation of online interventions for anxiety, which currently have low acceptability ratings (Fleming et al., 2018). In light of the pandemic and the increased use of online communication technology and telehealth services, it will also be interesting to see if consumer and provider perspectives have changed regarding the acceptability of online delivered interventions.

6.4 Practice and Policy Implications

The findings from this project have important practical implications for the management of anxiety in primary care. This thesis demonstrates that, although management of anxiety in primary care appears to be improving, a gap remains between research evidence and clinical practice. Addressing this issue requires changes to practice as well as further research as described above.

Findings of this thesis reinforce previous research that emphasises psychological interventions as first-line for anxiety in primary care, both due to their effectiveness and their preference among consumers. However, expecting GPs to do formal therapy is not a practical solution to this problem and it is clear that more varied options for psychological treatment are needed in primary care. This may be through the development or implementation of new services, more affordable referral options in the community, greater availability of peer supported programs, and greater uptake of options that are currently available such as e-mental health programs.

Raising the profile of e-mental health is an important way to increase access to psychological interventions without many of the limitations of traditional psychological therapy. In particular, computerised CBT is effective for anxiety (Andrews, Basu, et al., 2018) and GPs should direct consumers to these programs as a suitable option for psychological intervention. However, steps need to be taken to improve acceptability and credibility of these programs among both health professionals and consumers. Interventions to increase uptake of e-mental health programs have been conducted in recent years (Batterham, Calear, Sunderland, et al., 2021; Ebert et al., 2015), though have found it difficult to address the complex nature of consumer motivations to engage with the interventions. Developing online interventions through co-design processes with consumers may assist in improving the acceptability of such programs and ensure they are focussed appropriately on the needs of consumers. GPs also require further

education about the effectiveness of online treatment programs and the ways in which they could guide consumers through such programs.

Implementing routine screening for common mental health conditions may also assist to improve anxiety care by addressing under-recognition and supporting GPs to prescribe appropriate interventions (Whitton et al., 2021). A recent study explored the implementation of a digital screening and treatment tool *StepCare* – which also provided recommendations for stepped care based on screening results – across multiple Australian general practices (Anderson et al., 2020). Results demonstrated StepCare helped identify previously unrecognised cases of anxiety and supported GPs to manage these conditions with recommendations for appropriate care. Furthermore, a follow-up study found screening through StepCare was also an effective way of identifying consumers with mild to moderate anxiety who may benefit from e-mental health programs, and promoted uptake of these interventions (Whitton et al., 2021).

In addition to improving GP awareness and confidence with e-mental health programs, it is important to increase their awareness of consumer treatment preferences and priorities for care. A number of consumers surveyed in this research also mentioned the need for GPs to have further training in supportive counselling skills. According to findings in this thesis, GPs need to provide more information for consumers about anxiety and the different treatment options, including information about the effectiveness and possible adverse effects. This goes hand in hand with a need to improve mental health literacy among consumers regarding anxiety and effective interventions through public health initiatives (Jorm, 2012; Paulus et al., 2015), as noted by consumers in the current research who recommended improving community knowledge about anxiety. The development of standardised handouts about anxiety and its treatment for use in primary care may also assist, and such resources should be co-designed. Decisions about treatment should then be made collaboratively with consumers to ensure any

intervention is consistent with preferences. Furthermore, ongoing attention should be given to reducing benzodiazepine use among elderly people with anxiety due to the associated risks.

Greater integration of mental health services in primary care is needed for the effective management of all mental health conditions, including anxiety. This may include integration of peer-workers, nurses, psychologists, and other allied health professionals (e.g., mental health social workers), as GPs cannot be expected to routinely provide psychological treatments. However, this is a difficult issue to address and requires the development of infrastructure and workforces to transition to better systems of care.

In 2006 when Medicare rebates for psychological services were introduced under Better Access, experts raised concerns about this leading to systems of care that centre around individual providers rather than collaborative care (McGorry & Hickie, 2007). Indeed, the National Review of Mental Health Programmes and Services in 2014 acknowledged problems with a fragmented mental health care system, and recommended reforms including the transition to a stepped care model (National Mental Health Commission, 2014) from 2015 onwards. Australia's mental healthcare system is in the process of implementing these reforms and it remains to be seen how subsequent changes may lead to improved care of anxiety disorders in primary care.

6.5 Conclusion

This research provides the first comprehensive examination of anxiety management in Australian primary care. Although treatment outcomes had been previously researched, the focus on real-world management practices with a large-scale dataset is novel and presents a significant contribution to the field. Findings demonstrated that anxiety is being managed at increasingly higher rates in Australian general practice, highlighting the importance of evaluating the adequacy of this care and identifying facilitators of effective management. The studies in this thesis contribute vital

information about these factors, including one of the first explorations of consumer preferences for anxiety care in general practice. This research has given consumers a voice in the discussion regarding anxiety management, and identified the importance of providing interpersonally focussed care that is consistent with consumer preferences for positive experiences of care. Important areas for future research, clinical practice, and mental health policy in Australia have also been identified through this research. In particular, the need for better integration of psychological treatments in primary care, careful exploration of the drivers behind the way anxiety is managed across different populations, and greater consideration of consumer preferences for treatment. By updating the evidence for treatment effectiveness, exploring real-world management practices, and identifying consumer priorities for care, this research has contributed important information that will improve standards of care, and subsequently, the lives of people with an anxiety disorder.

REFERENCES

- Abramowitz, J. S., Deacon, B. J., & Whiteside, S. P. H. (2019). *Exposure therapy for anxiety: Principles and practice* (Second ed.). Guilford Publications.
<https://books.google.com.au/books?id=YZ-BDwAAQBAJ>
- Agency for Healthcare Research and Quality. (2016, May 2018). *CAHPS ECHO Survey Measures*. <https://www.ahrq.gov/cahps/surveys-guidance/echo/about/survey-measures.html>
- AHMAC National Mental Health Strategy Evaluation Steering Committee. (1997). *Evaluation of the National Mental Health Strategy: Final report*.
<https://www1.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-e-strateval-toc>
- Alexander, C., & Fraser, J. (2008). General practitioners' management of patients with mental health conditions: The views of general practitioners working in rural north-western New South Wales. *Australian Journal of Rural Health, 16*(6), 363-369.
<https://doi.org/10.1111/j.1440-1584.2008.01017.x>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (Fifth ed.). American Psychiatric Association.
- Anderson, J., O'Moore, K., Faraj, M., & Proudfoot, J. (2020). Stepped care mental health service in Australian primary care: Codesign and feasibility study. *Australian Health Review, 44*(6), 873-879. <https://doi.org/https://doi.org/10.1071/AH19078>
- Andrews, G., Basu, A., Cuijpers, P., Craske, M. G., McEvoy, P., English, C. L., & Newby, J. M. (2018). Computer therapy for the anxiety and depression disorders is effective, acceptable and practical health care: An updated meta-analysis. *Journal of Anxiety Disorders, 55*, 70-78. <https://doi.org/10.1016/j.janxdis.2018.01.001>
- Andrews, G., Bell, C., Boyce, P., Gale, C., Lampe, L., Marwat, O., Rapee, R., & Wilkins, G. (2018). Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of panic disorder, social anxiety disorder and generalised

- anxiety disorder. *Australian and New Zealand Journal of Psychiatry*, 52(12), 1109-1172. <https://doi.org/10.1177/0004867418799453>
- Andrews, G., Cuijpers, P., Craske, M. G., McEvoy, P., & Titov, N. (2010). Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: A meta-analysis. *PLOS ONE*, 5(10), e13196. <https://doi.org/10.1371/journal.pone.0013196>
- Anthierens, S., Pasteels, I., Habraken, H., Steinberg, P., Declercq, T., & Christiaens, T. (2010). Barriers to nonpharmacologic treatments for stress, anxiety, and insomnia: family physicians' attitudes toward benzodiazepine prescribing. *Canadian Family Physician*, 56(11), e398-e406. <https://pubmed.ncbi.nlm.nih.gov/21075981>
- Antony, M. M., Bieling, P., Cox, B., Enns, M., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, 10(2), 176-181. <https://doi.org/10.1037/1040-3590.10.2.176>
- Antony, M. M., & Stein, M. B. (2008). *Oxford handbook of anxiety and related disorders*. Oxford University Press.
- Apolinário-Hagen, J., Kemper, J., & Stürmer, C. (2017). Public acceptability of e-mental health treatment services for psychological problems: A scoping review. *JMIR Mental Health*, 4(2), e10. <https://doi.org/10.2196/mental.6186>
- Arch, J. J. (2014). Cognitive behavioral therapy and pharmacotherapy for anxiety: Treatment preferences and credibility among pregnant and non-pregnant women. *Behaviour Research and Therapy*, 52, 53-60. <https://doi.org/https://doi.org/10.1016/j.brat.2013.11.003>
- Archer, C., Kessler, D., Wiles, N., & Turner, K. (2021). GPs' and patients' views on the value of diagnosing anxiety disorders in primary care: A qualitative interview study. *British Journal of General Practice*, 71(707), e450-e457. <https://doi.org/10.3399/bjgp.2020.0959>

- Ashcroft, R., Menear, M., Greenblatt, A., Silveira, J., Dahrouge, S., Sunderji, N., Emode, M., Booton, J., Muchenje, M., Cooper, R., Haughton, A., & McKenzie, K. (2021). Patient perspectives on quality of care for depression and anxiety in primary health care teams: A qualitative study. *Health Expectations*, 24(4), 1168-1177.
<https://doi.org/https://doi.org/10.1111/hex.13242>
- Askew, D. A., Clavarino, A. M., Glasziou, P. P., & Del Mar, C. B. (2002). General practice research: Attitudes and involvement of Queensland general practitioners. *Medical Journal of Australia*, 177(2), 74-77. <https://doi.org/https://doi.org/10.5694/j.1326-5377.2002.tb04670.x>
- Austin, P. C., & Hux, J. E. (2002). A brief note on overlapping confidence intervals. *Journal of Vascular Surgery*, 36(1), 194-195. <https://doi.org/10.1067/mva.2002.125015>
- Australian Bureau of Statistics. (2007). *National Survey of Mental Health and Wellbeing: Summary of results, 2007. (ABS Cat. No. 4326.0.)*
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4326.0>
- Australian Bureau of Statistics. (2011). *Australian Statistical Geography Standard (ASGS): Volume 5 - Remoteness Structure*
<https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1270.0.55.005July%202011>
- Australian Bureau of Statistics. (2013). *Socio-Economic Indexes for Areas 2011*
<https://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa2011?opendocument&navpos=260>
- Australian Bureau of Statistics. (2019a, December 18). *Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG), 2019.*
<https://www.abs.gov.au/statistics/classifications/australian-standard-classification-cultural-and-ethnic-groups-ascceg/2019>
- Australian Bureau of Statistics. (2019b, December 11). *National Aboriginal and Torres Strait Islander Health Survey.* <https://www.abs.gov.au/statistics/people/aboriginal-and->

[torres-strait-islander-peoples/national-aboriginal-and-torres-strait-islander-health-survey](#)

Australian Government. (2015). *Australian Government response to contributing lives, thriving communities – Review of mental health programmes and services.*

<https://www.health.gov.au/resources/publications/australian-government-response-to-contributing-lives-thriving-communities-review-of-mental-health-programmes-and-services>

Australian Government Department of Health. (2010). *Outcomes and proposed next steps: Review of the Access to Allied Psychological Services component of the Better Outcomes in Mental Health Care program.*

<https://www1.health.gov.au/internet/publications/publishing.nsf/Content/mental-boimhc-ataps-review-toc>

Australian Government Department of Health. (2015, 2 September 2021). *Primary Health Networks.* <https://www.health.gov.au/initiatives-and-programs/phn>

Australian Government Department of Health. (2022a, February 3). *Better Access initiative.* <https://www.health.gov.au/initiatives-and-programs/better-access-initiative>

Australian Government Department of Health. (2022b). *The Pharmaceutical Benefits Scheme - A-Z medicing listing.* <https://www.pbs.gov.au/browse/medicine-listing>

Australian Health Ministers. (1992). *National Mental Health Policy.* Australian Government Publishing Service.

Australian Institute of Health and Welfare. (2019). *Mental health services in Australia: In brief 2019.* <https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia-in-brief-2019>

Australian Institute of Health and Welfare. (2020). *Primary health care.* <https://www.aihw.gov.au/reports/australias-health/primary-health-care>

Australian Institute of Health and Welfare. (2021a). *Alcohol, tobacco & other drugs in Australia.* <https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia>

- Australian Institute of Health and Welfare. (2021b). *Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2018*.
<https://www.aihw.gov.au/reports/burden-of-disease/abds-impact-and-causes-of-illness-and-death-in-aus>
- Australian Institute of Health and Welfare. (2021c). *Mental health services in Australia*.
<https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia>
- Australian Institute of Health and Welfare. (2022). *Impacts of COVID-19 on Medicare Benefits Scheme and Pharmaceutical Benefits Scheme: Quarterly data*.
<https://www.aihw.gov.au/reports/health-care-quality-performance/impacts-of-covid19-mbs-pbs-quarterly-data>
- Australian Medical Association. (2020). *Delivering better care for patients: The AMA 10-Year framework for primary care reform*. <https://www.ama.com.au/articles/delivering-better-care-patients-ama-10-year-framework-primary-care-reform>
- Australian Psychological Society. (2021). Balancing caseloads and surging demand: Your experience and what we are doing. *InPsych*. <https://psychology.org.au/for-members/publications/inpsych/2021/november-issue-4/balancing-caseloads-and-surging-demand>
- Baldwin, D. S., Ajel, K., Masdrakis, V. G., Nowak, M., & Rafiq, R. (2013). Pregabalin for the treatment of generalized anxiety disorder: An update. *Neuropsychiatric Disease and Treatment*, 9, 883-892. <https://doi.org/10.2147/NDT.S36453>
- Bandelow, B., & Michaelis, S. (2015). Epidemiology of anxiety disorders in the 21st century. *Dialogues in Clinical Neuroscience*, 17(3), 327-335.
<https://doi.org/10.31887/DCNS.2015.17.3/bbandelow>
- Bandelow, B., Reitt, M., Röver, C., Michaelis, S., Görlich, Y., & Wedekind, D. (2015). Efficacy of treatments for anxiety disorders: A meta-analysis. *International Clinical Psychopharmacology*, 30(4), 183-192. <https://doi.org/10.1097/yic.0000000000000078>

- Bandelow, B., Seidler-Brandler, U., Becker, A., Wedekind, D., & Rüther, E. (2007). Meta-analysis of randomized controlled comparisons of psychopharmacological and psychological treatments for anxiety disorders. *The World Journal of Biological Psychiatry*, 8(3), 175-187. <https://doi.org/10.1080/15622970601110273>
- Bandelow, B., Sher, L., Bunevicius, R., Hollander, E., Kasper, S., Zohar, J., & Möller, H.-J. (2012). Guidelines for the pharmacological treatment of anxiety disorders, obsessive-compulsive disorder and posttraumatic stress disorder in primary care. *International Journal of Psychiatry in Clinical Practice*, 16(2), 77-84. <https://doi.org/10.3109/13651501.2012.667114>
- Banfield, M., Farrer, L. M., & Harrison, C. (2019). Management or missed opportunity? Mental health care planning in Australian general practice. *Australian Journal of Primary Health*, 25(4), 332-338. <https://doi.org/10.1071/PY18150>
- Banfield, M. A., Barney, L. J., Griffiths, K. M., & Christensen, H. M. (2014). Australian mental health consumers' priorities for research: Qualitative findings from the SCOPE for Research project. *Health Expectations*, 17(3), 365-375. <https://doi.org/10.1111/j.1369-7625.2011.00763.x>
- Banfield, M. A., Griffiths, K. M., Christensen, H. M., & Barney, L. J. (2011). SCOPE for Research: Mental health consumers' priorities for research compared with recent research in Australia. *Australian and New Zealand Journal of Psychiatry*, 45(12), 1078-1085. <https://doi.org/10.3109/00048674.2011.624084>
- Barlow, D. H. (1988). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. Guilford Press.
- Barlow, D. H. (2000). Unraveling the mysteries of anxiety and its disorders from the perspective of emotion theory. *American Psychologist*, 55(11), 1247. <https://doi.org/10.1037/0003-066X.55.11.1247>
- Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic* (2nd ed.). Guilford Press.

- Barlow, D. H. (2010). Negative effects from psychological treatments: A perspective. *American Psychologist*, 65(1), 13-20. <https://doi.org/10.1037/a0015643>
- Barlow, D. H., & Craske, M. G. (2014). Panic disorder and agoraphobia. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (pp. 1-61). The Guilford Press.
- Barrera, T. L., & Norton, P. J. (2009). Quality of life impairment in generalized anxiety disorder, social phobia, and panic disorder. *Journal of Anxiety Disorders*, 23(8), 1086-1090. <https://doi.org/https://doi.org/10.1016/j.janxdis.2009.07.011>
- Bassilios, B., Nicholas, A., Reifels, L., King, K., Fletcher, J., Machlin, A., Ftanou, M., Blashki, G., Burgess, P., & Pirkis, J. (2016). Achievements of the Australian Access to Allied Psychological Services (ATAPS) program: Summarising (almost) a decade of key evaluation data. *International Journal of Mental Health Systems*, 10(1), 61. <https://doi.org/10.1186/s13033-016-0092-4>
- Bastos, J. L., Harnois, C. E., & Paradies, Y. C. (2018). Health care barriers, racism, and intersectionality in Australia. *Social Science & Medicine*, 199, 209-218. <https://doi.org/10.1016/j.socscimed.2017.05.010>
- Batterham, P. J., Calear, A. L., McCallum, S. M., Morse, A. R., Banfield, M., Farrer, L. M., Gulliver, A., Cherbuin, N., Rodney Harris, R. M., Shou, Y., & Dawel, A. (2021). Trajectories of depression and anxiety symptoms during the COVID-19 pandemic in a representative Australian adult cohort. *Medical Journal of Australia*, 214(10), 462-468. <https://doi.org/10.5694/mja2.51043>
- Batterham, P. J., Calear, A. L., Sunderland, M., Kay-Lambkin, F., Farrer, L. M., Christensen, H., & Gulliver, A. (2021). A brief intervention to increase uptake and adherence of an internet-based program for depression and anxiety (enhancing engagement with psychosocial interventions): Randomized controlled trial. *Journal of Medical Internet Research*, 23(7), e23029. <https://doi.org/10.2196/23029>
- Batterham, P. J., Sunderland, M., Calear, A. L., Davey, C. G., Christensen, H., Teesson, M., Kay-Lambkin, F., Andrews, G., Mitchell, P. B., Herrman, H., Butow, P. N., &

- Krouskos, D. (2015). Developing a roadmap for the translation of e-mental health services for depression. *Australian and New Zealand Journal of Psychiatry*, *49*(9), 776-784. <https://doi.org/10.1177/0004867415582054>
- Baxter, A. J., Scott, K. M., Vos, T., & Whiteford, H. A. (2013). Global prevalence of anxiety disorders: A systematic review and meta-regression. *Psychological Medicine*, *43*(5), 897–910. <https://doi.org/10.1017/S003329171200147X>
- Baxter, A. J., Vos, T., Scott, K. M., & Ferrari, A. J. (2014). The global burden of anxiety disorders in 2010. *Psychological Medicine*, *44*(11), 2363-2374. <https://doi.org/10.1017/S0033291713003243>
- Berger, T., Urech, A., Krieger, T., Stolz, T., Schulz, A., Vincent, A., Moser, C. T., Moritz, S., & Meyer, B. (2017). Effects of a transdiagnostic unguided Internet intervention ('velibra') for anxiety disorders in primary care: Results of a randomized controlled trial [Article]. *Psychological Medicine*, *47*(1), 67-80. <https://doi.org/10.1017/S0033291716002270>
- Berkey, C. S., Hoaglin, D. C., Antczak-Bouckoms, A., Mosteller, F., & Colditz, G. A. (1998). Meta-analysis of multiple outcomes by regression with random effects. *Statistics in Medicine*, *17*(22), 2537–2550. [https://doi.org/10.1002/\(SICI\)1097-0258\(19981130\)17:22<2537::aid-sim953>3.0.co;2-c](https://doi.org/10.1002/(SICI)1097-0258(19981130)17:22<2537::aid-sim953>3.0.co;2-c)
- Bijl, R. V., & Ravelli, A. (2000). Psychiatric morbidity, service use, and need for care in the general population: Results of the Netherlands Mental Health Survey and Incidence Study. *American Journal of Public Health*, *90*(4), 602-607. <https://doi.org/10.2105/AJPH.90.4.602>
- Blomhoff, S., Haug, T. T., Hellström, K., Holme, I., Humble, M., Madsbu, H. P., & Wold, J. E. (2001). Randomised controlled general practice trial of sertraline, exposure therapy and combined treatment in generalised social phobia. *British Journal of Psychiatry*, *179*(1), 23-30. <https://doi.org/10.1192/bjp.179.1.23>
- Bonham, C. A., & Uhlenhuth, E. (2014). Disability and comorbidity: Diagnoses and symptoms associated with disability in a clinical population with panic disorder. *Psychiatry Journal*, *2014*, 619727-619727. <https://doi.org/10.1155/2014/619727>

- Borkovec, T. D. (1994). The nature, functions, and origins of worry. In G. Davey & F. Tallis (Eds.), *Worrying: Perspectives on theory assessment and treatment* (pp. 5-33). Wiley & Sons.
- Borkovec, T. D., Alcaine, O., & Behar, E. (2004). Avoidance theory of worry and generalized anxiety disorder. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.), *Generalized anxiety disorder: Advances in research and practice* (pp. 77-108). Guilford Press.
- Bouton, M. E., Mineka, S., & Barlow, D. H. (2001). A modern learning theory perspective on the etiology of panic disorder. *Psychological Review*, 108(1), 4.
<https://doi.org/10.1037/0033-295X.108.1.4>
- Britt, H., Miller, G. C., Bayram, C., Henderson, J., Valenti, L., Harrison, C., Pan, Y., Charles, J., Pollack, A. J., Chambers, T., Gordon, J., & Wong, C. (2016). *A decade of Australian general practice activity 2006–07 to 2015–16*.
- Britt, H., Miller, G. C., Henderson, J., Bayram, C., Harrison, C., Valenti, L., Pan, Y., Charles, J., Pollack, A. J., Wong, C., & Gordon, J. (2016). *General practice activity in Australia 2015–16*.
- Brodsky, H., Gibson, L. H., Waite, M. L., Shell, A. M., Lilian, R., & Pond, C. D. (2013). Research in general practice: A survey of incentives and disincentives for research participation. *Mental Health in Family Medicine*, 10(3), 163-173.
<https://pubmed.ncbi.nlm.nih.gov/24427184/>
- Burgess, P. M., Pirkis, J. E., Slade, T., Johnston, A., Meadows, G. N., & Gunn, J. M. (2009). Service use for mental health problems: Findings from the 2007 National Survey of Mental Health and Wellbeing. *Australian and New Zealand Journal of Psychiatry*, 43(7), 615-623. <https://doi.org/10.1080/00048670902970858>
- Cape, J., Whittington, C., Buszewicz, M., Wallace, P., & Underwood, L. (2010). Brief psychological therapies for anxiety and depression in primary care: Meta-analysis and meta-regression. *BMC Medicine*, 8, 38. <https://doi.org/10.1186/1741-7015-8-38>
- Care Quality Commission. (2021). *Community mental health survey 2021*.
<https://www.cqc.org.uk/publications/surveys/community-mental-health-survey-2021>

- Chapdelaine, A., Carrier, J.-D., Fournier, L., Duhoux, A., & Roberge, P. (2018). Treatment adequacy for social anxiety disorder in primary care patients. *PLOS ONE*, *13*(11), e0206357-e0206357. <https://doi.org/10.1371/journal.pone.0206357>
- Charles, J., Valenti, L., & Britt, H. (2003). GP visits by health care card holders. A secondary analysis of data from Bettering the Evaluation and Care of Health (BEACH), a national study of general practice activity in Australia. *Australian Family Physician*, *32*(1–2), 85-88. <https://doi.org/10.3316/informit.379057202109717>
- Chessick, C. A., Allen, M. H., Thase, M., Batista Miralha da Cunha, A. B., Kapczinski, F. F., de Lima, M. S., & dos Santos Souza, J. J. (2006). Azapirones for generalized anxiety disorder. *Cochrane Database of Systematic Reviews*(3), Cd006115. <https://doi.org/10.1002/14651858.Cd006115>
- Christensen, H., Pallister, E., Smale, S., Hickie, I. B., & Caley, A. L. (2010). Community-based prevention programs for anxiety and depression in youth: A systematic review. *The Journal of Primary Prevention*, *31*(3), 139-170. <https://doi.org/10.1007/s10935-010-0214-8>
- Clark, D. M. (2011). Implementing NICE guidelines for the psychological treatment of depression and anxiety disorders: The IAPT experience. *International Review of Psychiatry*, *23*(4), 318-327. <https://doi.org/10.3109/09540261.2011.606803>
- Clark, D. M. (2018). Realizing the mass public benefit of evidence-based psychological therapies: The IAPT program. *Annual Review of Clinical Psychology*, *14*(1), 159-183. <https://doi.org/10.1146/annurev-clinpsy-050817-084833>
- Classification Committee of the World Organization of Family Doctors. (1998). *ICPC-2: International Classification of Primary Care* (2 ed.). Oxford University Press.
- Cook, J. M., Marshall, R., Masci, C., & Coyne, J. C. (2007). Physicians' perspectives on prescribing benzodiazepines for older adults: A qualitative study. *Journal of General Internal Medicine*, *22*(3), 303-307. <https://doi.org/10.1007/s11606-006-0021-3>
- Cook, R. D. (1977). Detection of influential observation in linear regression. *Technometrics*, *19*(1), 15-18. <https://doi.org/10.1080/00401706.1977.10489493>

- Cook, R. D. (1979). Influential observations in linear regression. *Journal of the American Statistical Association*, 74(365), 169-174.
<https://doi.org/10.1080/01621459.1979.10481634>
- Crome, E., Grove, R., Baillie, A. J., Sunderland, M., Teeson, M., & Slade, T. (2015). DSM-IV and DSM-5 social anxiety disorder in the Australian community. *Australian and New Zealand Journal of Psychiatry*, 49(3), 227–235.
<https://doi.org/10.1177/0004867414546699>
- Cross, S., & Hickie, I. B. (2017). Transdiagnostic stepped care in mental health. *Public Health Research & Practice*, 27(2), e2721712. <https://doi.org/10.17061/phrp2721712>
- Curran, J., Parry, G. D., Hardy, G. E., Darling, J., Mason, A.-M., & Chambers, E. (2019). How does therapy harm? A model of adverse process using task analysis in the meta-synthesis of service users' experience [Systematic Review]. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00347>
- Dawel, A., Shou, Y., Smithson, M., Cherbuin, N., Banfield, M., Calear, A. L., Farrer, L. M., Gray, D., Gulliver, A., Housen, T., McCallum, S. M., Morse, A. R., Murray, K., Newman, E., Rodney Harris, R. M., & Batterham, P. J. (2020). The effect of COVID-19 on mental health and wellbeing in a representative sample of Australian adults. *Frontiers in Psychiatry*, 11(1026). <https://doi.org/10.3389/fpsyg.2020.579985>
- Daya, I., Hamilton, B., & Roper, C. (2020). Authentic engagement: A conceptual model for welcoming diverse and challenging consumer and survivor views in mental health research, policy, and practice. *International Journal of Mental Health Nursing*, 29(2), 299-311. <https://doi.org/https://doi.org/10.1111/inm.12653>
- de Lijster, J. M., Dierckx, B., Utens, E. M. W. J., Verhulst, F. C., Zieldorff, C., Dieleman, G. C., & Legerstee, J. S. (2017). The age of onset of anxiety disorders: A meta-analysis. *The Canadian Journal of Psychiatry*, 62(4), 237–246.
<https://doi.org/10.1177/0706743716640757>

- Deacon, B., & Abramowitz, J. S. (2005). Patients' perceptions of pharmacological and cognitive-behavioral treatments for anxiety disorders. *Behavior Therapy*, 36(2), 139-145. [https://doi.org/10.1016/S0005-7894\(05\)80062-0](https://doi.org/10.1016/S0005-7894(05)80062-0)
- Deacon, B., Lickel, J., & Abramowitz, J. S. (2008). Medical utilization across the anxiety disorders. *Journal of Anxiety Disorders*, 22(2), 344-350. <https://doi.org/10.1016/j.janxdis.2007.03.004>
- Deeks, J. J., Higgins, J. P. T., & Altman, D. G. (2020). Chapter 10: Analysing data and undertaking meta-analyses. In J. P. T. Higgins, J. Thomas, J. Chandler, M. Cumpston, T. Li, M. J. Page, & V. A. Welch (Eds.), *Cochrane handbook for systematic reviews of interventions version 6.1 (updated September 2020)*. The Cochrane Collaboration. <https://training.cochrane.org/handbook/current/chapter-10#section-10-10>
- Delgado, A., López-Fernández, L.-A., Luna, J. d. D., Saletti-Cuesta, L., Gil, N., & Jiménez, M. (2011). The role of expectations in preferences of patients for a female or male general practitioner. *Patient Education and Counseling*, 82(1), 49-57. <https://doi.org/10.1016/j.pec.2010.02.028>
- Dorow, M., Löbner, M., Pabst, A., Stein, J., & Riedel-Heller, S. G. (2018). Preferences for depression treatment including internet-based interventions: Results from a large sample of primary care patients [Original Research]. *Frontiers in Psychiatry*, 9. <https://doi.org/10.3389/fpsy.2018.00181>
- Doyle, L., Brady, A.-M., & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing*, 14(2), 175-185. <https://doi.org/10.1177/1744987108093962>
- Ebert, D. D., Berking, M., Cuijpers, P., Lehr, D., Pörtner, M., & Baumeister, H. (2015). Increasing the acceptance of internet-based mental health interventions in primary care patients with depressive symptoms. A randomized controlled trial. *Journal of Affective Disorders*, 176, 9-17. <https://doi.org/10.1016/j.jad.2015.01.056>

- Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *British Medical Journal*, 315(7109), 629-634.
<https://doi.org/10.1136/bmj.315.7109.629>
- Family Medicine Research Centre. (1998). *International Classification of Primary Care PLUS (ICPC-2 PLUS)*. FMRC.
- Farrer, L. M., Walker, J., Harrison, C., & Banfield, M. (2018). Primary care access for mental illness in Australia: Patterns of access to general practice from 2006 to 2016. *PLOS ONE*, 13(6), e0198400. <https://doi.org/10.1371/journal.pone.0198400>
- Ferrand Devouge, E., Biard, M., Beuzeboc, J., Tivolacci, M.-P., & Schuers, M. (2019). Motivations and willingness of general practitioners in France to participate in primary care research as investigators. *Family Practice*, 36(5), 552-559.
<https://doi.org/10.1093/fampra/cmy126>
- Fleming, T., Bavin, L., Lucassen, M., Stasiak, K., Hopkins, S., & Merry, S. (2018). Beyond the trial: Systematic review of real-world uptake and engagement with digital self-help interventions for depression, low mood, or anxiety [Review]. *Journal of Medical Internet Research*, 20(6), e199. <https://doi.org/10.2196/jmir.9275>
- Fleury, M.-J., Imboua, A., Aubé, D., Farand, L., & Lambert, Y. (2012). General practitioners' management of mental disorders: A rewarding practice with considerable obstacles. *BMC Family Practice*, 13(1), 19. <https://doi.org/10.1186/1471-2296-13-19>
- Ford, J., Thomas, F., Byng, R., & McCabe, R. (2019). Exploring how patients respond to GP recommendations for mental health treatment: An analysis of communication in primary care consultations. *BJGP Open*, 3(4), bjgpopen19X101670.
<https://doi.org/10.3399/bjgpopen19X101670>
- Forman, E. M., Herbert, J. D., Moitra, E., Yeomans, P. D., & Geller, P. A. (2007). A randomized controlled effectiveness trial of acceptance and commitment therapy and cognitive therapy for anxiety and depression. *Behavior Modification*, 31(6), 772-799.
<https://doi.org/10.1177/0145445507302202>

- Fox, N. A., & Pine, D. S. (2012). Temperament and the emergence of anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51(2), 125-128. <https://doi.org/10.1016/j.jaac.2011.10.006>
- Garakani, A., Murrough, J. W., Freire, R. C., Thom, R. P., Larkin, K., Buono, F. D., & Iosifescu, D. V. (2020). Pharmacotherapy of anxiety disorders: Current and emerging treatment options [Review]. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.595584>
- Gelhorn, H. L., Sexton, C. C., & Classi, P. M. (2011). Patient preferences for treatment of major depressive disorder and the impact on health outcomes: A systematic review. *Primary Care Companion to CNS Disorders*, 13(5). <https://doi.org/10.4088/PCC.11r01161>
- Gensichen, J., Hiller, T. S., Breitbart, J., Brettschneider, C., Teismann, T., Schumacher, U., Lukaschek, K., Schelle, M., Schneider, N., Sommer, M., Wensing, M., König, H. H., & Margraf, J. (2019). Panic disorder in primary care. *Deutsches Ärzteblatt International*, 116(10), 159-166. <https://doi.org/10.3238/arztebl.2019.0159>
- Gerull, F. C., & Rapee, R. M. (2002). Mother knows best: effects of maternal modelling on the acquisition of fear and avoidance behaviour in toddlers. *Behaviour Research and Therapy*, 40(3), 279-287. [https://doi.org/https://doi.org/10.1016/S0005-7967\(01\)00013-4](https://doi.org/https://doi.org/10.1016/S0005-7967(01)00013-4)
- Gilbody, S., Whitty, P., Grimshaw, J., & Thomas, R. (2003). Educational and Organizational Interventions to Improve the Management of Depression in Primary Care: A Systematic Review. *JAMA*, 289(23), 3145-3151. <https://doi.org/10.1001/jama.289.23.3145>
- Gleser, L. J., & Olkin, I. (2009). Stochastically dependent effect sizes. In H. Cooper, L. V. Hedges, & J. C. Valentine (Eds.), *The handbook of research synthesis and meta-analysis* (2nd ed., pp. 357–376). Russell Sage Foundation.
- Goethe, J. W., Woolley, S. B., Cardoni, A. A., Woznicki, B. A., & Piez, D. A. (2007). Selective serotonin reuptake inhibitor discontinuation: Side effects and other factors that

- influence medication adherence. *Journal of Clinical Psychopharmacology*, 27(5).
<https://doi.org/10.1097/jcp.0b013e31815152a5>
- Green, A. C., Hunt, C., & Stain, H. J. (2012). The delay between symptom onset and seeking professional treatment for anxiety and depressive disorders in a rural Australian sample. *Social Psychiatry and Psychiatric Epidemiology*, 47(9), 1475–1487.
<https://doi.org/10.1007/s00127-011-0453-x>
- Guaiana, G., Barbui, C., & Cipriani, A. (2010). Hydroxyzine for generalised anxiety disorder. *Cochrane Database of Systematic Reviews*(12), Cd006815.
<https://doi.org/10.1002/14651858.CD006815.pub2>
- Gulliver, A., Calear, A. L., Sunderland, M., Kay-Lambkin, F., Farrer, L. M., Banfield, M., & Batterham, P. J. (2020). Consumer-guided development of an engagement-facilitation intervention for increasing uptake and adherence for self-guided web-based mental health programs: Focus groups and online evaluation survey. *JMIR Formative Research*, 4(10), e22528. <https://doi.org/10.2196/22528>
- Gulliver, A., Calear, A. L., Sunderland, M., Kay-Lambkin, F., Farrer, L. M., & Batterham, P. J. (2021). Predictors of acceptability and engagement in a self-guided online program for depression and anxiety. *Internet Interventions*, 25, 100400.
<https://doi.org/10.1016/j.invent.2021.100400>
- Habbema, J. D. F., Wilt, T. J., Etzioni, R., Nelson, H. D., Schechter, C. B., Lawrence, W. F., Melnikow, J., Kuntz, K. M., Owens, D. K., & Feuer, E. J. (2014). Models in the development of clinical practice guidelines. *Annals of Internal Medicine*, 161(11), 812-818. <https://doi.org/10.7326/m14-0845> %m 25437409
- Harris, M. G., Baxter, A. J., Reavley, N., Diminic, S., Pirkis, J., & Whiteford, H. A. (2016). Gender-related patterns and determinants of recent help-seeking for past-year affective, anxiety and substance use disorders: Findings from a national epidemiological survey. *Epidemiology and Psychiatric Sciences*, 25(6), 548-561.
<https://doi.org/10.1017/S2045796015000876>

- Harris, M. G., Hobbs, M. J., Burgess, P. M., Pirkis, J. E., Diminic, S., Siskind, D. J., Andrews, G., & Whiteford, H. A. (2015). Frequency and quality of mental health treatment for affective and anxiety disorders among Australian adults. *Medical Journal of Australia*, 202(4), 185-189. <https://doi.org/10.5694/mja14.00297>
- Harrison, C., Bayram, C., & Britt, H. (2013). Suicide-related contacts--experience in general practice. *Australian Family Physician*, 42(9), 605.
<https://pubmed.ncbi.nlm.nih.gov/24024217/>
- Harrison, C., & Britt, H. (2004). The rates and management of psychological problems in Australian general practice. *Australian and New Zealand Journal of Psychiatry*, 38(10), 781-788. <https://doi.org/10.1080/j.1440-1614.2004.01462.x>
- Harrison, C., Britt, H., & Charles, J. (2011). Sex of the GP--20 years on. *Medical Journal of Australia*, 195(4), 192-196. <https://doi.org/10.5694/j.1326-5377.2011.tb03278.x>
- Harrison, C., Britt, H., & Charles, J. (2012). Better Outcomes or Better Access--which was better for mental health care? *Medical Journal of Australia*, 197(3), 170-172.
<https://doi.org/10.5694/mja12.10555>
- Hart, G., Panayi, M. C., Harris, J. A., & Westbrook, R. F. (2014). Benzodiazepine treatment can impair or spare extinction, depending on when it is given. *Behaviour Research and Therapy*, 56, 22-29. <https://doi.org/10.1016/j.brat.2014.02.004>
- Hedges, L. V. (1981). Distribution theory for Glass's estimator of effect size and related estimators. *Journal of Educational and Behavioral Statistics*, 6(2), 107-128.
<https://doi.org/10.3102/10769986006002107>
- Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. Academic Press.
- Heimberg, R. G., & Magee, L. (2014). Social anxiety disorder. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed., pp. 114-154). The Guilford Press.
- Henning, E. R., Turk, C. L., Mennin, D. S., Fresco, D. M., & Heimberg, R. G. (2007). Impairment and quality of life in individuals with generalized anxiety disorder.

Depression and Anxiety, 24(5), 342-349.

<https://doi.org/https://doi.org/10.1002/da.20249>

Higgins, A., Nash, M., & Lynch, A. M. (2010). Antidepressant-associated sexual dysfunction: Impact, effects, and treatment. *Drug, Healthcare and Patient Safety*, 2, 141-150.

<https://doi.org/10.2147/DHPS.S7634>

Higgins, J. P. T., & Green, S. (Eds.). (2011). *Cochrane handbook for systematic reviews of interventions version 5.1.0 (updated March 2011)*. The Cochrane Collaboration.

Hodson, S., & McFarlane, A. (2016). Australian veterans - Identification of mental health issues. *Australian Family Physician*, 45(3), 98-101.

<https://pubmed.ncbi.nlm.nih.gov/27052043/>

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78(2), 169-183. <https://doi.org/10.1037/a0018555>

Høifødt, R. S., Strøm, C., Kolstrup, N., Eisemann, M., & Waterloo, K. (2011). Effectiveness of cognitive behavioural therapy in primary health care: A review. *Family Practice*, 28(5), 489-504. <https://doi.org/10.1093/fampra/cmr017>

Howard, P. B., El-Mallakh, P., Kay Rayens, M., & Clark, J. J. (2003). Consumer perspectives on quality of inpatient mental health services. *Archives of Psychiatric Nursing*, 17(5), 205-217. [https://doi.org/https://doi.org/10.1016/S0883-9417\(03\)00096-7](https://doi.org/https://doi.org/10.1016/S0883-9417(03)00096-7)

Hunot, V. M., Horne, R., Leese, M. N., & Churchill, R. C. (2007). A cohort study of adherence to antidepressants in primary care: The influence of antidepressant concerns and treatment preferences. *Primary Care Companion to the Journal of Clinical Psychiatry*, 9(2), 91-99. <https://doi.org/10.4088/pcc.v09n0202>

Islam, M. M., & Wollersheim, D. (2019). A comparison of opioids and benzodiazepines dispensing in Australia. *PLOS ONE*, 14(8), e0221438.

<https://doi.org/10.1371/journal.pone.0221438>

JASP Team. (2022). JASP. In (Version 0.16.1) <https://jasp-stats.org/>

- Jorm, A. F. (2012). Mental health literacy: Empowering the community to take action for better mental health. *American Psychologist*, 67(3), 231-243.
<https://doi.org/10.1037/a0025957>
- Jorm, A. F., Grayson, D., Creasey, H., Waite, L., & Broe, G. A. (2000). Long-term benzodiazepine use by elderly people living in the community. *Australian and New Zealand Journal of Public Health*, 24(1), 7-10. <https://doi.org/10.1111/j.1467-842x.2000.tb00715.x>
- Kadam, U. T., Croft, P., McLeod, J., & Hutchinson, M. (2001). A qualitative study of patients' views on anxiety and depression. *British Journal of General Practice*, 51(466), 375.
<https://pubmed.ncbi.nlm.nih.gov/11360702/>
- Kelly, E. L., Davis, L., Mendon, S., Kiger, H., Murch, L., Pancake, L., Giambone, L., & Brekke, J. S. (2019). Provider and consumer perspectives of community mental health services: Implications for consumer-driven care. *Psychological Services*, 16(4), 572-584. <https://doi.org/10.1037/ser0000244>
- Kendrick, T., Simons, L., Mynors-Wallis, L., Gray, A., Lathlean, J., Pickering, R., Harris, S., Rivero-Arias, O., Gerard, K., & Thompson, C. (2005). A trial of problem-solving by community mental health nurses for anxiety, depression and life difficulties among general practice patients. The CPN-GP study. *Health Technology Assessment*, 9(37), 1-104. <https://doi.org/10.3310/hta9370>
- Kessler, R. C. (2007). The global burden of anxiety and mood disorders: Putting the European Study of the Epidemiology of Mental Disorders (ESEMeD) findings into perspective. *The Journal of Clinical Psychiatry*, 68(Suppl 2), 10-19.
<https://pubmed.ncbi.nlm.nih.gov/17288502/>
- Klein, B., Richards, J. C., & Austin, D. W. (2006). Efficacy of internet therapy for panic disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, 37(3), 213-238.
<https://doi.org/10.1016/j.jbtep.2005.07.001>

- Kyrios, M., Mouding, R., & Nedeljkovic, M. (2011). Anxiety disorders: Assessment and management in general practice. *Australian Family Physician*, 40(6), 370.
<https://pubmed.ncbi.nlm.nih.gov/21655481/>
- Laakmann, G., Schüle, C., Lorkowski, G., Baghai, T., Kuhn, K., & Ehrentraut, S. (1998). Buspirone and lorazepam in the treatment of generalized anxiety disorder in outpatients. *Psychopharmacology*, 136(4), 357-366.
<https://doi.org/10.1007/s002130050578>
- Lader, M. (2011). Benzodiazepines revisited—will we ever learn? *Addiction*, 106(12), 2086-2109. <https://doi.org/https://doi.org/10.1111/j.1360-0443.2011.03563.x>
- Lader, M., & Scotto, J. C. (1998). A multicentre double-blind comparison of hydroxyzine, buspirone and placebo in patients with generalized anxiety disorder. *Psychopharmacology*, 139(4), 402-406. <https://doi.org/10.1007/s002130050731>
- Lagnaoui, R., Depont, F., Fourrier, A., Abdelillah, A., Bégau, B., Verdoux, H., & Moore, N. (2004). Patterns and correlates of benzodiazepine use in the French general population. *European Journal of Clinical Pharmacology*, 60(7), 523-529.
<https://doi.org/http://dx.doi.org/10.1007/s00228-004-0808-2>
- Lampe, L. (2013). Drug treatment for anxiety. *Australian Prescriber*, 36, 186-189.
<https://doi.org/10.18773/austprescr.2013.076>
- Lang, A. J. (2005). Mental health treatment preferences of primary care patients. *Journal of Behavioral Medicine*, 28(6), 581-586. <https://doi.org/10.1007/s10865-005-9019-2>
- LeBeau, R. T., Glenn, D., Liao, B., Wittchen, H. U., Beesdo-Baum, K., Ollendick, T., & Craske, M. G. (2010). Specific phobia: A review of DSM-IV specific phobia and preliminary recommendations for DSM-V. *Depression and Anxiety*, 27(2), 148-167.
<https://doi.org/10.1002/da.20655>
- Lenox-Smith, A. J., & Reynolds, A. (2003). A double-blind, randomised, placebo controlled study of venlafaxine XL in patients with generalised anxiety disorder in primary care. *British Journal of General Practice*, 53(495), 772-777.
<https://pubmed.ncbi.nlm.nih.gov/14601352/>

- Lester, H., Tait, L., England, E., & Tritter, J. Q. (2006). Patient involvement in primary care mental health: A focus group study. *British Journal of General Practice*, 56(527), 415-422. <https://pubmed.ncbi.nlm.nih.gov/16762122/>
- Lester, H., Tritter, J. Q., & Sorohan, H. (2005). Patients' and health professionals' views on primary care for people with serious mental illness: Focus group study. *BMJ*, 330(7500), 1122. <https://doi.org/10.1136/bmj.38440.418426.8F>
- Lin, B., & Kelly, E. (1995). Methodological issues in patient satisfaction surveys. *International Journal of Health Care Quality Assurance*, 8(6), 32-37. <https://doi.org/10.1108/09526869510098840>
- Llorca, P. M., Spadone, C., Sol, O., Danniau, A., Bougerol, T., Corruble, E., Faruch, M., Macher, J. P., Sermet, E., & Servant, D. (2002). Efficacy and safety of hydroxyzine in the treatment of generalized anxiety disorder: A 3-month double-blind study. *The Journal of Clinical Psychiatry*, 63(11), 1020-1027. <https://doi.org/10.4088/jcp.v63n1112>
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335-343. [https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- Lyon, A. S., & Mortimer-Jones, S. M. (2020). Terminology preferences in mental health. *Issues in Mental Health Nursing*, 41(6), 515-524. <https://doi.org/10.1080/01612840.2020.1719248>
- Mayo-Wilson, E., Dias, S., Mavranouzouli, I., & Kew, K. (2014). Psychological and pharmacological interventions for social anxiety disorder in adults: A systematic review and network meta-analysis. *The Lancet Psychiatry*, 1(5), 368-376. [https://doi.org/10.1016/S2215-0366\(14\)70329-3](https://doi.org/10.1016/S2215-0366(14)70329-3)
- Mazor, K. M., Clauser, B. E., Field, T., Yood, R. A., & Gurwitz, J. H. (2002). A demonstration of the impact of response bias on the results of patient satisfaction surveys. *Health*

- Services Research*, 37(5), 1403-1417. <https://doi.org/https://doi.org/10.1111/1475-6773.11194>
- McGorry, P. D., & Hickie, I. B. (2007). Increased access to evidence-based primary mental health care: Will the implementation match the rhetoric? *Medical Journal of Australia*, 187(2), 100-103. <https://doi.org/10.5694/j.1326-5377.2007.tb01150.x>
- McHugh, R. K., Whitton, S. W., Peckham, A. D., Welge, J. A., & Otto, M. W. (2013). Patient preference for psychological vs pharmacologic treatment of psychiatric disorders: A meta-analytic review. *The Journal of Clinical Psychiatry*, 74(6), 595-602. <https://doi.org/10.4088/JCP.12r07757>
- Mergl, R., Henkel, V., Allgaier, A. K., Kramer, D., Hautzinger, M., Kohnen, R., Coyne, J., & Hegerl, U. (2011). Are treatment preferences relevant in response to serotonergic antidepressants and cognitive-behavioral therapy in depressed primary care patients? Results from a randomized controlled trial including a patients' choice arm. *Psychotherapy and Psychosomatics*, 80(1), 39-47. <https://doi.org/10.1159/000318772>
- Meurk, C., Leung, J., Hall, W., Head, B. W., & Whiteford, H. (2016). Establishing and governing e-mental health care in Australia: A systematic review of challenges and a call for policy-focussed research. *Journal of Medical Internet Research*, 18(1), e10. <https://doi.org/10.2196/jmir.4827>
- Misev, A., & Phillips, C. B. (2019). Dangerous sadness: Nervoja among first and second generation Macedonian immigrants to Australia. *Ethnicity & Health*, 24(3), 301-311. <https://doi.org/10.1080/13557858.2017.1332757>
- Mohlman, J. (2012). A community based survey of older adults' preferences for treatment of anxiety. *Psychology and Aging*, 27, 1182-1190. <https://doi.org/10.1037/a0023126>
- Mörtberg, E., Clark, D. M., & Bejerot, S. (2011). Intensive group cognitive therapy and individual cognitive therapy for social phobia: Sustained improvement at 5-year follow-up. *Journal of Anxiety Disorders*, 25(8), 994-1000. <https://doi.org/10.1016/j.janxdis.2011.06.007>

- Muntingh, A. D. T., Van Der Feltz-Cornelis, C., Van Marwijk, H., Spinhoven, P., Assendelft, W., De Waal, M., Adèr, H., & Van Balkom, A. (2014). Effectiveness of collaborative stepped care for anxiety disorders in primary care: A pragmatic cluster randomised controlled trial. *Psychotherapy and Psychosomatics*, 83(1), 37-44.
<https://doi.org/10.1159/000353682>
- Muntingh, A. D. T., van der Feltz-Cornelis, C. M., van Marwijk, H. W. J., Spinhoven, P., & van Balkom, A. J. L. M. (2016). Collaborative care for anxiety disorders in primary care: A systematic review and meta-analysis. *BMC Family Practice*, 17(1), 62.
<https://doi.org/10.1186/s12875-016-0466-3>
- Musiat, P., Goldstone, P., & Tarrrier, N. (2014). Understanding the acceptability of e-mental health--Attitudes and expectations towards computerised self-help treatments for mental health problems. *BMC Psychiatry*, 14, 109. <https://doi.org/10.1186/1471-244x-14-109>
- Naismith, S. L., Hickie, I. B., Scott, E. M., & Davenport, T. A. (2001). Effects of mental health training and clinical audit on general practitioners' management of common mental disorders. *Medical Journal of Australia*, 175(S1), S42-S47.
<https://doi.org/https://doi.org/10.5694/j.1326-5377.2001.tb143789.x>
- National Health and Medical Research Council. (2016). *Statement on consumer and community involvement in health and medical research* (Consumers Health Forum of Australia, Issue. www.nhmrc.gov.au/about-us/publications/statement-consumer-and-community-involvement-health-and-medical-research
- National Institute for Health and Care Excellence. (2011a). *Common mental health problems: Identification and pathways to care*. Author. <https://www.nice.org.uk/guidance/cg123>
- National Institute for Health and Care Excellence. (2011b). *Generalised anxiety disorder and panic disorder in adults: Management*.
- National Institute for Health and Care Excellence. (2011c). *Service user experience in adult mental health: Improving the experience of care for people using adult NHS mental health services*. Author. <https://www.nice.org.uk/guidance/cg136>

- National Institute for Health and Care Excellence. (2013). *Social anxiety disorder: Recognition, assessment and treatment*.
- National Institute for Health and Care Excellence. (2014). *Anxiety disorders: Quality standard*.
- National Mental Health Commission. (2014). *Report of the National Review of Mental Health Programmes and Services: Summary*. NMHC.
- Newby, J. M., Mackenzie, A., Williams, A. D., McIntyre, K., Watts, S., Wong, N., & Andrews, G. (2013). Internet cognitive behavioural therapy for mixed anxiety and depression: A randomized controlled trial and evidence of effectiveness in primary care. *Psychological Medicine*, 43(12), 2635-2648.
<https://doi.org/10.1017/s0033291713000111>
- Nordgren, L. B., Hedman, E., Etienne, J., Bodin, J., Kadowaki, A., Eriksson, S., Lindkvist, E., Andersson, G., & Carlbring, P. (2014). Effectiveness and cost-effectiveness of individually tailored internet-delivered cognitive behavior therapy for anxiety disorders in a primary care population: A randomized controlled trial. *Behaviour Research and Therapy*, 59, 1-11. <https://doi.org/10.1016/j.brat.2014.05.007>
- Oermann, M. H., & Templin, T. (2000). Important attributes of quality health care: Consumer perspectives. *Journal of Nursing Scholarship*, 32(2), 167-172.
<https://doi.org/10.1111/j.1547-5069.2000.00167.x>
- Olatunji, B. O., Cisler, J. M., & Tolin, D. F. (2007). Quality of life in the anxiety disorders: A meta-analytic review. *Clinical Psychology Review*, 27(5), 572-581.
<https://doi.org/https://doi.org/10.1016/j.cpr.2007.01.015>
- Olfson, M., King, M., & Schoenbaum, M. (2015). Benzodiazepine use in the United States. *JAMA Psychiatry*, 72(2), 136-142. <https://doi.org/10.1001/jamapsychiatry.2014.1763>
- Olthuis, J. V., Watt, M. C., Bailey, K., Hayden, J. A., & Stewart, S. H. (2016). Therapist-supported internet cognitive behavioural therapy for anxiety disorders in adults. *Cochrane Database of Systematic Reviews* (3).
<https://doi.org/10.1002/14651858.CD011565.pub2>

- Oosterbaan, D. B., Verbraak, M. J. P. M., Terluin, B., Hoogendoorn, A. W., Peyrot, W. J., Muntingh, A., & Van Balkom, A. J. L. M. (2013). Collaborative stepped care v. care as usual for common mental disorders: 8-month, cluster randomised controlled trial [Article]. *British Journal of Psychiatry*, *203*(2), 132-139.
<https://doi.org/10.1192/bjp.bp.112.125211>
- Oster, C., Morello, A., Venning, A., Redpath, P., & Lawn, S. (2017). The health and wellbeing needs of veterans: A rapid review. *BMC Psychiatry*, *17*(1), 414.
<https://doi.org/10.1186/s12888-017-1547-0>
- Parker, E. L., Banfield, M., Fassnacht, D. B., Hatfield, T., & Kyrios, M. (2021). Contemporary treatment of anxiety in primary care: A systematic review and meta-analysis of outcomes in countries with universal healthcare. *BMC Family Practice*, *22*(1), 92.
<https://doi.org/10.1186/s12875-021-01445-5>
- Parker, E. L., Banfield, M., Fassnacht, D. B., Phillips, C. B., & Harrison, C. (under review). Anxiety management in Australian general practice: An analysis of encounters from 2006 – 2016 [Manuscript submitted for publication].
- Patel, V., & Saxena, S. (2019). Achieving universal health coverage for mental disorders. *BMJ*, *366*, l4516. <https://doi.org/10.1136/bmj.l4516>
- Paulus, D. J., Lauren Page, W., & Hayes-Skelton, S. A. (2015). Mental health literacy for anxiety disorders: How perceptions of symptom severity might relate to recognition of psychological distress. *Journal of Public Mental Health*, *14*(2), 94-106.
<https://doi.org/http://dx.doi.org/10.1108/JPMH-09-2013-0064>
- Pearce, C., & McLeod, A. (2020). *Medication changes during the pandemic. Insights paper No.4 COVID-19 and Australian General Practice medication prescribing changes during the pandemic.* <https://doi.org/10.13140/RG.2.2.26980.81282>
- Poulton, R., & Menzies, R. G. (2002). Non-associative fear acquisition: A review of the evidence from retrospective and longitudinal research. *Behaviour Research and Therapy*, *40*(2), 127-149. [https://doi.org/10.1016/S0005-7967\(01\)00045-6](https://doi.org/10.1016/S0005-7967(01)00045-6)

- Power, K. G., Sharp, D. M., Swanson, V., & Simpson, R. (2000). Therapist contact in cognitive behaviour therapy for panic disorder and agoraphobia in primary care. *Clinical Psychology & Psychotherapy*, 7(1), 37-46. [https://doi.org/10.1002/\(SICI\)1099-0879\(200002\)7:1<37::AID-CPP224>3.0.CO;2-J](https://doi.org/10.1002/(SICI)1099-0879(200002)7:1<37::AID-CPP224>3.0.CO;2-J)
- Rapaport, M. H., Clary, C., Fayyad, R., & Endicott, J. (2005). Quality-of-life impairment in depressive and anxiety disorders. *American Journal of Psychiatry*, 162(6), 1171-1178. <https://doi.org/10.1176/appi.ajp.162.6.1171>
- Rapee, R. M. (2012). Anxiety disorders in children and adolescents: Nature, development, treatment and prevention. In J. M. Rey (Ed.), *IACAPAP e-Textbook of Child and Adolescent Mental Health*. International Association for Child and Adolescent Psychiatry and Allied Professions.
- Ravindran, L. N., & Stein, M. B. (2010). The pharmacologic treatment of anxiety disorders: A review of progress. *The Journal of Clinical Psychiatry*, 71(7), 839-854. <https://doi.org/10.4088/JCP.10r06218blu>
- Regier, D. A., Kuhl, E. A., & Kupfer, D. J. (2013). The DSM-5: Classification and criteria changes. *World Psychiatry*, 12(2), 92-98. <https://doi.org/https://doi.org/10.1002/wps.20050>
- Richards, D. A. (2012). Stepped care: A method to deliver increased access to psychological therapies. *The Canadian Journal of Psychiatry*, 57(4), 210-215. <https://doi.org/10.1177/070674371205700403>
- Richards, J. C., Ryan, P., McCabe, M. P., Groom, G., & Hickie, I. B. (2004). Barriers to the effective management of depression in general practice. *Australian and New Zealand Journal of Psychiatry*, 38(10), 795-803. <https://doi.org/10.1080/j.1440-1614.2004.01464.x>
- Roberge, P., Normand-Lauzière, F., Raymond, I., Luc, M., Tanguay-Bernard, M.-M., Duhoux, A., Bocti, C., & Fournier, L. (2015). Generalized anxiety disorder in primary care: Mental health services use and treatment adequacy. *BMC Family Practice*, 16(146). <https://doi.org/10.1186/s12875-015-0358-y>

- Roemer, L., & Orsillo, S. M. (2014). An acceptance-based behavioral therapy for generalized anxiety disorder. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed., pp. 206-236). Guilford Press.
- Rosenbaum, J. F., Biederman, J., Bolduc-Murphy, E. A., Faraone, S. V., Chaloff, J., Hirshfeld, D. R., & Kagan, J. (1993). Behavioral inhibition in childhood: A risk factor for anxiety disorders. *Harvard Review of Psychiatry*, 1(1), 2-16.
<https://doi.org/10.3109/10673229309017052>
- Roy-Byrne, P., Craske, M. G., Sullivan, G., Rose, R. D., Edlund, M. J., Lang, A. J., Bystritsky, A., Shaw Welch, S., Chavira, D. A., Golinelli, D., Campbell-Sills, L., Sherbourne, C. D., & Stein, M. B. (2010). Delivery of evidence-based treatment for multiple anxiety disorders in primary care: A randomized controlled trial. *Journal of the American Medical Association*, 303(19), 1921-1928. <https://doi.org/10.1001/jama.2010.608>
- Roy-Byrne, P. P., Davidson, K. W., Kessler, R. C., Asmundson, G. J., Goodwin, R. D., Kubzansky, L., Lydiard, R. B., Massie, M. J., Katon, W., & Laden, S. K. (2008). Anxiety disorders and comorbid medical illness. *General Hospital Psychiatry*, 30(3), 208-225. <https://doi.org/10.1016/j.genhosppsych.2007.12.006>
- Rugkåsa, J., Tveit, O. G., Berteig, J., Hussain, A., & Ruud, T. (2020). Collaborative care for mental health: A qualitative study of the experiences of patients and health professionals. *BMC Health Services Research*, 20(1), 844.
<https://doi.org/10.1186/s12913-020-05691-8>
- Sanglier, T., Saragoussi, D., Milea, D., Auray, J.-P., Valuck, R. J., & Tournier, M. (2011). Comparing antidepressant treatment patterns in older and younger adults: A claims database analysis. *Journal of the American Geriatrics Society*, 59(7), 1197-1205.
<https://doi.org/https://doi.org/10.1111/j.1532-5415.2011.03457.x>
- SAS Institute Inc. (2013). *SAS/ACCESS® 9.4 Interface to ADABAS: Reference*. In SAS Institute Inc.
- Saunders, R., Buckman, J. E. J., Stott, J., Leibowitz, J., Aguirre, E., John, A., Lewis, G., Cape, J., & Pilling, S. (2021). Older adults respond better to psychological therapy

- than working-age adults: Evidence from a large sample of mental health service attendees. *Journal of Affective Disorders*, 294, 85-93.
<https://doi.org/https://doi.org/10.1016/j.jad.2021.06.084>
- Schatzberg, A. F., & Nemeroff, C. B. (2017). *The American Psychiatric Association publishing textbook of psychopharmacology* (5 ed.). American Psychiatric Association. <https://doi.org/10.1176/appi.books.9781615371624>
- Seekles, W., Cuijpers, P., Kok, R., Beekman, A., van Marwijk, H., & van Straten, A. (2013). Psychological treatment of anxiety in primary care: A meta-analysis. *Psychological Medicine*, 43(2), 351-361. <https://doi.org/10.1017/S0033291712000670>
- Seekles, W., van Straten, A., Beekman, A., van Marwijk, H., & Cuijpers, P. (2011a). Effectiveness of guided self-help for depression and anxiety disorders in primary care: A pragmatic randomized controlled trial. *Psychiatry Research*, 187(1-2), 113-120. <https://doi.org/10.1016/j.psychres.2010.11.015>
- Seekles, W., van Straten, A., Beekman, A., van Marwijk, H., & Cuijpers, P. (2011b). Stepped care treatment for depression and anxiety in primary care: A randomized controlled trial. *Trials*, 12, 171. <https://doi.org/10.1186/1745-6215-12-171>
- Sharp, D. M., Power, K. G., & Swanson, V. (2004). A comparison of the efficacy and acceptability of group versus individual cognitive behaviour therapy in the treatment of panic disorder and agoraphobia in primary care. *Clinical Psychology & Psychotherapy*, 11(2), 73-82. <https://doi.org/10.1002/cpp.393>
- Sim, M. G., Khong, E., & Wain, T. D. (2007). The prescribing dilemma of benzodiazepines. *Australian Family Physician*, 36(11), 923-926.
<https://pubmed.ncbi.nlm.nih.gov/18043779/>
- Sinclair, C., Holloway, K., Riley, G., & Auret, K. (2013). Online mental health resources in rural Australia: Clinician perceptions of acceptability [Original Paper]. *Journal of Medical Internet Research*, 15(9), e193. <https://doi.org/10.2196/jmir.2772>
- Sinnema, H., Majo, M. C., Volker, D., Hoogendoorn, A., Terluin, B., Wensing, M., & van Balkom, A. (2015). Effectiveness of a tailored implementation programme to improve

- recognition, diagnosis and treatment of anxiety and depression in general practice: a cluster randomised controlled trial. *Implementation Science*, 10(1), 33.
<https://doi.org/10.1186/s13012-015-0210-8>
- Slade, M. (2017). Implementing shared decision making in routine mental health care. *World Psychiatry*, 16(2), 146-153. <https://doi.org/10.1002/wps.20412>
- Slade, T., Johnston, A., Oakley Browne, M. A., Andrews, G., & Whiteford, H. (2009). 2007 National Survey of Mental Health and Wellbeing: Methods and key findings. *Australian and New Zealand Journal of Psychiatry*, 43(7), 594-605.
<https://doi.org/10.1080/00048670902970882>
- Sonnenberg, C. M., Bierman, E. J., Deeg, D. J., Comijs, H. C., van Tilburg, W., & Beekman, A. T. F. (2012). Ten-year trends in benzodiazepine use in the Dutch population. *Social Psychiatry and Psychiatric Epidemiology*, 47(2), 293-301.
<https://doi.org/10.1007/s00127-011-0344-1>
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092-1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Stein, M. B., Roy-Byrne, P. P., Craske, M. G., Bystritsky, A., Sullivan, G., Pyne, J. M., Katon, W., & Sherbourne, C. D. (2005). Functional impact and health utility of anxiety disorders in primary care outpatients. *Medical Care*, 1164-1170.
<https://doi.org/10.1097/01.mlr.0000185750.18119.fd>
- Stein, M. B., & Sareen, J. (2015). Generalized anxiety disorder. *New England Journal of Medicine*, 373(21), 2059-2068. <https://doi.org/10.1056/NEJMcp1502514>
- Stemler, S. (2015). Content analysis. In R. Scott & S. Kosslyn (Eds.), *Emerging Trends in the Social and Behavioral Sciences* (pp. 1-14). Wiley.
<https://doi.org/10.1002/9781118900772.etrds0053>
- Stephenson, C. P., Karanges, E., & McGregor, I. S. (2013). Trends in the utilisation of psychotropic medications in Australia from 2000 to 2011. *Australian and New*

Zealand Journal of Psychiatry, 47(1), 74-87.

<https://doi.org/10.1177/0004867412466595>

Sterne, J. A., & Egger, M. (2005). Regression methods to detect publication and other bias in meta-analysis. In H. R. Rothstein, A. J. Sutton, & B. M (Eds.), *Publication bias in meta-analysis: Prevention, assessment and adjustments* (pp. 99-110).

<https://doi.org/10.1002/0470870168.ch6>

Stinson, F. S., Dawson, D. A., Patricia Chou, S., Smith, S., Goldstein, R. B., June Ruan, W., & Grant, B. F. (2007). The epidemiology of DSM-IV specific phobia in the USA: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychological Medicine*, 37(7), 1047-1059.

<https://doi.org/10.1017/S0033291707000086>

Sundquist, J., Lilja, A., Palmer, K., Memon, A. A., Wang, X., Johansson, L. M., & Sundquist, K. (2015). Mindfulness group therapy in primary care patients with depression, anxiety and stress and adjustment disorders: Randomised controlled trial. *British Journal of Psychiatry*, 206(2), 128-135. <https://doi.org/10.1192/bjp.bp.114.150243>

Tanguay Bernard, M.-M., Luc, M., Carrier, J.-D., Fournier, L., Duhoux, A., Côté, E., Lessard, O., Gibeault, C., Bocti, C., & Roberge, P. (2018). Patterns of benzodiazepines use in primary care adults with anxiety disorders. *Heliyon*, 4(7), e00688.

<https://doi.org/https://doi.org/10.1016/j.heliyon.2018.e00688>

The Royal Australian College of General Practitioners. (2015). *Prescribing drugs of dependence in general practice, Part B - Benzodiazepines*. RACGP.

Thompson, A., Issakidis, C., & Hunt, C. (2008). Delay to seek treatment for anxiety and mood disorders in an Australian clinical sample. *Behaviour Change*, 25(2), 71-84.

<https://doi.org/10.1375/bech.25.2.71>

Top 10 drugs 2020–21. (2021). *Australian Prescriber*, 44(6), 205.

<https://doi.org/10.18773/austprescr.2021.062>

- Treanor, C. J., Kouvonen, A., Lallukka, T., & Donnelly, M. (2021). Acceptability of computerized cognitive behavioral therapy for adults: Umbrella review. *JMIR Mental Health*, 8(7), e23091-e23091. <https://doi.org/10.2196/23091>
- Twomey, C., O'Reilly, G., & Byrne, M. (2015). Effectiveness of cognitive behavioural therapy for anxiety and depression in primary care: A meta-analysis. *Family Practice*, 32(1), 3-15. <https://doi.org/10.1093/fampra/cmu060>
- van Boeijen, C. A., van Oppen, P., van Balkom, A. J. L. M., Visser, S., Kempe, P. T., Blankenstein, N., & van Dyck, R. (2005). Treatment of anxiety disorders in primary care practice: A randomised controlled trial. *British Journal of General Practice*, 55(519), 763-769. <https://pubmed.ncbi.nlm.nih.gov/16212851/>
- van Dis, E. A. M., van Veen, S. C., Hagenaars, M. A., Batelaan, N. M., Bockting, C. L. H., van den Heuvel, R. M., Cuijpers, P., & Engelhard, I. M. (2020). Long-term outcomes of cognitive behavioral therapy for anxiety-related disorders: A systematic review and meta-analysis. *JAMA Psychiatry*, 77(3), 265-273. <https://doi.org/10.1001/jamapsychiatry.2019.3986>
- van Schaik, D. J. F., Klijn, A. F. J., van Hout, H. P. J., van Marwijk, H. W. J., Beekman, A. T. F., de Haan, M., & van Dyck, R. (2004). Patients' preferences in the treatment of depressive disorder in primary care. *General Hospital Psychiatry*, 26(3), 184-189. <https://doi.org/10.1016/j.genhosppsy.2003.12.001>
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, 36(3), 1-48. <https://doi.org/10.18637/jss.v036.i03>
- Viechtbauer, W., & Cheung, M. W.-L. (2010). Outlier and influence diagnostics for meta-analysis. *Research Synthesis Methods*, 1(2), 112-125. <https://doi.org/10.1002/jrsm.11>
- Vistorte, A. O. R., Ribeiro, W. S., Jaen, D., Jorge, M. R., Evans-Lacko, S., & Mari, J. d. J. (2018). Stigmatizing attitudes of primary care professionals towards people with mental disorders: A systematic review. *The International Journal of Psychiatry in Medicine*, 53(4), 317-338. <https://doi.org/10.1177/0091217418778620>

- Wakida, E. K., Talib, Z. M., Akena, D., Okello, E. S., Kinengyere, A., Mindra, A., & Obua, C. (2018). Barriers and facilitators to the integration of mental health services into primary health care: A systematic review. *Systematic Reviews*, 7(1), 211. <https://doi.org/10.1186/s13643-018-0882-7>
- Wang, P. S., Aguilar-Gaxiola, S., Alonso, J., Angermeyer, M. C., Borges, G., Bromet, E. J., Bruffaerts, R., de Girolamo, G., de Graaf, R., Gureje, O., Haro, J. M., Karam, E. G., Kessler, R. C., Kovess, V., Lane, M. C., Lee, S., Levinson, D., Ono, Y., Petukhova, M., Posada-Villa, J., Seedat, S., & Wells, J. E. (2007). Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet*, 370(9590), 841-850. [https://doi.org/10.1016/S0140-6736\(07\)61414-7](https://doi.org/10.1016/S0140-6736(07)61414-7)
- Wang, S.-M., Han, C., Bahk, W.-M., Lee, S.-J., Patkar, A. A., Masand, P. S., & Pae, C.-U. (2018). Addressing the side effects of contemporary antidepressant drugs: A comprehensive review. *Chonnam Medical Journal*, 54(2), 101-112. <https://doi.org/10.4068/cmj.2018.54.2.101>
- Warren, S. L., Huston, L., Egeland, B., & Sroufe, L. A. (1997). Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(5), 637-644. <https://doi.org/https://doi.org/10.1097/00004583-199705000-00014>
- Wells, A. (2005). The metacognitive model of GAD: Assessment of meta-worry and relationship with DSM-IV generalized anxiety disorder. *Cognitive Therapy and Research*, 29, 107-121. <https://doi.org/10.1007/s10608-005-1652-0>
- Wells, A. (2013). *Cognitive therapy of anxiety disorders: A practice manual and conceptual guide*. John Wiley & Sons.
- Westra, H. A., Stewart, S. H., & Conrad, B. E. (2002). Naturalistic manner of benzodiazepine use and cognitive behavioral therapy outcome in panic disorder with agoraphobia. *Journal of Anxiety Disorders*, 16(3), 233-246. [https://doi.org/10.1016/S0887-6185\(02\)00091-9](https://doi.org/10.1016/S0887-6185(02)00091-9)

- Whitton, A. E., Hardy, R., Cope, K., Gieng, C., Gow, L., MacKinnon, A., Gale, N., O'Moore, K., Anderson, J., Proudfoot, J., Cockayne, N., O'Dea, B., Christensen, H., & Newby, J. M. (2021). Mental health screening in general practices as a means for enhancing uptake of digital mental health interventions: Observational cohort study [Original Paper]. *Journal of Medical Internet Research*, 23(9), e28369.
<https://doi.org/10.2196/28369>
- Williams, L., Jacka, F., Pasco, J., Henry, M., Dodd, S., Nicholson, G., Kotowicz, M., & Berk, M. (2010). The prevalence of mood and anxiety disorders in Australian women. *Australasian Psychiatry*, 18(3), 250-255. <https://doi.org/10.3109/10398561003731155>
- Windle, A., Elliot, E., Duszynski, K., & Moore, V. (2007). Benzodiazepine prescribing in elderly Australian general practice patients. *Australian and New Zealand Journal of Public Health*, 31(4), 379-381. <https://doi.org/10.1111/j.1753-6405.2007.00091.x>
- Wittchen, H.-U., Kessler, R. C., Beesdo, K., Krause, P., Höfler, M., & Hoyer, J. (2002). Generalized anxiety and depression in primary care: Prevalence, recognition, and management. *The Journal of Clinical Psychiatry*, 63(Suppl 8), 24-34.
<https://pubmed.ncbi.nlm.nih.gov/12044105/>
- Wittchen, H. U. (2002). Generalized anxiety disorder: Prevalence, burden, and cost to society. *Depression and Anxiety*, 16(4), 162-171. <https://doi.org/10.1002/da.10065>
- Woods, A., Begum, M., Gonzalez-Chica, D., Bernardo, C., Hoon, E., & Stocks, N. (2022). Long-term benzodiazepines and z-drug prescribing in Australian general practice between 2011 and 2018: A national study. *Pharmacology Research & Perspectives*, 10(1), e00896. <https://doi.org/https://doi.org/10.1002/prp2.896>
- World Health Organization. (1978). Declaration of Alma-Ata. *International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978*.
https://www.who.int/publications/almaata_declaration_en.pdf
- World Health Organization. (2018a). *International Classification of Diseases, 11th Edition (ICD-11)* <https://icd.who.int/browse11/l-m/en>

- World Health Organization. (2018b). *Mental health in primary care: Illusion or inclusion?* (Technical Series on Primary Health Care, Issue. <https://www.who.int/publications/i/item/WHO-HIS-SDS-2018.38>
- World Health Organization. (2019). *The WHO special initiative for mental health (2019-2023): Universal health coverage for mental health.* <https://apps.who.int/iris/handle/10665/310981>
- World Health Organization, & Wonca. (2008). What is primary care mental health? *Mental Health in Family Medicine*, 5(1), 9-13. <https://pubmed.ncbi.nlm.nih.gov/22477841/>
- World Health Organization Collaborating Centre for Drug Statistics Methodology. (2015). *ATC/DDD Index 2016* https://www.whocc.no/atc_ddd_index/
- Yerkes, R., & Dodson, J. (1908). The relation of strength of stimulus to rapidity of habit formation. *Journal of Comparative Neurological Psychology*, 18(3), 459-482. <https://doi.org/10.1002/cne.920180503>
- Youssef, J., & Deane, F. P. (2006). Factors influencing mental-health help-seeking in Arabic-speaking communities in Sydney, Australia. *Mental Health, Religion & Culture*, 9(1), 43-66. <https://doi.org/10.1080/13674670512331335686>
- Zhang, Z. (2016). Missing data imputation: Focusing on single imputation. *Annals of Translational Medicine*, 4(1), 9. <https://doi.org/10.3978/j.issn.2305-5839.2015.12.38>

APPENDICES

APPENDIX A
HUMAN RESEARCH ETHICS PROTOCOL: GP MANAGEMENT OF
ANXIETY

HUMAN RESEARCH ETHICS COMMITTEE
Application Form

Created by: **u4844181**
Record number: **12015**
Protocol type: **Expedited Ethical Review (E2)**
Protocol number: **2020/503**

Date entered: **10/08/2020**
Ethics program type: **Postgraduate**
Requested start date: **01/09/2020**
Requested end date: **14/02/2021**

Protocol title: **General Practitioner Management of Anxiety**

Investigators

Name	Role	Department
Banfield, Michelle	Co-investigator	Centre for Mental Health Research, CHM Research School of Population Health, ANU
Fassnacht, Daniel	Supervisor	Research School of Psychology, CHM Research School of Psychology, ANU
Parker, Erin	Primary investigator	Research School of Psychology, CHM Research School of Psychology, ANU

Investigators Detailed

Name: Banfield, Michelle **Role:** Co-investigator

Expertise: Dr Michelle Banfield is a Senior Research Fellow at the Centre for Mental Health Research and Head of ACACIA: The ACT Consumer & Carer Mental Health Research Unit. Michelle's research expertise includes effective services and policy for mental illness and the active involvement of mental health consumers and carers in research relevant to their needs. She has considerable experience in conducting mixed methods evaluations of community, health service and school-based programs, resulting in a number of publications and influence on program delivery and policy.

Name: Fassnacht, Daniel **Role:** Supervisor

Expertise: Dr Daniel Fassnacht is a researcher and lecturer in psychology in the College of Education, Psychology and Social Work at Flinders University. His research expertise includes

HUMAN RESEARCH ETHICS COMMITTEE Application Form

understanding factors influencing low levels of wellbeing and mental illness, and identifying psychological interventions that are efficacious. He is also interested in developing and evaluating technology-enhanced interventions (Internet, Apps, Podcast, SMS) to improve wellbeing and prevent and treat mental illness.

Name: Parker, Erin

Role: Primary investigator

Expertise: BScPsych(Hons). Ms Erin Parker is a psychologist and PhD (Clinical Psychology) candidate at the Research School of Psychology. Her PhD research focuses on the management of anxiety disorders in Australian primary care. In her role as a clinician, Erin has experience liaising with general practitioners to discuss treatment for clients, and also has experience facilitating small group workshops (e.g., for mental health care consumers and their carers).

External Investigators

Name	Role	Institution
Kyrios, Michael	Supervisor	Flinders University

External Investigators Detailed

Name: Kyrios, Michael

Role: Supervisor

Expertise: Professor Michael Kyrios is the Vice President and Executive Dean of the College of Education, Psychology and Social Work at Flinders University. His research focuses on a number of areas, including anxiety disorders and the development, evaluation and dissemination of evidence-based psychological treatments, including e-therapies. Professor Kyrios has published extensively, sits on a range of national and international editorial and review committees and is a prolific presenter to conferences in Australia and internationally in his areas of expertise.

Departments

Primary	Department	Faculty
No	Centre for Mental Health Research	CHM Research School of Population Health
Yes	Research School of Psychology	CHM Research School of Psychology

HUMAN RESEARCH ETHICS COMMITTEE

Application Form

Project Questions Detailed

Description of Project

Describe the research project in terms easily understood by a lay reader, using simple and non-technical language. Anxiety disorders are the most common mental health condition in Australia, and are managed predominantly by general practitioners (GPs). The role of GPs in managing anxiety disorders is multi-faceted, and may include referring the patient to a mental health professional, prescribing medication, or the GP providing low-intensity psychological intervention themselves.

Best practice for the treatment of anxiety disorders involves a stepped-care approach. Psychological treatments are considered first-line, with low intensity interventions (e.g., guided or unguided self-help) offered for mild anxiety, and more intensive psychological interventions (e.g., weekly individual therapy) and/or medication offered for more severe anxiety. However, regardless of anxiety severity, the most common type of treatment a person will receive from their GP is medication.

While GPs are not expected to provide conventional psychological therapies (e.g., hour long individual therapy sessions), psychological interventions have been designed for the general practice setting. This includes brief or "focussed" psychological strategies, and forms of guided or unguided self-help programs that GPs may prescribe to patients. However, many GPs do not receive training in brief psychological interventions and available online programs may not be widely known.

At present, there is limited research exploring how Australian GPs make decisions about treatment for anxiety disorders. There is also limited information available about GPs knowledge and attitudes about anxiety and its treatment. Using a series of focus groups, this study will explore GPs' knowledge, attitudes, and treatment practices related to anxiety disorders.

Location of Data Collection

Australia Yes

Overseas No

Provide country / area where data collection will be conducted Data will be collected online, participants may be from all states and territories in Australia.

Aims of the Project

List the hypothesis and objectives of your research project. This objective of this project is to gain an in-depth understanding of the way in which GPs manage anxiety disorders, and the factors that affect treatment decision making.

Methodology

In language appropriate for a lay reader, explain why the methodological approach

HUMAN RESEARCH ETHICS COMMITTEE

Application Form

minimises the risk to participants. (For surveys, include justification of the sample size).

This is a qualitative study that will involve three focus groups with Australian GPs. Qualitative methods have been chosen as little research has been conducted in this area, and such methods are useful for developing key insights. Further, qualitative methods generate more in-depth content relevant to the how and why, which is important for practical application in real world settings. Focus groups were selected instead of individual interviews due to the benefits that may arise from discussion among professionals (e.g., observation of similarities and differences, enrichment of responses, and brainstorming of ideas to improve the way anxiety is managed in Australia).

Each group will have 5-8 participants, will last 60-90 minutes depending on number of participants, and will be conducted online via Zoom. Online focus groups will allow participants from anywhere in Australia to take part in the study, and will also mitigate COVID-19 risks associated with traditional face-to-face groups. A meeting password will be required to enter the meeting to ensure only registered participants can join.

Focus groups will be audio-recorded for later transcription (by the primary investigator) using Zooms cloud based recording. Recordings will be downloaded (and deleted from) Zoom and kept on password protected computers at the ANU that are accessible only to the research team. Identifying information will be removed from transcriptions as much as possible.

As participants will be identifiable to each other, each group will begin with a discussion about confidentiality. Participants will be asked not to identify other participants by name outside of the group. Participants will also be asked not to make statements about confidential information (e.g., the name of a patient), anything that may defame another person, or anything that may present a risk to self or others (e.g., risk to reputation). Participants will also be able to ask questions anonymously to the facilitator through Zoom in the case they are concerned about speaking directly to the group

Participants will be sent an online information sheet and consent form to complete prior to the focus group. Participants will be told they can withdraw from the focus group at any point. However, they will be informed that it will not be possible to remove their contributions to the discussion up to their point of withdrawal. This information will be repeated at the beginning of each group and verbal consent will also be obtained from participants.

Provide the survey method, a list of the questions to be asked or an indicative sample of questions. These should give a good sense of the most intrusive/sensitive areas of questioning. Focus groups will be facilitated by the primary investigator, who will ask about the following topic areas:

Attitudes toward anxiety disorders and patients with these conditions (e.g., "what is the first thing that comes to mind when you think of anxiety disorders?")

Patient expectations (e.g., "what do you think your patients want from you in relation to their anxiety?")

Recognition/diagnosis (e.g., how do you identify and diagnose anxiety in patients?)

Knowledge about best practice treatment (e.g., "what is your understanding of anxiety disorder treatment?")

HUMAN RESEARCH ETHICS COMMITTEE

Application Form

Treatment decision making (e.g., "tell me about the way you make treatment decisions for people with anxiety")

Barriers (e.g., "are there any barriers you face to the effective management of anxiety disorders?")

Perceptions of the way anxiety is managed in primary care (e.g., "What works well about managing anxiety in primary care? What doesn't work well?")

Summary questions will also be asked to conclude each group (e.g., "of all the things discussed, which is the most important to you?")

Participants will be asked to complete a brief online survey at the end of the focus group, which will collect demographic information (e.g., years of experience, gender) as well as details about the location of their practice (rural/remote or urban area, and State or Territory). This information will be kept separate from focus group data and only used to describe the sample (i.e., will not be associated with specific responses).

What mechanisms do the researchers intend to implement to monitor the conduct and progress of the research project? For example:

How often will the researcher be in touch with the supervisor?

Is data collection going as expected? If not, what will the researcher do?

Is the recruitment process effective?

How will the researcher monitor participants' willingness to continue participation in the research project, particularly when the research is ongoing? The primary investigator will meet with Dr Banfield individually every fortnight. Dr Fassnacht will attend every second of these meetings (i.e., once every 4 weeks). Additional contact via email will also occur as needed. Contact with Professor Kyrios occurs via email as needed.

In the case of limited responses to the recruitment plan described below, the primary investigator will follow up with practice managers via phone or in person (depending on location). Should this continue to result in too few participants, running fewer focus groups or collecting data via individual interview will be considered. Further, if responses to the first two focus groups return similar results, a third group may be considered unnecessary. Appropriate variations to the protocol will be submitted in these instances.

Participation is not ongoing GPs will only be asked to take part in one focus group. Participants will be told they may withdraw from the focus group at any point, though will be informed that their contributions up until that point cannot be removed.

Participants

Provide details in relation to the potential participant pool, including:

target participant group;

identification of potential participants;

initial contact method, and

recruitment method. Participants will be currently practising Australian GPs of any age with any amount of experience treating anxiety. We will attempt to recruit GPs from all states of Australia and from both rural/remote and urban areas. Participants will be recruited via direct advertising (email and/or flyers) to GP clinics, and advertising through the Royal Australian

HUMAN RESEARCH ETHICS COMMITTEE
Application Form

College of General Practitioners. A draft email is attached to this application.

Proposed number of participants 24

Provide details as to why these participants have been chosen? GPs have been chosen for this study as they provide the majority of services for anxiety in Australia.

Cultural and Social Considerations/Sensitivities

What cultural and/or social considerations/sensitivities are relevant to the participants in this research project? We do not anticipate any major cultural or social considerations affecting the design of this research.

Incentives

Will participants be paid or any incentives offered? If so, provide justification and details. No incentives will be offered.

Benefits

What are the anticipated benefits of the research? This study is part of a larger body of work investigating the management of anxiety in Australian primary care, which aims to contribute to system reform. GPs are a key stakeholder as they provide the majority of mental health services, yet little research has been conducted about the way GPs manage anxiety disorders. This study will provide insight into the way GPs make treatment decisions and identify any barriers they face. We anticipate that the knowledge gained from this research will help improve anxiety treatment, and identify key areas for further research.

To whom will the benefits flow? We anticipate that benefits of this research will flow to service providers (i.e., GPs), mental health care consumers, and policy makers.

Informed Consent

Indicate how informed consent will be obtained from participants. At least one of the following boxes MUST be ticked 'Yes'.

In writing Yes

Return of survey or questionnaire No

Orally Yes

Other No

If Oral Consent or Other, provide details. Oral consent will be gathered in discussion at the beginning of focus groups, as well as formal written consent.

Confidentiality

Describe the procedures that will be adopted to ensure confidentiality during the collection phase and in the publication of results. The names and other personal details of

HUMAN RESEARCH ETHICS COMMITTEE

Application Form

participants who agree to participate in the project will be kept in separate files from focus group data. Participants will be asked not to identify other participants by name outside of the group. Participants will also be asked not to make statements about confidential information (e.g., the name of a patient), anything that may defame another person, or anything that may present a risk to self or others (e.g., risk to reputation). Participants will also be reminded to use a private location and headphones.

Audio recordings will be downloaded (and deleted from) Zoom onto password protected computers at the ANU, accessible only to the research team. After transcription, recordings will be kept as primary data for a period of five years from publication. Recordings will not be used for any other purpose. Identifying information (e.g., names of people, workplaces, and specific locations) will be removed as much as possible during the transcription process.

Results will be presented in aggregate form (i.e., key themes); though individual quotes may be used. Participants will be informed that this information will not be directly linked with identifying features, but that it may still be possible for others to identify them from their comments.

Data Storage Procedures

Provide an overview of the data storage procedures for the research. Include security measures and duration of storage. Data will be stored on password-protected ANU computers, in folders accessible only to the research team. Data will be stored for a period of at least five years from the date of any publication arising from the research. Following completion of Ms Parker's PhD, the data will continue to be stored at the ANU by Dr Banfield or the Head of the Research School of Psychology. Following the required storage period, data will be destroyed to protect confidentiality.

Feedback

Provide details of how the results of the research will be reported / disseminated, including the appropriate provision of results to participants. If appropriate, provide details of any planned debriefing of participants. Results will be prepared for peer-reviewed publication, presentations at mental health conferences, and will also be included as part of the Primary Investigators PhD thesis. A plain language summary will also be made available to participants in a dropbox folder that can be accessed anonymously.

Supporting Documentation

Have you uploaded all relevant supporting documentation, such as Participant Information Sheet and/or consent form, to the documents tab?

Yes

Has this work been approved by another Human Research Ethics Committee (HREC)? No

If yes, please give the name of the approving HREC. You will also need to include a copy of the approval letter in your application and also upload an electronic copy to the Documents tab.

Funding

Is this research supported by external funding? No

**HUMAN RESEARCH ETHICS COMMITTEE
Application Form**

Provide the name/s of the external sources of funding. Please include grant number/s if available.

Is the research conducted under the terms of a contract of consultancy agreement between the ANU and the funding source? No

Describe all the contractual rights of the funding source that relate to the ethical consideration of the research.

**HUMAN RESEARCH ETHICS COMMITTEE
Application Form**

High Risk One Summary

Question	Answer
Is this a clinical trial?	No
Does this research involve the intentional recruitment or issues involving Aboriginal and / or Torres Strait Islander Peoples?	No

High Risk Two Summary

Question	Answer
Does this research involve Human Genetics?	No
Does this research involve Human Stem Cells?	No
Does this research involve Women who are pregnant and the Human Foetus?	No
Does the research involve people highly dependent on medical care who may be unable to give consent?	No
Does the research involve people with a cognitive impairment, an intellectual disability or a mental illness?	No
Does this research involve an intention to study or expose or is likely to discover illegal activity?	No
Does this research involve human gametes (eggs or sperm)?	No
Does this research involve excess ART embryos?	No

Expedited Questions Summary

Question	Answer
Third Party Identification	Yes
Children or Young People	No
Dependent or Unequal Relationship	No
Membership of a Group, or Related Issues	Yes
Physical Harm	No
Psychological Harm (includes Devaluation of Personal Worth)	Yes
Social Harm	Yes
Economic Harm	Yes
Legal Harm	Yes
Covert Observation	No
Deception	No
Sensitive Personal Information	No
Overseas Research	No

HUMAN RESEARCH ETHICS COMMITTEE
Application Form

Question	Answer
Secondary Data	No
Collection, use or disclosure of personal information WITHOUT the consent of the participant	No

Questions Detailed

Third Party Identification Yes

Are potential participants given prior warning that they will be identifiable? Yes

Are the risks easily negated, minimised or managed?: Yes

In 200 words or less, outline the measures which will be taken to address the risks*:

Participants will be asked not to identify other participants by name outside of the group and will also be asked not to make statements about confidential information (e.g., the name of a patient), anything that may defame another person, or anything that may present a risk to self or others (e.g., risk to reputation). All attempts will be made to remove identifying information from transcriptions, and details of participants will be kept separate from the focus group data. However, participants will be informed that it may still be possible for others to identify them from their comments. Participants will be offered the opportunity to review a draft of publications that include quotes, though these quotes will not be directly attributed.

Is specific consent for the identification to be obtained? Yes

Are there strategies to confirm the accuracy of the attributed comments? Yes

Membership of a Group, or Related Issues Yes

Has there been full consultation with the community? No

Are the risks easily negated, minimised or managed?: Yes

In 200 words or less, outline the measures which will be taken to address the risks*: As

participants are all GPs, potential ethical issues arise if they are identifiable from their responses. As noted previously, all attempts will be made to remove identifying information and results will be presented in aggregate form (i.e., as key themes). Participants will be offered the opportunity to review a transcript of their focus group and a draft of publications that include quotes. This will be to ensure accuracy of transcripts and interpretation and to check for concerns about confidentiality.

Does the research team include member(s) of a group? No

HUMAN RESEARCH ETHICS COMMITTEE
Application Form

Will there be appropriate reporting back to the group and/or a direct flow of benefits to the community? Yes

Psychological Harm (includes Devaluation of Personal Worth) Yes

Is prior warning given? Yes

Are the risks easily negated, minimised or managed?: Yes

In 200 words or less, outline the measures which will be taken to address the risks*:
Although it is considered unlikely that participation in this research will cause significant distress, it is possible that discussing opinions on best treatment approaches in front of other professionals may lead to discomfort, particularly if other participants respond in unfavourable ways. The risk of discomfort will be discussed at the beginning of each focus group. Contacts for support services will be given to participants, and the primary investigator (who will be facilitating the groups) is a registered psychologist who can provide support if it is needed.

Will potential participants be screened on the basis of complicating mental health factors? No

Can the research team guarantee that a reasonable person would not find the stress significant? Yes

Will participants be provided with an appropriate contact if they become distressed? Yes

Social Harm Yes

Does the protocol ensure that there are no anticipated duty of care, or duty of disclosure issues which might warrant the reporting of identified data to third parties? No

Are the risks easily negated, minimised or managed?: Yes

In 200 words or less, outline the measures which will be taken to address the risks*: As participants and the group facilitator are registered health professionals, have mandatory reporting requirements in relation to conduct by other health professionals. For example, if a participant discloses information about a particular treatment approach that significantly departs from professional standards and places the public at risk of harm, participants and the facilitator would be required to report this to the Australian Health Practitioner Regulation Agency. The threshold for making these notifications will be discussed in the context of information shared in the focus groups, and participants will be asked not to discuss information that may pose a legal, social, or economic risk to themselves or another person.

Is prior warning given? Yes

Economic Harm Yes

Is prior warning given? Yes

HUMAN RESEARCH ETHICS COMMITTEE
Application Form

Legal Harm Yes

Is prior warning given and is the participant reminded occasionally that they can withdraw? Yes

HUMAN RESEARCH ETHICS COMMITTEE
Application Form
Supporting Documentation

Please ensure electronic copies of the supporting documentation have been uploaded into the documents tab of your protocol

These may include (please circle the relevant answer):

- | | |
|-------------------------------------|---------------------------------------|
| List of indicative questions | Y/ <input checked="" type="radio"/> N |
| Copy of questionnaire / survey | Y/ <input checked="" type="radio"/> N |
| Invitation or introductory letter/s | <input checked="" type="radio"/> Y/N |
| Publicity material (posters etc.) | Y/ <input checked="" type="radio"/> N |
| Information sheet | <input checked="" type="radio"/> Y/N |
| Consent form | <input checked="" type="radio"/> Y/N |
| External approval documentation | Y/ <input checked="" type="radio"/> N |
| Research visa (if applicable) | Y/ <input checked="" type="radio"/> N |
| Other (specify below) | Y/ <input checked="" type="radio"/> N |

For other, please specify:

HUMAN RESEARCH ETHICS COMMITTEE
Application Form
SIGNATURES AND UNDERTAKINGS

PROPOSER OF THE RESEARCH

I certify that all the persons listed in this protocol have been fully briefed on appropriate procedures and in particular that they have read and are familiar with the national guidelines issued by the National Health and Medical Research Council (the National Statement on Ethical Conduct in Human Research 2007).

I certify that the above is as accurate a description of my research proposal as possible and that the research will be conducted in accordance with the National Statement on Ethical Conduct in Human Research 2007. I also agree to adhere to the conditions of approval stipulated by the ANU Human Research Ethics Committee (HREC) and will cooperate with HREC monitoring requirements. I agree to notify the Committee in writing immediately of any significant departures from this protocol and will not continue the research if ethical approval is withdrawn and will comply with any special conditions required by the HREC.

Signed:



Date: 25/08/2020

ANU SUPERVISOR

I certify that I shall provide appropriate supervision to the student to ensure that the project is undertaken in accordance with the undertakings above:

Signed:



Date: 25/08/2020

AS FROM MONDAY 21ST OCTOBER 2013 THE SIGNATURE OF THE HEAD OF ANU DEPARTMENT/GROUP/CENTRE IS NO LONGER REQUIRED.

Participant Information Sheet

Researcher: The primary investigator for this research is Ms Erin Parker. Ms Parker is a Doctor of Philosophy (PhD) candidate in Clinical Psychology, in the Research School of Psychology, College of Health and Medicine at the Australian National University (ANU). She is also a registered psychologist working in the community.

Ms. Parker's research is supervised by Dr Michelle Banfield, a Senior Research Fellow at the Centre for Mental Health Research, in the Research School of Population Health, College of Health and Medicine at the ANU.

Project Title: General practitioner management of anxiety

General Outline of the Project:

- **Description and Methodology:** The objective of this project is to gain an in-depth understanding of the way in which General Practitioners (GPs) manage anxiety disorders, and the factors that affect treatment decision making. This will be achieved by conducting focus groups with Australian GPs. This study is part of a larger project investigating the management of anxiety in primary care, which aims to make recommendations for improving care.
- **Participants:** Participants will be currently practising Australian GPs. Approximately 24 people will be recruited across three focus groups.
- **Use of Data and Feedback:** Results from the study will be prepared for publication and presentation at mental health conferences, and will also be included as part of the primary investigator's PhD thesis. A plain language summary of results will be made available in a shared dropbox folder that does not require login information to be viewed.

Participant Involvement:

- **Voluntary Participation & Withdrawal:** Participation in this research is voluntary, and you may withdraw during a focus group at any point without penalty. However, it will not be possible to remove your contributions to the discussion up to the point of your withdrawal. You may also choose not to contribute to the discussion about certain topics.
- **What does participation in the research entail?** Participation in this research involves attending an online focus group with other GPs, conducted via Zoom. The primary investigator will facilitate these groups, and will ask questions about key topics such as understanding of anxiety and its treatment, treatment decision making processes, and barriers or difficulties you face in the management of anxiety.

You will also be asked to complete a brief online survey at the conclusion of the focus group, which will ask for demographic information (e.g., years of experience, gender) as well as details about the location of your practice (rural/remote or urban area, and State or Territory). This information will be kept separate from focus group data and will not be associated with your specific responses.

Focus groups will be audio-recorded via Zoom to allow for transcription and analysis by the primary investigator. Identifying information will be removed from transcriptions as much as possible. You will be provided with an opportunity to review the transcripts of your focus group prior to the analysis being completed. Recordings will be kept on password protected computers at the ANU to be accessed only by the research team, and then destroyed after the required data storage period has passed (see below).

- **Location and Duration:** The focus group will be conducted via Zoom and will last between 60 and 90 minutes depending on the number of participants. You will only be asked to participate in one focus group.
- **Risks:** Although it is considered unlikely that participation will cause significant distress, it is possible that discussing your opinions and approach to practise in front of other GPs may lead to discomfort. As you will be known to other participants and the facilitator, anonymity cannot be guaranteed. There is also a risk that a third party may identify you from your responses. Additionally, focus group members and the facilitator are registered health professionals bound by mandatory reporting requirements in certain circumstances. Therefore, participation in this research may also carry a risk of economic, social, and legal harm.

To mitigate these risks, participants will be asked not to identify other participants by name outside of the group. All participants will also be asked not to make statements about confidential information, anything that may defame another person, or anything that may present a risk to self or others. If you feel distressed by participating in the research you may discuss this with the primary investigator, or contact support services below.

Lifeline

Phone counselling (available 24/7): 13 11 14

Web chat (7pm – 12am, 7 days): www.lifeline.org.au/get-help/online-services/crisis-chat

Website: www.lifeline.org.au

Beyond Blue

Phone counselling (available 24/7): 1300 224 636

Web chat (3pm – 12am, 7 days): www.online.beyondblue.org.au/OutOfHours#/chat/questions1

Website: www.beyondblue.org.au

- **Benefits:** This study is part of a larger body of work investigating the management of anxiety in Australian primary care, which aims to contribute to system reform. GPs are a key stakeholder and provide the majority of mental health services, yet little research has been conducted about the way GPs manage anxiety disorders. This study will provide insight into the way GPs make treatment decisions and identify barriers faced. We anticipate that the knowledge gained from this research will help improve anxiety treatment, and identify key areas for further attention.
- **Implications of Participation:** Key implications for participation are noted in the risks section above.

Confidentiality:

- **Confidentiality:** Information will be kept confidential as far as the law allows. The names and other personal details of participants will be kept separately from focus group data. Audio recordings will be stored on password protected computers at the ANU, accessible only to the research team. After transcription, recordings will be kept as primary data for a period of five years from publication. Recordings will not be used for any other purpose. Identifying information (e.g., names of people, workplaces, and specific locations) will be removed as much as possible during transcription.

Research data will be presented in aggregate form and individual responses will not be reported in full. Sections of your responses may be included as a quote, but will not be directly attributed to you. However, note that it may still be possible for others to identify you from your comments.

There are also steps you can take to protect confidentiality when participating in this research. Please use a private location and headphones, if possible, to reduce the chance of being overheard by a third party. Please do not identify other participants by name outside of the group, or make statements about confidential information, anything that may defame another person, or anything that may present a risk of social, economic, or legal harm to you or another person.

Privacy Notice:

In collecting your personal information within this research, the ANU must comply with the Privacy Act 1988. The ANU Privacy Policy is available at https://policies.anu.edu.au/pp1/document/ANUP_010007. The information you provide will not be directly associated with information that would allow someone to identify you. However, as noted above, it may still be possible for someone to identify you from your responses.

Data Storage:

- **Where:** Data will be stored on secure, password protected computers at the ANU, in folders that are only accessible to the research team.
- **How long:** Data will be stored for a period of at least five years from the date of any publication arising from the research. Following completion of Ms Parker's PhD, the data will continue to be stored at the ANU by Dr Banfield or the Head of the Research School of Psychology.
- **Handling of Data following the required storage period:** Following the required storage period, data will be destroyed to protect confidentiality.

Queries and Concerns:

- **Contact Details for More Information:** If you have any questions about this research, please direct them to the primary investigator.

Primary Investigator:

Ms Erin Parker
erin.parker@anu.edu.au

Supervisor and Co-Investigator:

Dr Michelle Banfield
michelle.banfield@anu.edu.au

- **Contact Details if in Distress:**

Lifeline

Phone counselling (available 24/7): 13 11 14

Web chat (7pm – 12am, 7 days): www.lifeline.org.au/get-help/online-services/crisis-chat

Website: www.lifeline.org.au

Beyond Blue

Phone counselling (available 24/7): 1300 224 636

Web chat (3pm – 12am, 7 days): www.online.beyondblue.org.au/OutOfHours#/chat/questions1

Website: www.beyondblue.org.au

Ethics Committee Clearance:

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 2020/503). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager

The ANU Human Research Ethics Committee

The Australian National University

Telephone: +61 2 6125 3427

Email: Human.Ethics.Officer@anu.edu.au



WRITTEN CONSENT for Participants

General Practitioner Management of Anxiety

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

_____)

addressed to my satisfaction.

I agree to participate in the project.

YES NO

I agree to this focus group being audio-recorded

YES NO

I agree to be identified in the following way within research outputs:

No attribution YES NO

Signature:.....

Date:.....

Dear **NAME**,

My name is Erin Parker and I am a PhD candidate from the Australian National University (ANU). I am researching the management of anxiety in Australian primary care settings.

I am currently recruiting General Practitioners for a focus group study and am emailing to see if you could advertise this project **to the GPs at your practice/within your networks**. Please see some details about the project below, as well as the participant information sheet attached. The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 2020/503).

Project Aim: to gain an in-depth understanding of the way in which Australian GPs manage anxiety disorders, and the factors that affect treatment decision making.

Participant Involvement: Participation involves a 60 to 90-minute online focus group, which will be conducted via Zoom.

Use of Data: Results will be prepared for publication in academic journals, presentation at conferences, and will be included as part of my PhD thesis. A plain language summary will also be made available to participants online.

Please let me know if you would like any further information. Interested parties may contact me via email at erin.parker@anu.edu.au.

Kind regards,
Erin Parker

APPENDIX B
MENTAL HEALTH TREATMENT PLAN TEMPLATE

**GP MENTAL HEALTH TREATMENT PLAN
PATIENT ASSESSMENT**

Patient's Name		Date of Birth	
Address		Phone	
Carer details and/or emergency contact(s)		Other care plan Eg GPMP / TCA	YES <input type="checkbox"/> NO <input type="checkbox"/>
GP Name / Practice			
AHP or nurse currently involved in patient care		Medical Records No.	

PRESENTING ISSUE(S) What are the patient's current mental health issues	
PATIENT HISTORY Record relevant biological psychological and social history including any family history of mental disorders and any relevant substance abuse or physical health problems	
MEDICATIONS (attach information if required)	
ALLERGIES	
ANY OTHER RELEVANT INFORMATION	
RESULTS OF MENTAL STATE EXAMINATION Record after patient has been examined	
RISKS AND CO-MORBIDITIES Note any associated risks and co-morbidities including risks of self harm &/or harm to others	
OUTCOME TOOL USED	RESULTS
DIAGNOSIS	

PATIENT NEEDS / MAIN ISSUES	GOALS Record the mental health goals agreed to by the patient and GP and any actions the patient will need to take	TREATMENTS Treatments, actions and support services to achieve patient goals	REFERRALS Note: Referrals to be provided by GP, as required, in up to two groups of six sessions. The need for the second group of sessions to be reviewed after the initial six sessions.
CRISIS / RELAPSE If required, note the arrangements for crisis intervention and/or relapse prevention			
APPROPRIATE PSYCHO-EDUCATION PROVIDED	YES <input type="checkbox"/> NO <input type="checkbox"/>	PLAN ADDED TO THE PATIENT'S RECORDS	YES <input type="checkbox"/> NO <input type="checkbox"/>
COMPLETING THE PLAN On completion of the plan, the GP is to record that s/he has discussed with the patient: <ul style="list-style-type: none"> - the assessment; - all aspects of the plan and the agreed date for review; and - offered a copy of the plan to the patient and/or their carer (if agreed by patient) 		COPY (OR PARTS) OF THE PLAN OFFERED TO OTHER PROVIDERS	YES <input type="checkbox"/> NO <input type="checkbox"/> NOT REQ'D <input type="checkbox"/>
DATE PLAN COMPLETED		REVIEW DATE (initial review 4 weeks to 6 months after completion of plan)	
REVIEW COMMENTS (Progress on actions and tasks) Note: If required, a separate form may be used for the Review.			OUTCOME TOOL RESULTS ON REVIEW

APPENDIX C
PUBLISHED JOURNAL ARTICLE (CHAPTER 3)

RESEARCH ARTICLE

Open Access



Contemporary treatment of anxiety in primary care: a systematic review and meta-analysis of outcomes in countries with universal healthcare

Erin L. Parker^{1*}, Michelle Banfield², Daniel B. Fassnacht^{1,3}, Timothy Hatfield¹ and Michael Kyrios³

Abstract

Background: Anxiety disorders are highly prevalent mental health conditions and are managed predominantly in primary care. We conducted a systematic review and meta-analysis of psychological and pharmacological treatments in countries with universal healthcare, and investigated the influence of treatment provider on the efficacy of psychological treatment.

Method: PubMed, Cochrane, PsycINFO, CINAHL, and Scopus were searched in April 2017 for controlled studies of evidence-based anxiety treatment in adults in primary care, published in English since 1997. Searches were repeated in April 2020. We synthesised results using a combination of meta-analysis and narrative methods. Meta-analysis was conducted using a random-effects multi-level model to account for intercorrelation between effects contributed different treatment arms of the same study. Moderator variables were explored using meta-regression analyses.

Results: In total, 19 articles (from an initial 2,247) reporting 18 studies were included. Meta-analysis including ten studies ($n = 1,308$) found a pooled effect size of $g = 1.16$ (95%CI = 0.63 – 1.69) for psychological treatment compared to waitlist control, and no significant effect compared to care as usual ($p = .225$). Substantial heterogeneity was present ($I^2 = 81.25$). Specialist treatment produced large effects compared to both waitlist control ($g = 1.46$, 95%CI = 0.96 – 1.96) and care as usual ($g = 0.76$, 95%CI = 0.27 – 1.25). Treatment provided by non-specialists was only superior to waitlist control ($g = 0.80$, 95%CI = 0.31 – 1.28). We identified relatively few studies ($n = 4$) of medications, which reported small to moderate effects for SSRI/SNRI medications and hydroxyzine. The quality of included studies was variable and most studies had at least “unclear” risk of bias in one or more key domains.

Conclusions: Psychological treatments for anxiety are effective in primary care and are more effective when provided by a specialist (psychologist or clinical psychologist) than a non-specialist (GP, nurse, trainee). However, non-specialists provide effective treatment compared with no care at all. Limited research into the efficacy of pharmacological treatments in primary care needs to be considered carefully by prescribers

Trial registration: PROSPERO registration number [CRD42018050659](https://www.crd.york.ac.uk/PROSPERO/record/CRD42018050659)

Keywords: Anxiety, Systematic review, Meta-analysis, Psychological treatment, Pharmacological treatment, Primary care

*Correspondence: erin.parker@anu.edu.au

¹ Research School of Psychology, Australian National University, Canberra, ACT 2601, Australia

Full list of author information is available at the end of the article



© The Author(s) 2021. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Background

Anxiety disorders are among the most prevalent mental health conditions globally, affecting approximately one in nine people in a given year [1]. These conditions are associated with substantial impairments in occupational and social functioning, including unemployment and under-employment, social isolation, and interpersonal and marital conflict [2]. Anxiety disorders are a leading cause of disability, accounting for more years lived with a disability than any other mental health condition, as well as many physical health conditions [3].

Anxiety disorders are managed predominantly within primary care and are one of the most common conditions seen in these settings, despite less than half of those with an anxiety disorder seeking help [4–6]. Treating anxiety in primary care has substantial advantages in terms of ease of access and financial cost. Indeed, integrating mental health services in primary care is considered a key component of achieving universal health coverage [7]. However, only a minority of people seeking help in primary care receive adequate treatment for their anxiety [8, 9]. Anxiety disorders tend to have a chronic course if insufficiently treated, resulting in significant impairment for the individual and high economic costs due to repeat service use and decreased work productivity [3, 10]. Furthermore, delayed or inadequate treatment increases the likelihood of developing common co-occurring conditions such as depression and substance use, which are associated with greater impairment [10].

Several different professionals may provide treatment for anxiety disorders in primary care (e.g., social workers, nurses, psychologists), though the majority of treatment is provided by general practitioners (GPs) [6, 11]. Best practice treatment involves a stepped-care approach based on severity of symptoms and functional impairment, as well as consideration of co-occurring difficulties, consumer preferences, and previous treatment [12, 13]. The specific steps vary by disorder, and include low intensity psychological interventions (e.g., guided or unguided self-help, psychoeducation groups) for milder or uncomplicated anxiety problems, and higher-intensity treatments such as individual cognitive behavioural therapy (CBT) or medications for more moderate problems, or where low-intensity interventions have been unsuccessful [14, 15]. For complex and severe anxiety difficulties, referral to specialist mental health services outside of primary care should be considered [14, 15]. In general, psychological interventions are recommended as first line in preference to pharmacological treatment [12]. However, pharmacological interventions are the most common treatment provided in primary care regardless of anxiety severity [8, 11], and despite research suggesting consumers prefer psychological therapies [16, 17].

Although GPs are not routinely able to provide high-intensity psychological treatments due to limited training and time pressures [18, 19], they can offer low intensity interventions such as psychoeducation and self-help programs. In particular, computerised or internet-delivered CBT has been shown to be effective for treating anxiety, and may be as effective as face-to-face CBT [20, 21]. Computerised CBT programs usually involve modules delivered by desktop, internet, or phone applications, and are suitable for provision in primary care as either guided (i.e., with support from a clinician) or unguided interventions [20].

When appropriate, higher intensity therapies can such as face-to-face CBT can also be provided in primary care by other lay providers (e.g., nurses), which has been a focus of recent research to improve access to these therapies [22]. However, financing of non-specialists to deliver psychosocial interventions remains a barrier in many countries, and may explain why GPs continue to provide the majority of care for anxiety disorders. In addition, while there is emerging evidence for psychological interventions provided by non-specialists, the majority of outcome research involves treatment provided by mental health specialists. For example, a previous systematic review and meta-analysis of psychological treatment in primary care found a moderate effect size for reducing anxiety symptoms [23]. However, the treatment in most included studies was provided by clinical psychologists, who do not typically work in primary care settings.

Medications such as selective serotonin reuptake inhibitors (SSRIs) or serotonin noradrenaline reuptake inhibitors (SNRIs) are also recommended treatments for anxiety [12, 13] and may be cheaper and more accessible to consumers than psychological treatments. However, their effectiveness when prescribed in primary care populations, and without any combined psychological management, is unclear. Benzodiazepine medications also remain frequently prescribed for anxiety despite not being a current recommended treatment [24, 25]. To our knowledge, no previous reviews of pharmacological anxiety interventions in primary care exist.

In this review, we aimed to synthesise contemporary evidence for the effect of psychological and pharmacological treatments for anxiety compared with control in primary care. We were interested in evidence from studies that most accurately reflected the real-world treatment settings in which they were conducted. To this end, we focused on reviewing evidence from countries with existing universal healthcare systems (i.e., where mental health services are routinely provided in primary care without significant cost to consumers). Regarding psychological treatments, our review sought to update and extend upon the review conducted by Seekles et al.

[17] by a) maximising identification of studies where treatment was provided by non-specialists or GPs, and b) excluding studies of obsessive compulsive disorder (OCD) and post-traumatic stress disorder (PTSD), which are no longer considered anxiety disorders in the most recent classification systems. We also sought to investigate variables that may moderate psychological treatment effectiveness, namely treatment provider (specialist vs. non-specialist) and treatment modality (face-to-face vs. online vs. self-help).

Method

Search strategy and selection process

This review followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and was registered with the international prospective register of systematic reviews (PROSPERO; registration number CRD42018050659). Primary searching was conducted in PubMed using MeSH terms (see Table 1). PsycINFO, the Cochrane Central Register of Controlled Trials (CENTRAL), the Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Scopus were also searched to maximise identification of relevant studies. The full search strategy for all databases is available in additional file 1.

We identified and removed duplicate articles using Endnote Referencing software. Two independent researchers (ELP and TH) screened titles and abstracts of retrieved articles to determine eligibility for the review. ELP and TH then screened full-text versions of all eligible studies for final inclusion. The reference lists of included articles were hand-searched to identify additional studies, and none were found. Disagreements between reviewers were resolved through post-assessment discussion at each stage of the process.

Initial searches were conducted on April 17, 2017. We re-ran searches on 22 April 2020 to identify any studies published in the period since our initial search date. The first author screened the additional records retrieved

following the same process as above. Our inclusion and exclusion criteria can be seen in Table 2.

We were interested in synthesising the most recent evidence for treating anxiety in primary care. As such, we excluded studies published prior to 1997, which was 20 years before our initial search. We included studies of participants with a primary diagnosis of an anxiety disorder according to diagnostic criteria (DSM or ICD), or clinically significant levels of anxiety on an assessment/screening measure (e.g., Beck Anxiety Inventory [BAI]; Depression Anxiety Stress Scales [DASS]). We excluded studies of OCD and PTSD, which are no longer classified as anxiety disorders. Studies focusing on mixed anxiety/depression were included due to the high rates of co-occurrence between these conditions, as long as treatment was anxiety-specific (i.e., recommended pharmacological agents for anxiety, or anxiety-focussed psychological treatment).

We defined evidence-based treatments as psychological and pharmacological interventions with an existing evidence base, as determined by current clinical practice guidelines (e.g., NICE guidelines, [12]). For psychological interventions, this included self-help, mindfulness/applied relaxation, and individual cognitive behavioural therapy [12, 14, 15]. Pharmacological treatments included SSRIs, SNRIs, pregabalin (generalised anxiety disorder), tricyclic antidepressants (panic disorder) and benzodiazepines in the case of short-term treatment [12, 14, 15].

Data extraction and synthesis

The primary outcome in this review was treatment effect size (standardised mean difference) for the reduction of anxiety symptoms in each study. Secondary outcomes were treatment effect sizes for reduction in depressive symptoms and improvement in quality of life. Included papers were coded by two independent reviewers (ELP and either TH or DBF) using a standardised data extraction form. We extracted the following variables from each study: demographic information about participants

Table 1 MeSH terms used for primary searching in PubMed

Topic	MeSH terms
Anxiety	"Anxiety Disorders" OR "Anxiety"
Primary Care	"Primary Health Care" OR "Physicians, Primary Care" OR "General Practice" OR "General Practitioners" OR "Physicians, Family" OR "Primary Care Nursing" OR "Family Nursing" OR "Nurses, Community Health" OR "Nurse Practitioners" OR "Nurse Clinicians"
Treatment (general)	"Outcome Assessment (Health Care)"
Treatment (psychological)	"Psychotherapy" OR "Counseling" OR "Relaxation"
Treatment (pharmacological)	"Drug Therapy" OR "Psychotropic Drugs" OR "Adrenergic beta-Antagonists"

Table 2 Inclusion and exclusion criteria

	Inclusion criteria	Exclusion criteria
Publication details	Peer-reviewed journal articles reporting primary data Published since 1997 Article written in English	Published before 1997 Secondary data analysis, literature reviews, meta-analyses
Study type	Controlled trials	Uncontrolled trials
Population	Adults (18+ years) Primary diagnosis of anxiety disorder or clinically significant anxiety Mixed anxiety/depression	Persons under 18 years Primary diagnosis of other mental health condition (e.g., depression, OCD, PTSD)
Setting	Primary care Country with universal healthcare	Secondary or tertiary care setting (e.g., hospital, psychiatric clinic)
Treatment	Evidence-based psychological or pharmacological treatments for anxiety	Alternative treatments (e.g., kava) Treatment focusing on condition other than anxiety (e.g., CBT for depression)
Outcome	At least one measure of anxiety symptomatology	No measure of anxiety symptoms included

(age, gender); country in which the study was conducted; type of anxiety; treatment type; modality of treatment (e.g., self-help, online, face-to-face); treatment provider; type of control group; and outcome statistics (means and standard deviations between groups at post-treatment and follow-up, or other statistics where these were not available). Data were extracted from published reports, and study authors were contacted to obtain missing information. We assessed interrater agreement by comparing the information on each reviewer's coding form after extraction of all items. Disagreements were resolved through discussion and review of the information in the article.

We calculated standardised mean differences (Hedges *g*) [26] and standard errors at post-treatment between control and treatment groups for each study. This was calculated from means and standard deviations or other statistics (e.g., *t*-value, *p*-value) when the former were not reported. Hedge's *g* was chosen over other measures of effect size as it corrects for small sample sizes [27], which was an issue for some of the studies in this review. We calculated a separate effect size for all active treatments compared with control in studies with multiple treatment arms. If an anxiety-specific measure was not the primary outcome in the study, the best (e.g., gold standard for a particular disorder, best test–retest reliability) measure of anxiety symptoms in the study was chosen to calculate these statistics. Measures from each study are reported in Table 3.

Meta-analysis was performed on studies of psychological treatment only, and other studies were synthesised using narrative methods. We conducted meta-analysis in RStudio version 1.0.143 using the metafor package [28]. For studies with multiple treatment arms, we entered effect sizes from each active treatment compared with the control group into this analysis. A random-effects

multi-level model was used to account for intercorrelation between effect sizes contributed by the same study, and meta-regression analyses were run to investigate the effects of moderator variables. We obtained the code for these analyses from the metafor package website (www.metafor-project.org) based on the description of meta-analysis for multiple treatment studies [29] and multivariate random and mixed-effects models [30]. We assessed variability between studies using Chi^2 tests and I^2 estimates of heterogeneity. Interpretation of I^2 values was based on guidelines from the Cochrane handbook, where 0% to 40% represents heterogeneity that may not be important; 30% to 60% may represent moderate heterogeneity; 50% to 90% may represent substantial heterogeneity; and 75% to 100% represents considerable heterogeneity [31]. Heterogeneity was explored using meta-regression to investigate the effect of moderators, as noted above.

Publication bias was investigated with Egger's regression test of funnel plot asymmetry [32, 33] by using sampling variance as a moderator in a multi-level model. Methods of sensitivity analysis are not yet well developed for multivariate/multi-level models [34], and options (e.g., Trim and Fill) are not currently available in the metafor package for these types of models. Therefore, we conducted sensitivity analysis by calculating Cook's distance [35, 36] to identify influential outliers. These were defined as observations with a Cook's distance greater than $4/n$.

Risk of bias

Risk of bias for each study was assessed by ELP and DBF independently using the Cochrane Collaboration's risk of bias tool [37]. In many psychological treatment studies, blinding of participants and personnel is not possible due to the interpersonal nature of the treatment.

Table 3 Characteristics of included studies

First Author, Year	Country	n	FU	Disorder	Outcome	Treatment	Modality	Provider	Control
Psychological Treatment Studies									
Berger, 2017	Germany/Switzerland/Austria	139	6-mth	Anx	BAI	CBT	Online	Self	CAU
Gensichen, 2019	Germany	419	6-mth	Anx	BAI	CBT	Guided bibliotherapy	GP	CAU
Kendrick, 2005 (1)	United Kingdom	247	4-mth	CMD	HADS-A	Other	F2F	Mental health nurse	CAU
Kendrick, 2005 (2)						Other	F2F	Mental health nurse	CAU
Klein, 2006 (1)	Australia	55	3-mth	Anx	PDSS	CBT	Online	Psychologist	Waitlist
Klein, 2006 (2)						CBT	Bibliotherapy	Trainee psychologist	Waitlist
Newby, 2013	Australia	99	3-mth	CMD	GAD-7	CBT	Online	Unspecified clinician	Waitlist
Nordgren, 2014	Sweden	100	10-mth	Anx	BAI	CBT	Online	Trainee psychologist	Waitlist
Power, 2000 (1)	Scotland	104	6-mth	Anx	HAM-A	CBT	Guided (std.) bibliotherapy	Clinical psychologist	CAU
Power, 2000 (2)						CBT	Guided (min.) bibliotherapy	Clinical psychologist	CAU
Seekles, 2011a	Netherlands	108	-	Anx	HADS-A	Other/CBT	Guided online/bibliotherapy	Mental health nurse	CAU
Sharp, 2004 (1)	United Kingdom	97	3-mth	Anx	HAM-A	CBT	F2F	Clinical psychologist	Waitlist
Sharp, 2004 (2)						CBT	F2F – group	Clinical psychologist	Waitlist
Sundquist, 2015	Sweden	215	-	CMD	HADS-A	Other	F2F – group	Psychologist/counselor	CAU
van Boeijen, 2005	Netherlands	142	10-mth	Anx	STAI-S	CBT	Guided bibliotherapy	GP	CAU
Pharmacological Treatment Studies									
Laakmann, 1998 (1)	Germany	125	-	Anx	HAM-A	Buspirone	Tablet	GP	Placebo
Laakmann, 1998 (2)						Lorazepam	Tablet	GP	Placebo
Lader, 1998 (1)	France and United Kingdom	244	-	Anx	HAM-A	Hydroxyzine	Tablet	GP	Placebo
Lader, 1998 (2)						Buspirone	Tablet	GP	Placebo
Lenox-Smith, 2003	United Kingdom	244	-	Anx	HAM-A	Venlafaxine	Tablet	GP	Placebo
Llorca, 2002 (1)	France	334	-	Anx	HAM-A	Hydroxyzine	Tablet	GP	Placebo
Llorca, 2002 (2)						Bromazepam	Tablet	GP	Placebo
Combined Treatment and Stepped Care Studies									
Blomhoff, 2001 (1)	United Kingdom	387	-	Anx	SPS	Sertraline + CBT	F2F + tablet	GP	Placebo
Blomhoff, 2001 (2)						Sertraline	Tablet	GP	Placebo
Blomhoff, 2001 (3)						CBT	F2F	GP	Placebo
Muntingh, 2014	Netherlands	180	9-mth	Anx	BAI	Stepped Care	Multiple	Multiple	CAU
Oosterbaan, 2013	Netherlands	158	4-mth	CMD	HAM-A	Stepped Care	Multiple	Multiple	CAU
Seekles, 2011b	Netherlands	120	-	CMD	HADS-A	Stepped Care	Multiple	Multiple	CAU

Anx anxiety disorders only, CMD common mental disorders, BAI Beck Anxiety Inventory, GAD-7 Generalized Anxiety Disorder 7-item Scale, HADS-A Hospital Anxiety and Depression Scale-Anxiety Subscale, HAM-A Hamilton Anxiety Scale, PDSS Panic Disorder Severity Scale, SPS Social Phobia Scale, STAI-S State Trait Anxiety Inventory-State Subscale, CBT Cognitive Behaviour Therapy, F2F face-to-face therapy, GP general practitioner, CAU care as usual, FU follow-up length post-treatment, n total n for study

In these cases, we rated studies as having “unclear” risk of bias for this criterion, providing no other factors warranted a rating of “high”. Consistent with similar reviews of heterogeneous studies with complex interventions [38], we sought agreement between reviewers for all items by comparing ratings and resolved disagreements through post-assessment discussion.

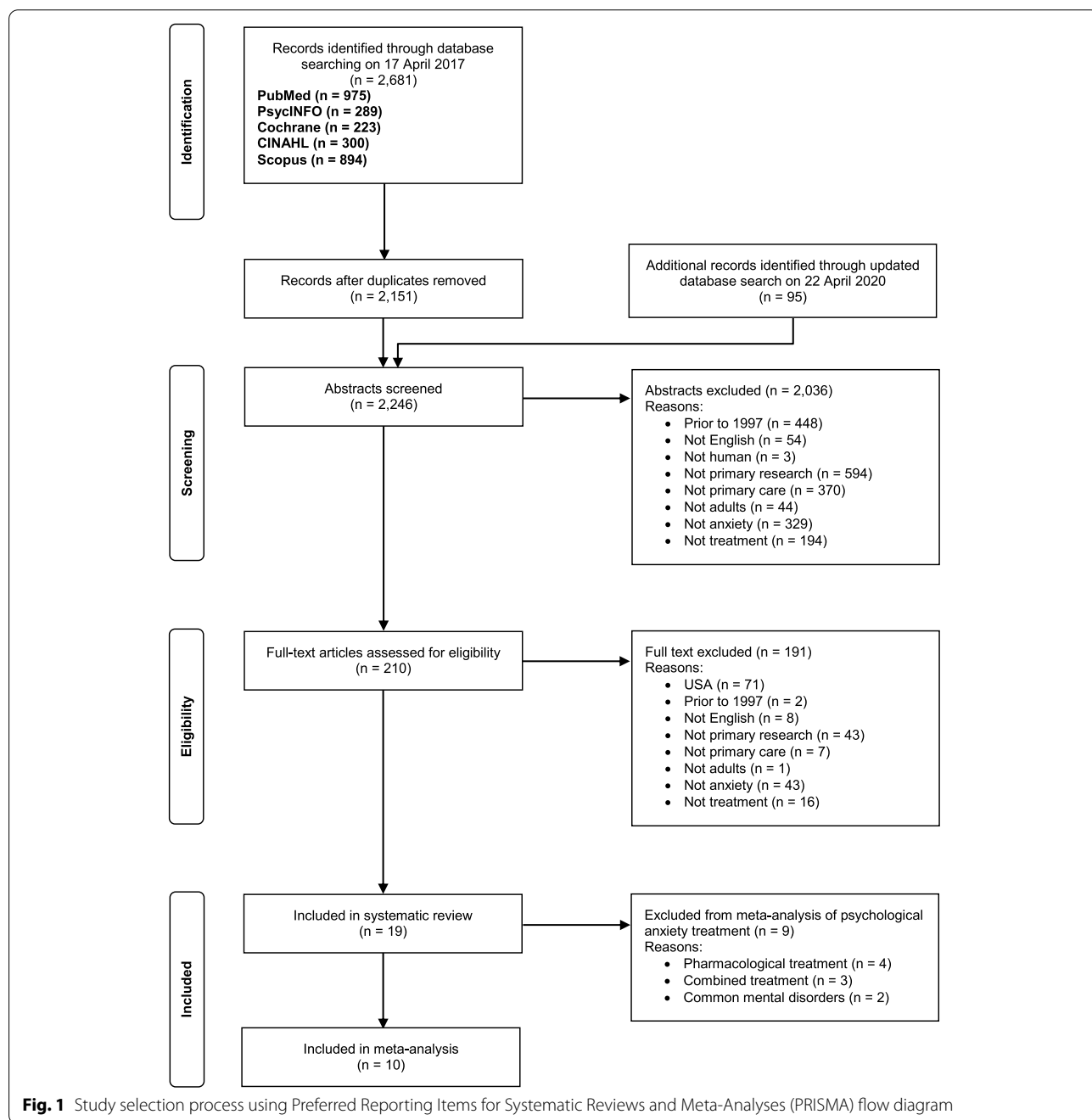
Results

Description of studies

Our initial search identified 2,151 articles (after removal of duplicates), and 207 full-text articles were screened. Eighteen articles reporting 17 studies met all inclusion criteria. Interrater agreement for extracted variables was 89.3%. Updated searching in April 2020

identified only one further study for inclusion (from an initial 95 articles published since our original search). Of the 191 articles excluded after full-text screening, 71 were excluded on the basis of being conducted in a country without universal healthcare (all from the USA). Thirty-one of these articles were publications from a single, large study of collaborative care for anxiety [39]. The full study selection process can be seen in Fig. 1.

A total of 19 articles reporting 18 studies met all criteria and were included in our review. Two articles reported separate steps of the same study [40, 41], and eight studies involved more than one active treatment condition [19, 42–49]. Across all studies, there were 28 comparisons of active treatment with a control group (placebo, waitlist control, or care as usual [CAU]). Key characteristics of the included studies are available in Table 3.



Participants

In the included studies, 2,059 participants were randomised to an active treatment condition and 1,247 to a control condition. Participants ranged in age from 18 to 80 years, with the average age in each study between 34.2 years and 51 years. All studies had a higher proportion of women than men.

Thirteen studies investigated anxiety disorders specifically; four generalised anxiety disorder (22.2% of 18), four panic disorder with or without agoraphobia (22.2% of 18), and five investigated multiple anxiety disorders (including mixed anxiety/depression; 27.8% of 18). Five studies (27.8% of 18 studies) included participants with “common mental disorders” as their primary diagnosis, which referred to one or more of anxiety disorders, depression, mixed anxiety/depression, and stress/adjustment disorders. One study reported separate outcomes for participants with an anxiety disorder only [40] and anxiety-only data was obtained from the authors for another study [43].

Most studies reported moderate mean anxiety severity at baseline among participants, as measured by either clinician (e.g., CGI-S, HAM-A) or self-report (e.g., BAI) measures. Two studies reported mild-to-moderate anxiety severity at baseline [41, 43], and five studies reported moderate-severe or severe anxiety [19, 44, 45, 50, 51].

Treatment and control group type

The majority of included studies were of psychological treatments (10/18, 55.5%). Four studies investigated one or more pharmacological treatments (22.2% of 18), and one study compared psychological and pharmacological treatments (and their combination). The remaining three studies investigated the effect of stepped care, which included both psychological and pharmacological treatments. Pharmacological studies tended to be older (published between 1998 and 2003) than psychological studies (published between 2000 and 2019).

In the 10 psychological treatment studies, four compared treatment with a waitlist control (i.e., no treatment) and six used a CAU control. The care received by control group participants was described in four of the six CAU-controlled studies [19, 48, 50, 52], and most commonly included antidepressants, benzodiazepines, CBT, or referral for specialist mental health care. These studies reported that most control group participants received at least one of these treatments, though did not report actual numbers for the different types of care, with the exception of one study [50]. All three studies of stepped care used CAU as a control and provided descriptions of the care received by participants. At least half of control group participants in these studies received medication

(antidepressants or benzodiazepines), referral to a specialist mental health professional, or both. All pharmacological treatment studies used placebo controls.

Psychological interventions

Four psychological treatment studies investigated the effects of two different treatments with a control. With the addition of the psychological treatment arm from the study of combined treatment [42] as well as the article reporting outcomes for the self-help step [40] of a stepped care study [41], there were a total of 16 comparisons of psychological treatment with either CAU or waitlist control.

Psychological treatments were predominantly CBT-based ($n=13$, 81.2% of 16) and provided on an individual basis. One study involved group treatment [52], and one study compared individual treatment with group treatment [49]. Treatment was delivered either face-to-face with a health professional ($n=6$, 37.5% of 16) or through self-help manuals/internet programs with support from a professional ($n=10$, 62.5% of 16). Treatment was provided by specialists (clinical psychologists or psychologists) in six treatment conditions (37.5% of 16). In the other ten treatment conditions, treatment was provided by trainee psychologists ($n=2$), mental health nurses ($n=3$), GPs ($n=3$), an unspecified clinician ($n=1$), and the participant themselves ($n=1$), all of whom we coded as non-specialists in this review.

Effect on anxiety disorders

We conducted meta-analysis on the studies of psychological treatment for anxiety disorders; to limit heterogeneity, we excluded the studies of common mental disorders and mixed anxiety/depression from this analysis [43, 53]. The effect of psychological treatment on common mental disorders is instead described below using narrative synthesis. Meta-analysis included 14 comparisons of psychological treatment with a control group, taken from ten studies (Fig. 2, Table 4). The model found a large effect size for psychological treatment compared to waitlist control ($g=1.16$, 95%CI = 0.63 – 1.69), and no significant effect compared to CAU control ($Z=1.21$, $p=0.225$). Considerable heterogeneity was present ($I^2=81.25$).

Due to a lack of power, we were only able to investigate the effects of one moderator variable. Treatment provider was chosen as this variable was more relevant to the aims of the review. Meta-regression analysis found that treatment effect was significantly moderated by treatment provider ($z=2.61$, $p=0.009$). Results are presented in Table 4. The inclusion of this moderator accounted for 53% of the total amount of heterogeneity. However, the resulting test for residual heterogeneity was significant ($Q_E=36.22$, $df=11$, $p<0.001$).

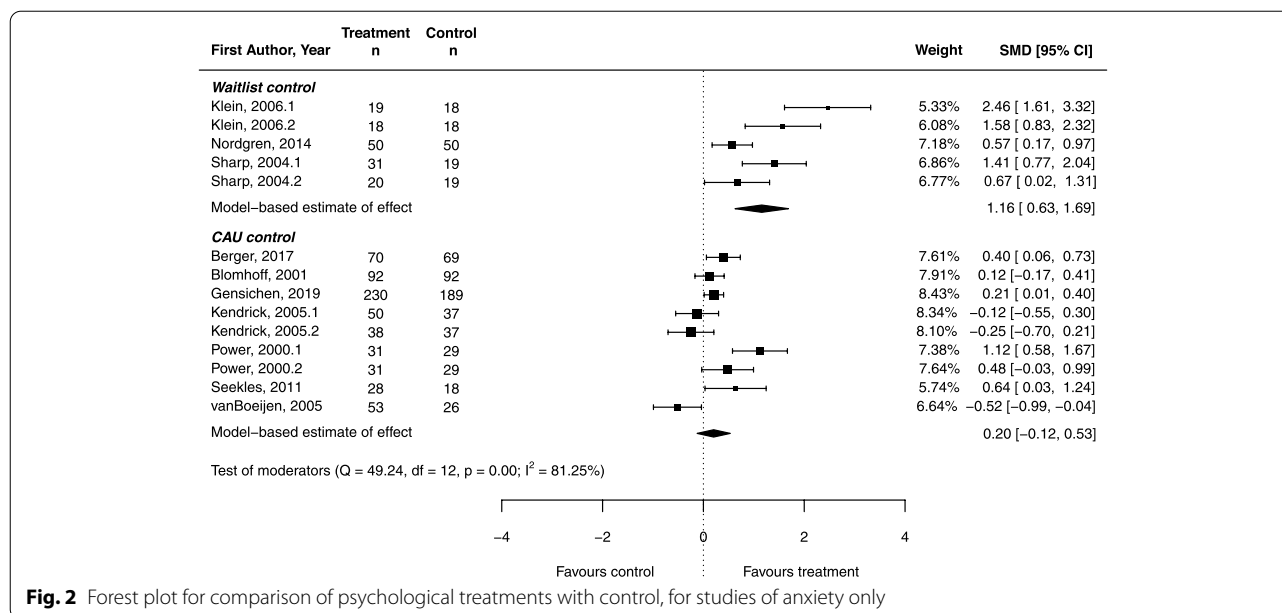


Fig. 2 Forest plot for comparison of psychological treatments with control, for studies of anxiety only

Treatment provided by a non-specialist compared with CAU did not produce a significant effect on anxiety symptoms ($p=0.468$). However, compared with waitlist control a large effect was found ($g=0.80$, 95%CI=0.31 – 1.28). Treatment provided by a specialist was associated with large effects regardless of the comparison group (CAU: $g=0.76$, 95%CI=0.27 – 1.25; waitlist: $g=1.46$, 95%CI=0.96 – 1.96).

Egger’s regression test showed significant funnel plot asymmetry ($z=3.70$, $p<0.001$), indicating the presence of publication bias. No influential outliers were identified, though Cook’s distance for one study [19] was substantially larger ($D=0.23$) than for other studies and close to the threshold of 0.29 ($4/n$), suggesting this study had a larger influence on the model than the other observations.

Effect on common mental disorders

One study investigated two types of psychological treatment (problem-solving and generic mental health nurse care) for common mental disorders (anxiety, depressive, stress, and adjustment disorders) and found no significant treatment effect for either compared with CAU [43]. The authors for this study also provided us with results for participants with anxiety only, which are reported in the meta-analysis above. A second study investigated online CBT for mixed anxiety and depression and found a large effect size of $g=0.85$ (95% CI=0.43 – 1.27) compared with waitlist control [53].

Pharmacological interventions

All four pharmacological studies investigated medications for generalised anxiety disorder (GAD), with three

examining the relative efficacy of two different medications. There were a total of eight comparisons of pharmacological treatment with placebo, including the pharmacological treatment arm of the study of combined treatment (which studied generalised social phobia) [42]. Meta-analysis was not possible for these comparisons due to incomplete reporting of outcome statistics in the primary articles.

Two comparisons of benzodiazepines with placebo [45, 47] found no significant difference between groups at post-treatment. Authors in two studies [45, 46] also reported no effect of buspirone compared with placebo. Both studies comparing hydroxyzine with placebo found a significant treatment effect; one reported a moderate effect size of $g=0.47$ (95% CI=0.16 – 0.78) at post-treatment [46], and the other found a similar effect size of $g=0.32$ (95% CI=0.05 – 0.60) [47]. Likewise, both studies of SSRI/SNRI medications reported a treatment effect, with small effects of $g=0.29$ (95% CI=0.00 – 0.58) found for sertraline compared with placebo [42], and $g=0.25$ (95% CI=0.00 – 0.50) for venlafaxine compared with placebo [51].

Combined interventions

We did not perform meta-analysis on studies of combined interventions due to the small number of studies and the clinical diversity among them. The sole study of combined psychological and pharmacological treatment investigated the relative effects of exposure therapy, sertraline, and exposure therapy plus sertraline compared with placebo [42]. The results for psychological treatment and pharmacological treatment in this study have

Table 4 Meta-analytic results for effect of psychological treatment on anxiety symptoms

	<i>n</i>	<i>g</i>	<i>se</i>	95% CI	<i>z</i>	<i>p</i>
All studies	14	0.49	0.20	0.10 – 0.88	2.44	.015
Treatment vs. CAU	9	0.20	0.17	-0.12 – 0.53	1.21	.225
Treatment vs. waitlist	5	1.16	0.27	0.63 – 1.69	4.28	<.0001
Non-specialist provider	9					
CAU control	7	0.10	0.13	-0.16 – 0.35	0.73	.468
Waitlist control	2	0.80	0.25	0.31 – 1.28	3.22	.001
Specialist provider	5					
CAU control	2	0.76	0.25	0.27 – 1.25	3.04	.002
Waitlist control	3	1.46	0.26	0.96 – 1.96	5.71	<.001

n number of comparisons in analysis, *se* standard error, CAU care as usual

been reported above. A significant treatment effect was also found for combined treatment compared with control, with an effect size of $g=0.35$ (95% CI = 0.07 – 0.64). Although combined treatment produced the largest effect size, this was not significantly different from the other active treatment groups.

In the three studies of stepped care [41, 54, 55], treatment was provided by multiple professionals, including mental health nurses and psychiatrists. Higher and more intensive steps of these interventions included medication combined with psychological therapy. Two studies found small, significant effects of stepped care compared to CAU for common mental disorders ($g=0.23$, 95%CI = -0.13 – 0.58 [41]; $g=0.31$, 95%CI = -0.01 – 0.63 [55]). The third study investigated stepped care for anxiety only, and also found a significant effect ($g=0.21$, 95%CI = -0.12 – 0.54) [54].

Longer-term follow-up

Follow-up of at least three months post-treatment was reported in 11 of the 18 included studies. Outcomes were difficult to synthesise due to variability in how these statistics were reported and are described below using narrative methods.

All but one of the psychological treatment studies [52] reported follow-up data. For studies where a waitlist control was used, three studies reported maintenance of gains within the treatment group at three-[44, 53] and 10-month [56] follow up. Control group data was not recorded in these studies as control participants received the intervention after the waiting period. A fourth study, which investigated the effect of group and individual CBT, reported gains in the group CBT condition were maintained at follow-up, but the rate of clinically significant change decreased in the individual CBT condition [49].

Among studies comparing to a CAU control, four reported outcomes for both control and treatment

groups at follow-up. There was no significant difference between treatment and control groups in two of these studies [19, 43], though authors also reported that post-treatment and follow-up scores did not differ significantly in any of the groups. One study [50] reported an effect size of $g=0.31$ (95%CI = 0.08 – 0.53, $p=0.01$) for self-help CBT compared with control at follow-up, and another study reported maintained rates of clinically significant change from post-treatment [48]. One further study reported sustained treatment gains in treatment group participants for whom follow-up assessments were conducted [57].

Two (out of four) studies of combined treatment reported follow-up; one reported an effect size of $g=0.37$ (95%CI = 0.02 – 0.72, $p=0.04$) for stepped-care compared with CAU [54], and the other reported maintenance of gains within the treatment group, but no significant effect of stepped-care compared to CAU due to improvements in the control group at follow-up [55]. Follow-up was not reported in any of the pharmacological treatment studies.

Risk of bias in included studies

The majority of included studies had an unclear risk of bias for one or more key domains (see Fig. 3 for risk of bias in each study, and Fig. 4 for a summary of risk of bias items across all studies). Interrater agreement between authors ELP and DBF was 85.3% for risk of bias information. In psychological and combined treatment studies, the risk of performance bias was unclear in most studies, as participants were often not blinded. These studies were also at risk of detection bias due to the use of self-report measures (and unblinded participants) or unblinded outcome assessors. Risk of reporting bias was considered low for studies of psychological or combined treatment, and risk of selection bias was low-to-unclear, with most studies assessed as low risk. Studies of any treatment type

tended to report equal rates of drop-out across treatment conditions and used intention-to-treat analyses.

For the majority of pharmacological treatment studies, risk of bias was unclear-to-high across domains. All four studies reported inadequate information about random sequence generation and allocation concealment. Three studies had a high risk of bias due to selective outcome reporting, as they presented results visually without reporting outcome statistics (i.e., one or more of the following were missing: means, standard deviations, results of statistical analyses). Furthermore, three of the studies were funded or partially funded by pharmaceutical companies [46, 47, 51] and for all four studies no conflict of interest statement was included.

Secondary outcomes

Most included studies ($n=15$, 83.3% of 18) measured depressive symptoms as secondary outcomes, or as combined primary outcomes along with anxiety symptoms. The majority of these ($n=8$) reported no significant difference in depressive symptoms between control and treatment groups. The seven studies that found a significant treatment effect on depressive symptoms reported effect sizes ranging from $g=0.35$ to 1.00.

Less than half of the studies ($n=7$, 38.8% of 18) included measurements of quality of life. Three studies reported no significant difference in quality of life between groups, and four studies found significant treatment effects ranging from $g=0.31$ to 1.36.

Discussion

Our review investigated both psychological and pharmacological treatments for anxiety and explored the effects of treatment provider on psychological treatment effectiveness. Studies of psychological treatment were diverse and could broadly be categorised into two subgroups – those that investigated anxiety specifically, and those that investigated common mental disorders (anxiety, depressive, stress, and adjustment disorders).

Meta-analysis demonstrated that for those with primarily anxiety-related difficulties, psychological treatments (predominantly CBT) are effective for reducing anxiety symptoms when provided in primary care. However, the magnitude of this improvement differs depending on who is providing treatment, and is relative to the comparison group. When a specialist provides treatment, large improvements are seen in anxiety symptoms regardless of the type of control group, though the effect is smaller when treatment is compared to other usual treatments than waitlist control. Treatments provided by a non-specialist are also associated with large improvements compared to waitlist control (i.e., no care at all), but were not found to improve anxiety over other usual

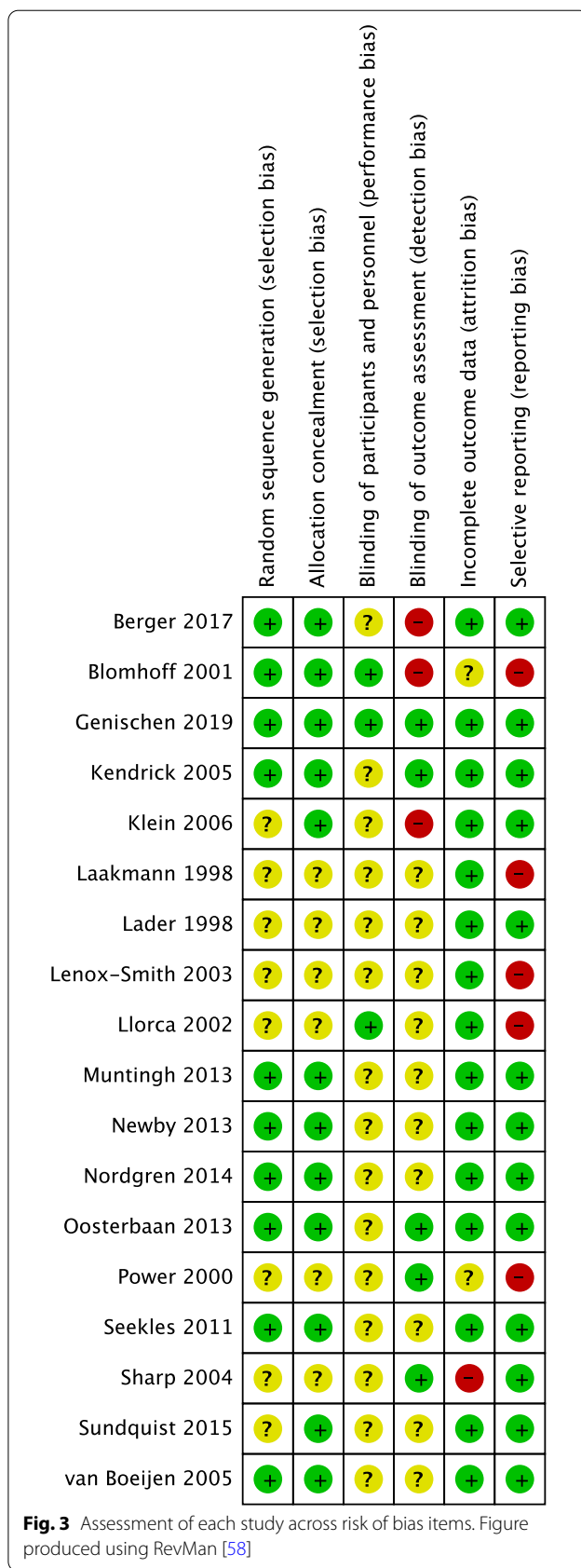
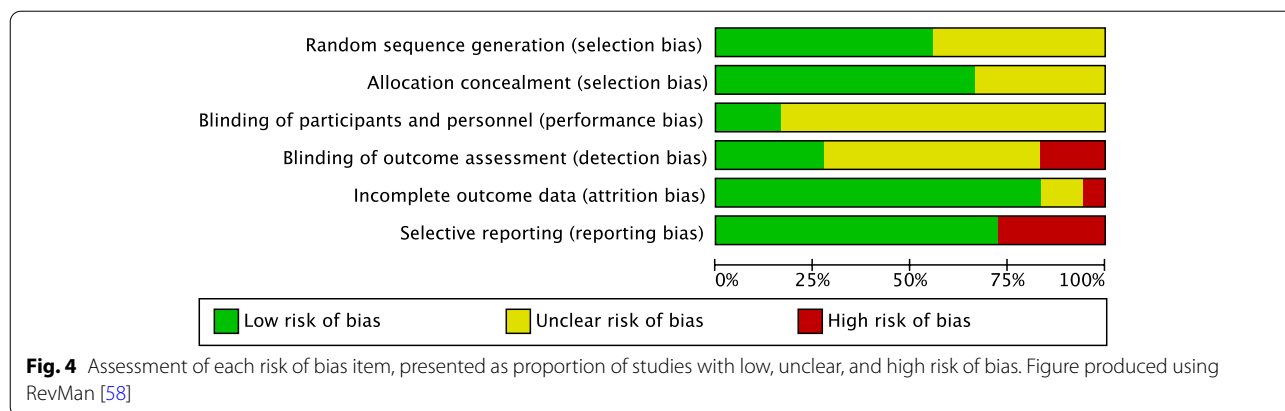


Fig. 3 Assessment of each study across risk of bias items. Figure produced using RevMan [58]



treatments. These findings are consistent with a previous review of psychological treatment for anxiety in primary care, which demonstrated a superior treatment effect for interventions provided by specialist mental health professionals compared with non-specialists [23]. Previous research has also demonstrated that for both face-to-face CBT and computerised CBT, effect sizes are smaller when comparing to CAU (which involves active treatment) than inactive control groups such as waitlist or placebo [20, 23].

Cognitive behaviour therapy is well documented as an effective treatment for anxiety [13, 23], though further research is needed on long-term effectiveness in primary care. In the studies included in our review, CBT was predominantly provided via bibliotherapy or computerised methods, with varying degrees of support from a clinician. The effectiveness of self-help CBT has been demonstrated in other reviews [20, 21], and our results provide support for the implementation of these interventions for anxiety in primary care. Computerised CBT has the additional benefit of high fidelity, as interventions can be delivered exactly as designed. This is in contrast to face-to-face therapy where fidelity is impacted by experience and training of the provider and their adherence to treatment manuals, which may be particularly relevant for non-specialist treatment providers [13].

The results for longer-term follow-up in psychological treatment studies included in our review were mixed. However, most reported treatment gains were maintained within the treatment group, and were superior to gains seen in control group participants who received other usual treatments. Limited data on long-term follow-up is a limitation in the field, though studies not specific to primary care settings have found that the effect of psychological treatment for anxiety tends to be well maintained at follow-up [59, 60].

The studies investigating treatment for common mental disorders were summarised using narrative synthesis

as there were too few studies to conduct meta-analysis. The pattern of results across these studies was similar to that of the studies on anxiety only; psychological treatments did not produce a significant effect compared with CAU control groups, though large effects of treatment were seen when compared to waitlist control.

Only a small number of included studies involved pharmacological treatment, and only two [42, 51] involved current first-line agents for anxiety (sertraline and venlafaxine) [12]. Both medications produced small, superior effects compared to placebo, indicating they are effective for reducing anxiety symptoms in primary care. Across an additional three studies, hydroxyzine also produced small to moderate effects, while buspirone and benzodiazepines were not found to reduce anxiety compared with placebo. However, hydroxyzine and buspirone are not considered first-line agents for anxiety, and benzodiazepines are only recommended in specific conditions such as during the initiation phase of an SSRI [61]. Furthermore, the majority of pharmacological treatment studies were funded by pharmaceutical companies and had a high risk of bias due to selective outcome reporting, questioning the validity of these results. Overall, we did not find a strong body of research documenting the use of pharmacological treatments in primary care. This was true irrespective of the exclusion of studies from countries without universal healthcare, as only one additional study of medication (an SSRI) would have been included if not for this restriction.

None of the included studies of pharmacological treatment reported on longer-term follow-up, so we were not able to investigate the effectiveness of these medications beyond the acute treatment phase. Previous research has demonstrated that the risk of relapse is high when pharmacological interventions are discontinued following acute treatment, and it is therefore advised that treatment continue for between six and 24-months after remission [62]. Given pharmacological interventions are

the dominant treatment strategy provided in primary care, further research is needed to determine the effectiveness of these treatments in this setting.

The combined use of medication and psychological therapy was directly investigated in only one study [42]. This demonstrated combined treatment was effective in comparison to control but no more effective than either treatment alone. Although combined treatment is commonly used in practice, there is limited evidence to indicate this leads to better outcomes [13]. Stepped care interventions, including both pharmacological and psychological treatment steps, appear effective for treating anxiety based on the three studies included in our review. Results from these studies are consistent with the emerging body of evidence for collaborative stepped care in primary care, with small to moderate effect sizes found in a previous review [63].

Limitations

Our review had several limitations. Studies were heterogeneous and meta-analytic results for the effects of psychological treatment should be interpreted with caution. Several factors may have contributed to heterogeneity in this review. For example, across the included studies there was a mixture of self-report and clinician assessed measures, and treatment was provided using a variety of modalities (e.g., online, individual face-to-face, group). Likewise, multiple anxiety disorders were investigated both within and between studies, and different disorders may have responded differently to the treatments used. Unfortunately, additional moderators, including the planned investigation of treatment modality, were not able to be explored due to the small number of included studies. The decision to pool studies using meta-analysis is based on both statistical and theoretical considerations. It is important to note the heterogeneous nature of primary care, and diversity among included studies can be considered a reflection of the real-world treatment provided in this setting. Combining studies of diverse interventions may not provide meaningful information about the individual effects of each intervention, but can be useful in answering broader questions (e.g., summarising the average effect of a class of drugs by combining studies of different drugs within that class) [31]. Although heterogeneity limits the strength of conclusions that can be drawn from our meta-analytic results, we believe our findings are useful in contributing to the broader question of how well psychological interventions work for anxiety in primary care.

Another limitation of our review is that the effect of psychological treatments compared with CAU is difficult to interpret, as CAU was poorly described in the included studies. Control group participants could

receive medication, other psychological treatments, general advice, or no treatment at all, and most studies did not report the rates of different care. However, studies reported that at least half of control group participants received some form of active intervention, including referral for specialist mental health care and antidepressant medication. This may have reduced the apparent effectiveness of treatments provided by non-specialists in particular, as participants in the control condition may have received a higher intensity treatment such as specialist psychological treatment, medication, or both.

As with all systematic reviews, our search strategy and inclusion criteria may have excluded relevant studies of treatment for anxiety in primary care. This is particularly true of studies conducted in countries without universal healthcare systems (most notably, the USA), and studies that were published in languages other than English. We also identified very few studies of primary care specific pharmacological treatment, and may have identified further studies if we had searched additional biomedical databases (e.g., Embase). Unfortunately, we did not have access to Embase for this review.

Despite attempts to maximise identification of studies with non-specialist treatment providers, we identified relatively few studies of psychological treatments provided by GPs. Combined with the limited number of pharmacological treatment studies, the body of evidence identified is inconsistent with the real-world treatment of anxiety disorders in primary care [6, 11] and limits our ability to describe the effectiveness of this treatment. The generalisability of our findings to low-income countries and high-income countries without universal health care is also limited. Finally, only one study was identified that directly compared medication and psychological treatments in primary care, making it difficult to comment on the relative effectiveness of the two. Other reviews have noted the lack of comparison between psychological and pharmacological treatments as a serious limitation in the field, particularly in the case of computerised CBT programs versus medication [20].

Implications for clinical practice

Despite the limitations, our review has several important implications for primary care. Results support previous research in this area, demonstrating that CBT-based psychological treatments for anxiety are effective, and that specialist treatment (i.e., provided by a psychologist or clinical psychologist) is preferable [23]. Our results also extend upon previous findings by providing information about treatment delivered by non-specialists, which is important given that access to specialists is not always possible in primary care. Although we did not find that psychological treatment provided by non-specialists is superior to other

usual treatments, we also did not find it to be inferior. This indicates that non-specialist psychological treatment may be at least as good as other usual treatments, and an appropriate option for consumers. Additionally, our results demonstrated that non-specialist treatment is associated with significant and large improvements in anxiety compared with no treatment at all.

Although pharmacological treatments are effective for anxiety generally [61] and have advantages in terms of cost and ease of access, we did not find strong evidence for their use in primary care due to a small number of studies and high-risk of bias among those studies. Medications for anxiety disorders carry side effects [64], and benzodiazepines, which remain commonly prescribed despite no longer being a recommended first-line treatment [24, 25], carry risks of both physiological and psychological dependence. Furthermore, benzodiazepines may in fact prolong anxiety symptoms if used alone due to their use as a safety behaviour and potential to impair fear extinction [65, 66]. This may be particularly true when physiological anxiety sensations themselves are the feared stimuli (e.g., in panic disorder), and exposure to these symptoms is avoided through the use of benzodiazepines.

We therefore recommend that pharmacological treatments be used with caution in primary care until further research is conducted, and that CBT-based psychological treatments, including those provided online and via self-help, be offered as first-line treatments for anxiety disorders in this setting. This treatment should be provided by a specialist such as a psychologist or clinical psychologist if available and affordable for the consumer. However, non-specialists should still offer psychological treatment if specialist treatment is not possible.

Conclusions

Overall, our review demonstrated that, in countries with universal healthcare, a greater alignment of research and practice is needed to more effectively manage anxiety disorders. Additional research is needed to investigate the use of pharmacological treatments in primary care and to determine their relative effectiveness when compared with psychological interventions in this setting. Future research on psychological treatments should aim to more closely mirror the treatment that is delivered in real-world primary care settings (i.e., in terms of treatment provider). This research should be conducted alongside implementation science involving both provider and consumer perspectives, that explores barriers to the delivery of psychological treatments for anxiety in primary care.

Abbreviations

BAI: Beck anxiety inventory; CAU: Care as usual; CBT: Cognitive behaviour therapy; DASS: Depression anxiety stress scale; DSM: Diagnostic and statistical manual of mental disorders; GAD: Generalised anxiety disorder; GP: General practitioner; ICD: International classification of diseases; OCD: Obsessive compulsive disorder; PTSD: Post-traumatic stress disorder; SNRI: Serotonin noradrenaline reuptake inhibitors; SSRI: Selective serotonin reuptake inhibitor.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12875-021-01445-5>.

Additional file 1. Additional Table. Full Search Strategy. Full search strategy used for all databases.

Acknowledgements

The first author conducted this review under the supervision of the second, third, and last authors in partial fulfilment of a Doctor of Philosophy in Clinical Psychology at the Australian National University (ANU). We also thank Professor Philip Batterham for his contributions to this review.

Authors' contributions

ELP, MB, DBF, and MK devised the concept and design of the study. ELP and TH assessed studies for eligibility. Data were extracted from all articles by ELP and either TH or DBF. ELP conducted the analyses, and ELP, MB, and DBF interpreted data. ELP drafted the article, and all authors revised it critically for content and approved the version to be published.

Funding

This research received no specific grant from any funding agency, commercial or not-for-profit sectors. ELP was supported by an Australian Government Research Training Program (AGRTP) Stipend Scholarship for the duration of the review. MB is supported by a Medical Research Future Fund (MRFF) Translating Research into Practice (TRIP) Fellowship number MRF1150698, which is unrelated to the submitted work. These funders had no role in study design, data collection, data analysis, data interpretation, or writing of the report.

Availability of data and materials

All data generated or analysed during this study are included in this published article, its additional files, and the published articles included in this review.

Declarations

Ethics approval and consent to participate

Ethics approval was not required for this study.

Consent for publication

Not applicable.

Competing interests

ELP is paid by Marathon Health for provision of psychological therapy services and runs a private practice as a psychologist. No other relationships or activities with potential to bias the work are identified.

Author details

¹Research School of Psychology, Australian National University, Canberra, ACT 2601, Australia. ²Centre for Mental Health Research, Australian National University, Canberra, Australia. ³College of Education, Psychology and Social Work, Flinders University, Adelaide, Australia.

Received: 27 September 2020 Accepted: 26 April 2021

Published online: 15 May 2021

References

- Baxter AJ, Scott KM, Vos T, Whiteford HA. Global prevalence of anxiety disorders: a systematic review and meta-regression. *Psychol Med*. 2013;43(5):897–910.
- Kessler RC. The global burden of anxiety and mood disorders: putting the European Study of the Epidemiology of Mental Disorders (ESEMeD) findings into perspective. *J Clin Psychiatry*. 2007;68(Suppl 2):10–9.
- Baxter AJ, Vos T, Scott KM, Ferrari AJ. The global burden of anxiety disorders in 2010. *Psychol Med*. 2014;44(11):2363–74.
- Burgess PM, Pirkis JE, Slade TN, Johnston AK, Meadows GN, Gunn JM. Service use for mental health problems: findings from the 2007 National Survey of Mental Health and Wellbeing. *Aust N Z J Psychiatry*. 2009;43(7):615–23.
- Bijl RV, Ravelli A. Psychiatric morbidity, service use, and need for care in the general population: results of the Netherlands Mental Health Survey and Incidence Study. *Am J Public Health*. 2000;90(4):602–7.
- Wang PS, Aguilar-Gaxiola S, Alonso J, Angermeyer MC, Borges G, Bromet EJ, Bruffaerts R, de Girolamo G, de Graaf R, Gureje O, et al. Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet (London, England)*. 2007;370(9590):841–50.
- World Health Organization. The WHO special initiative for mental health (2019–2023): Universal health coverage for mental health. World Health Organization; 2019. <https://apps.who.int/iris/handle/10665/310981>.
- Chapdelaine A, Carrier J-D, Fournier L, Duhoux A, Roberge P. Treatment adequacy for social anxiety disorder in primary care patients. *PLoS ONE*. 2018;13(11):e0206357–e0206357.
- Harris MG, Hobbs MJ, Burgess PM, Pirkis JE, Diminic S, Siskind DJ, Andrews G, Whiteford HA. Frequency and quality of mental health treatment for affective and anxiety disorders among Australian adults. *Med J Aust*. 2015;202(4):185–9.
- Wittchen HU. Generalized anxiety disorder: prevalence, burden, and cost to society. *Depress Anxiety*. 2002;16(4):162–71.
- Britt H, Miller GC, Henderson J, Bayram C, Harrison C, Valenti L, Pan Y, Charles J, Pollack AJ, Wong C, et al. General practice activity in Australia 2015–16. Sydney: Sydney University Press; 2016.
- National Institute for Health and Care Excellence. Anxiety disorders: quality standard. London: Author; 2014.
- Andrews G, Bell C, Boyce P, Gale C, Lampe L, Marwat O, Rapee R, Wilkins G. Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of panic disorder, social anxiety disorder and generalised anxiety disorder. *Aust N Z J Psychiatry*. 2018;52(12):1109–72.
- National Institute for Health and Care Excellence. Generalised anxiety disorder and panic disorder in adults: management. London: Author; 2011.
- National Institute for Health and Care Excellence. Social anxiety disorder: recognition, assessment and treatment. London: Author; 2013.
- van Schaik DJF, Klijn AFJ, van Hout HPJ, van Marwijk HWJ, Beekman ATF, de Haan M, van Dyck R. Patients' preferences in the treatment of depressive disorder in primary care. *Gen Hosp Psychiatry*. 2004;26(3):184–9.
- Mohlman J. A community based survey of older adults' preferences for treatment of anxiety. *Psychol Aging*. 2012;27:1182–90.
- Richards JC, Ryan P, McCabe MP, Groom G, Hickie IB. Barriers to the effective management of depression in general practice. *Aust N Z J Psychiatry*. 2004;38(10):795–803.
- van Boeijen CA, van Oppen P, van Balkom AJLM, Visser S, Kempe PT, Blankenstein N, van Dyck R. Treatment of anxiety disorders in primary care practice: a randomised controlled trial. *Br J Gen Pract*. 2005;55(519):763–9.
- Andrews G, Basu A, Cuijpers P, Craske MG, McEvoy P, English CL, Newby JM. Computer therapy for the anxiety and depression disorders is effective, acceptable and practical health care: an updated meta-analysis. *J Anxiety Disord*. 2018;55:70–8.
- Andrews G, Cuijpers P, Craske MG, McEvoy P, Titov N. Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: a meta-analysis. *PLoS ONE*. 2010;5(10):e13196.
- Patel V, Saxena S. Achieving universal health coverage for mental disorders. *BMJ*. 2019;366:14516.
- Seekles W, Cuijpers P, Kok R, Beekman A, van Marwijk H, van Straten A. Psychological treatment of anxiety in primary care: a meta-analysis. *Psychol Med*. 2013;43(2):351–61.
- Sonnenberg CM, Bierman EJ, Deeg DJ, Comijs HC, van Tilburg W, Beekman ATF. Ten-year trends in benzodiazepine use in the Dutch population. *Soc Psychiatry Psychiatr Epidemiol*. 2012;47(2):293–301.
- Stephenson CP, Karanges E, McGregor IS. Trends in the utilisation of psychotropic medications in Australia from 2000 to 2011. *Aust N Z J Psychiatry*. 2013;47(1):74–87.
- Hedges LV. Distribution theory for glass's estimator of effect size and related estimators. *J Educ Behav Stat*. 1981;6(2):107–28.
- Hedges LV, Olkin I. Statistical methods for meta-analysis. Orlando: Academic Press; 1985.
- Viechtbauer W. Conducting meta-analyses in R with the metafor package. *J Stat Softw*. 2010;36(3):1–48.
- Gleser LJ, Olkin I. Stochastically dependent effect sizes. In: Cooper H, Hedges LV, Valentine JC, editors. The handbook of research synthesis and meta-analysis. 2nd ed. New York: Russell Sage Foundation; 2009. p. 357–76.
- Berkey CS, Hoaglin DC, Antczak-Bouckoms A, Mosteller F, Colditz GA. Meta-analysis of multiple outcomes by regression with random effects. *Stat Med*. 1998;17(22):2537–50.
- Deeks JJ, Higgins JPT, Altman DG. Chapter 10: analysing data and undertaking meta-analyses. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, editors. Cochrane handbook for systematic reviews of interventions version 6.1 (updated September 2020). Welch: The Cochrane Collaboration; 2020.
- Egger M, Smith GD, Schneider M, Minder C. Bias in meta-analysis detected by a simple, graphical test. *BMJ*. 1997;315(7109):629–34.
- Sterne JA, Egger M. Regression methods to detect publication and other bias in meta-analysis. In: Rothstein HR, editor. Publication bias in meta-analysis: Prevention, assessment and adjustments. Sutton AJ: M B; 2005. p. 99–110.
- Viechtbauer W, Cheung MW-L. Outlier and influence diagnostics for meta-analysis. *Res Synth Methods*. 2010;1(2):112–25.
- Cook RD. Influential observations in linear regression. *J Am Stat Assoc*. 1979;74(365):169–74.
- Cook RD. Detection of influential observation in linear regression. *Technometrics*. 1977;19(1):15–8.
- Higgins JPT, Green S, editors. Cochrane handbook for systematic reviews of interventions version 5.1.0 (updated March 2011). The Cochrane Collaboration; 2011. www.handbook.cochrane.org
- Christensen H, Pallister E, Smale S, Hickie IB, Calear AL. Community-based prevention programs for anxiety and depression in youth: a systematic review. *J Primary Prevent*. 2010;31(3):139–70.
- Roy-Byrne P, Craske MG, Sullivan G, Rose RD, Edlund MJ, Lang AJ, Bystritsky A, Shaw Welch S, Chavira DA, Golinelli D, et al. Delivery of evidence-based treatment for multiple anxiety disorders in primary care: A randomized controlled trial. *J Am Med Assoc*. 2010;303(19):1921–8.
- Seekles W, van Straten A, Beekman A, van Marwijk H, Cuijpers P. Effectiveness of guided self-help for depression and anxiety disorders in primary care: a pragmatic randomized controlled trial. *Psychiatry Res*. 2011;187(1–2):113–20.
- Seekles W, van Straten A, Beekman A, van Marwijk H, Cuijpers P. Stepped care treatment for depression and anxiety in primary care: a randomized controlled trial. *Trials*. 2011;12:171.
- Blomhoff S, Haug TT, Hellström K, Holme I, Humble M, Madsbu HP, Wold JE. Randomised controlled general practice trial of sertraline, exposure therapy and combined treatment in generalised social phobia. *Br J Psychiatry*. 2001;179(1):23–30.
- Kendrick T, Simons L, Mynors-Wallis L, Gray A, Lathlean J, Pickering R, Harris S, Rivero-Arias O, Gerard K, Thompson C. A trial of problem-solving by community mental health nurses for anxiety, depression and life difficulties among general practice patients The CPN-GP study. *Health Technol Assess*. 2005;9(37):1–104.
- Klein B, Richards JC, Austin DW. Efficacy of internet therapy for panic disorder. *J Behav Ther Exp Psychiatry*. 2006;37(3):213–38.
- Laakmann G, Schüle C, Lorkowski G, Baghai T, Kuhn K, Ehrentraut S. Buspirone and lorazepam in the treatment of generalized anxiety disorder in outpatients. *Psychopharmacology*. 1998;136(4):357–66.
- Lader M, Scotto JC. A multicentre double-blind comparison of hydroxyzine, buspirone and placebo in patients with generalized anxiety disorder. *Psychopharmacology*. 1998;139(4):402–6.

47. Llorca PM, Spadone C, Sol O, Danniau A, Bougerol T, Corruble E, Faruch M, Macher JP, Sermet E, Servant D. Efficacy and safety of hydroxyzine in the treatment of generalized anxiety disorder: A 3-month double-blind study. *J Clin Psychiatry*. 2002;63(11):1020–7.
48. Power KG, Sharp DM, Swanson V, Simpson R. Therapist contact in cognitive behaviour therapy for panic disorder and agoraphobia in primary care. *Clin Psychol Psychother*. 2000;7(1):37–46.
49. Sharp DM, Power KG, Swanson V. A comparison of the efficacy and acceptability of group versus individual cognitive behaviour therapy in the treatment of panic disorder and agoraphobia in primary care. *Clin Psychol Psychother*. 2004;11(2):73–82.
50. Gensichen J, Hiller TS, Breitbart J, Brettschneider C, Teismann T, Schumacher U, Lukaschek K, Schelle M, Schneider N, Sommer M, et al. Panic disorder in primary care. *Dtsch Arztebl Int*. 2019;116(10):159–66.
51. Lenox-Smith AJ, Reynolds A. A double-blind, randomised, placebo controlled study of venlafaxine XL in patients with generalised anxiety disorder in primary care. *Br J Gen Pract*. 2003;53(495):772–7.
52. Sundquist J, Lilja A, Palmer K, Memon AA, Wang X, Johansson LM, Sundquist K. Mindfulness group therapy in primary care patients with depression, anxiety and stress and adjustment disorders: randomised controlled trial. *Br J Psychiatry*. 2015;206(2):128–35.
53. Newby JM, Mackenzie A, Williams AD, McIntyre K, Watts S, Wong N, Andrews G. Internet cognitive behavioural therapy for mixed anxiety and depression: a randomized controlled trial and evidence of effectiveness in primary care. *Psychol Med*. 2013;43(12):2635–48.
54. Muntingh ADT, Van Der Feltz-Cornelis C, Van Marwijk H, Spinhoven P, Assendelft W, De Waal M, Adèr H, Van Balkom A. Effectiveness of collaborative stepped care for anxiety disorders in primary care: a pragmatic cluster randomised controlled trial. *Psychother Psychosom*. 2014;83(1):37–44.
55. Oosterbaan DB, Verbraak MJPM, Terluin B, Hoogendoorn AW, Peyrot WJ, Muntingh A, Van Balkom AJLM. Collaborative stepped care v. care as usual for common mental disorders: 8-month, cluster randomised controlled trial. *Br J Psychiatry*. 2013;203(2):132–139.
56. Nordgren LB, Hedman E, Etienne J, Bodin J, Kadowaki A, Eriksson S, Lindkvist E, Andersson G, Carlbring P. Effectiveness and cost-effectiveness of individually tailored Internet-delivered cognitive behavior therapy for anxiety disorders in a primary care population: a randomized controlled trial. *Behav Res Ther*. 2014;59:1–11.
57. Berger T, Urech A, Krieger T, Stolz T, Schulz A, Vincent A, Moser CT, Moritz S, Meyer B. Effects of a transdiagnostic unguided Internet intervention ('velibra') for anxiety disorders in primary care: Results of a randomized controlled trial. *Psychol Med*. 2017;47(1):67–80.
58. Review Manager (RevMan) [Computer Program]. Version 5.3. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration; 2014.
59. Mörtberg E, Clark DM, Bejerot S. Intensive group cognitive therapy and individual cognitive therapy for social phobia: sustained improvement at 5-year follow-up. *J Anxiety Disord*. 2011;25(8):994–1000.
60. van Dis EAM, van Veen SC, Hagens MA, Batelaan NM, Bockting CLH, van den Heuvel RM, Cuijpers P, Engelhard IM. Long-term outcomes of cognitive behavioral therapy for anxiety-related disorders: a systematic review and meta-analysis. *JAMA Psychiat*. 2020;77(3):265–73.
61. Ravindran LN, Stein MB. The pharmacologic treatment of anxiety disorders: A review of progress. *J Clin Psychiatry*. 2010;71(7):839–54.
62. Bandelow B, Sher L, Bunevicius R, Hollander E, Kasper S, Zohar J, Möller H-J. Guidelines for the pharmacological treatment of anxiety disorders, obsessive-compulsive disorder and posttraumatic stress disorder in primary care. *Int J Psychiatry Clin Pract*. 2012;16(2):77–84.
63. Muntingh ADT, van der Feltz-Cornelis CM, van Marwijk HWJ, Spinhoven P, van Balkom AJLM. Collaborative care for anxiety disorders in primary care: a systematic review and meta-analysis. *BMC Fam Pract*. 2016;17(1):62.
64. Wang S-M, Han C, Bahk W-M, Lee S-J, Patkar AA, Masand PS, Pae C-U. Addressing the side effects of contemporary antidepressant drugs: a comprehensive review. *Chonnam Med J*. 2018;54(2):101–12.
65. Hart G, Panayi MC, Harris JA, Westbrook RF. Benzodiazepine treatment can impair or spare extinction, depending on when it is given. *Behav Res Ther*. 2014;56:22–9.
66. Westra HA, Stewart SH, Conrad BE. Naturalistic manner of benzodiazepine use and cognitive behavioral therapy outcome in panic disorder with agoraphobia. *J Anxiety Disord*. 2002;16(3):233–46.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions



Additional file 1

Additional Table.
Full Search Strategy

Topic	MeSH Terms (PubMed, Cochrane)	Equivalent Terms for Scopus, PsycInfo, and CINAHL
Anxiety	“Anxiety Disorders” OR “Anxiety”	“anxiety disorder*” OR anxiety OR anxious OR panic OR phobia OR GAD OR “generalized anxiety disorder*” OR PTSD OR “post-traumatic stress disorder” OR “posttraumatic stress disorder” OR “post traumatic stress disorder” OR “obsessive-compulsive disorder” OR “obsessive compulsive disorder” OR OCD
Primary Care	“Primary Health Care” OR “Physicians, Primary Care” OR “General Practice” OR “General Practitioners” OR “Physicians, Family” OR “Primary Care Nursing” OR “Family Nursing” OR “Nurses, Community Health” OR “Nurse Practitioners” OR “Nurse Clinicians”	“primary health care” OR “primary care” OR “family physician*” OR “general practi*” OR GP OR “family practi*” OR “primary practi*” OR “nurse practitioner*” OR “registered nurs*” OR “community nurs*” OR “nurse clinician*” OR “family nurs*”
Treatment (general)	“Outcome Assessment (Health Care)”	treatment* OR treating OR treat OR management OR managing OR manage OR therapy
Treatment (psychological)	“Psychotherapy” OR “Counseling” OR “Relaxation”	psycho* OR “brief psycho*” OR “cognitive therap*” OR relaxation OR behav* OR counsel* OR mindfulness OR “cognitive behav*” OR “acceptance and commitment therap*” OR ACT OR CBT OR “focussed psycholog*” OR exposure OR “interpersonal psycho*” OR IPT OR “relapse prevention”
Treatment (pharmacological)	“Drug Therapy” OR “Psychotropic Drugs” OR “Adrenergic beta-Antagonists”	pharma* OR “drug therap*” OR antidepress* OR anti-anxiety* OR “anti anxiety” OR “adrenergic beta-antagonist*” OR “beta blocker*” OR “beta-blocker*” OR “selective serotonin reuptake inhibitor*” OR “selective noradrenaline reuptake inhibitor*” OR SSRI OR SNRI OR benzodiazepine* OR anxiolytic*

APPENDIX D
PUBLISHED JOURNAL ARTICLE (CHAPTER 5)



Article

Consumer Perspectives on Anxiety Management in Australian General Practice

Erin Parker ^{1,*} and Michelle Banfield ^{2,*}

¹ Research School of Psychology, Australian National University, Canberra 2601, Australia

² Centre for Mental Health Research, Australian National University, Canberra 2601, Australia

* Correspondence: erin.parker@anu.edu.au (E.P.); michelle.banfield@anu.edu.au (M.B.)

Abstract: The aim of the current study was to explore consumer views on the management of anxiety in general practice, which is often the first service from which a consumer seeks professional support. We used a mixed methods survey to explore three broad research questions: (1) what are consumer experiences of anxiety management in general practice, (2) what do consumers prioritise when considering treatment for anxiety and what are their preferences for type of treatment, and (3) how do consumers think care for anxiety could be improved? Consumers reported generally positive views of their GP when seeking help for anxiety, though they had mixed experiences of the approach taken to treatment. Consumers noted that they prioritise effective treatment above other factors and are less concerned with how quickly their treatment works. A preference for psychological intervention or combined treatment with medication was apparent. Consumers noted that key areas for improving care for anxiety were improving access and funding for psychological treatments, increasing community knowledge about anxiety, and reducing stigma.

Keywords: anxiety; consumer perspectives; lived experience; general practice; experiences of care; primary care



Citation: Parker, E.; Banfield, M. Consumer Perspectives on Anxiety Management in Australian General Practice. *Int. J. Environ. Res. Public Health* **2022**, *19*, 5706. <https://doi.org/10.3390/ijerph19095706>

Academic Editors: Kathy McKay and Ellis Kennedy

Received: 11 March 2022

Accepted: 4 May 2022

Published: 7 May 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Anxiety disorders are common in primary care and account for an increasing proportion of the reasons people seek help from a general practitioner (GP) in Australia [1]. To date, much of the research evaluating the management of anxiety and other mental health conditions in primary care has focussed on the description of service data, e.g., [2], the benefits and challenges of providing mental health services in this setting, e.g., [3], and treatment effectiveness according to clinical measures, e.g., [4]. However, the perspectives of people with a lived experience of mental health difficulties (hereafter: *consumers*) are vital in evaluating mental health services. Exploring consumer perspectives is necessary for understanding factors such as barriers in accessing mental health care, priorities for treatment, satisfaction, and areas of unmet need [5–7]. Consumers have diverse experiences of care, and understanding their perspectives assists in designing services that more appropriately meet the needs of the people they intend to help [7,8]. In addition to benefits for service evaluation and development, exploring consumer perspectives on mental health care helps identify areas for future research that are most relevant to those consumers, who are the ultimate end-users of health care research [9,10].

A handful of international studies have explored consumer perspectives of primary mental health care, including care for serious mental illness [11,12], experiences of diagnosis for anxiety [13], and expectations for care in anxiety and depression [14]. One recent study explored the quality of care for depression and anxiety in North American integrated primary care settings and found that consumers emphasised the importance of accessibility, good technical care, trusting relationships with providers, and care meeting diverse needs [15]. In Australia, consumer involvement has been a focus of mental health

policy since 1992 [16], but research in this area remains sparse and studies that seek to evaluate care from a consumer perspective are few.

This study aimed to explore consumer perspectives on the management of anxiety, specifically in Australian primary care settings. As GPs provide the majority of management for anxiety and are often the first health professional a consumer will see [1,2], we focussed on experiences with a GP specifically. There were three key research questions:

1. What are consumer experiences of anxiety management in general practice?
2. What do consumers prioritise when considering treatment for anxiety and what are their preferences for type of treatment?
3. How do consumers think care for anxiety could be improved?

Participants were also asked about their reasons for help-seeking and any barriers they experienced. We were interested in exploring participants' first experience of seeking help for anxiety as well as their more recent experiences in the past 12 months.

2. Materials and Methods

The ethical aspects of this research were approved by the Australian National University Human Research Ethics Committee (protocol 2019/910). We used a cross-sectional survey to explore consumer experiences and priorities. The survey used a combination of multiple choice, Likert scales, and free response questions and was divided into five broad sections: (1) decision to seek help and expectations, (2) experience and treatment preferences, (3) symptoms and diagnoses, (4) demographics, and (5) overall reflections and suggestions for improvement. The survey was piloted with a small group of people with lived experience from the Consumer and Carer Advisory Group for ACACIA, The Australian Capital Territory (ACT) Consumer and Carer Mental Health Research Unit, who provided feedback on survey content, flow, and length. Adjustments were made to questions following this feedback (i.e., wording and inclusion/exclusion of questions).

2.1. Participants and Recruitment

The survey was administered through the Qualtrics online survey platform. Participants were recruited primarily through (1) paid advertisements on the social media platforms Facebook and Instagram, targeted at Australians aged 18 years and older, and (2) consumer peak bodies (Mental Health Australia, National Mental Health Consumer and Carer Forum, Consumer and Community Involvement Program (WA), Flourish (TAS), and ACT Mental Health Consumer Network (ACT)). We also intended to recruit directly from primary health care clinics via flyers placed in waiting rooms. However, due to the COVID-19 pandemic, many clinics had removed reading materials from waiting rooms and, as such, were not accepting advertising material. Large, multi-clinic organisations were contacted via email as an alternative, though only one organisation responded. The survey ran for 12 months (7 July 2020 to 6 July 2021). Multiple rounds of social media advertising were conducted during this period.

Participants were a non-random sample of adult Australians (18 years+) who had sought treatment for anxiety from their GP in the past five years. Those who sought help primarily for posttraumatic stress disorder (PTSD) and obsessive compulsive disorder (OCD) were excluded, as these conditions are no longer categorised as anxiety disorders in current classification systems [17,18]. Participants were assessed as eligible based on their response to screening questions at the beginning of the survey. We intended to recruit a convenience sample of 200 participants in total from all states and territories within Australia to enable detection of small to moderate effects in quantitative analyses and to explore themes among the experiences of a large group of consumers. Participants were not offered incentives for participating in the research. Informed consent was obtained electronically by (a) commencing the survey after reading the participant information sheet and (b) indicating consent for data to be used at the conclusion of the survey by clicking "submit to researcher". Participants were informed that dropping out prior to submitting their responses would be taken as withdrawal of consent. The survey was administered

anonymously, and participants were asked not to enter identifying information in free-response questions. Data were inspected for such information during analysis, and any names of people or specific locations (e.g., GP clinics) were removed.

2.2. Survey Measures

The full survey is included in Supplementary File S1. First, participants were asked about their decision to seek help for their anxiety symptoms and whether they were looking for particular treatments, as well as about perceived barriers that prevented them from seeking help. Second, participants were asked about their experience with the care they received, including perceptions of their GP and subsequent treatment approach, satisfaction with care, and perceived effectiveness of treatment. These questions were adapted from existing surveys of health care experience such as the CAHPS[®] Experience of Care and Health Outcomes (ECHO) Survey [19]. Participant experiences with their GP were assessed using two scales, a seven-item questionnaire exploring perceptions of the knowledge, attitudes, and interpersonal approach of the GP (e.g., “my doctor listened carefully to me” and “my doctor seemed to have good knowledge about anxiety”) and a five-item questionnaire about treatment approach (e.g., “my GP gave me as much information as I wanted about how to manage my anxiety”). Each statement was rated on a five-point Likert scale from 1 “strongly disagree” to 5 “strongly agree”. Participants were asked these questions about their first experience of seeking help as well as recent experiences in the past 12 months.

Information about the location of where participants sought help (remoteness and Australian State or Territory) at both time points was also collected. Participants were also asked whether they had a current mental health treatment plan—a care plan developed with a GP that is required to access subsidised treatment with mental health professional. Each question set ended with a free response question “is there anything else you would like to say about this?” to ensure participants were given an opportunity to provide information they felt was important but may not have been captured by earlier questions.

Information was collected about participants’ demographic characteristics (age, gender, and ethnicity) and known clinical characteristics (lifetime mental health diagnoses and current symptoms). The Depression, Anxiety, and Stress Scale Short Form [DASS-21]; [20] was used to measure anxiety symptoms. The DASS-21 is a self-report, non-diagnostic tool that measures the frequency of depression, anxiety, and stress symptoms experienced over the past week. This measure was chosen over other measures of anxiety symptomatology as it is used frequently in Australian primary care as a screening and assessment tool and can provide information about symptoms that commonly co-occur with anxiety. Participants rate statements on a scale from 0 “never” to 3 “almost always”. Scores are summed within the three subscales with possible scores ranging from 0 to 21 for each subscale. Severity labels (normal, mild, moderate, severe, or extremely severe) are used to classify scores and refer to symptom levels relative to the general population rather than severity of disorder. Scores on the anxiety subscale between 7 and 10 indicate moderate anxiety symptoms, scores between 11 and 13 indicate severe anxiety symptoms, and scores 14 or higher are considered extremely severe. Cut-off scores for severity vary across the subscales. For example, “moderate” refers to scores from 10 to 12 for stress and from 6 to 7 for depression.

The DASS-21 has demonstrated excellent internal consistency with Cronbach’s alphas of 0.94 for the depression subscale, 0.87 for anxiety, and 0.91 for stress [21]. The scales are moderately correlated with one another, consistent with the comorbidity seen in the syndromes they measure (depression-anxiety = 0.42; anxiety-stress = 0.46; depression-stress = 0.39; [20]). However, confirmatory factor analyses with clinical and non-clinical populations have shown that the DASS-21 items can be reliably grouped into the three separate scales [20]. The individual DASS scales also show good convergent and discriminant validity with measures of related and unrelated constructs, respectively [21].

2.3. Analysis

Quantitative analyses were conducted using JASP, a free user interface for R available from <https://jasp-stats.org/> (accessed on 15 July 2021; [22]). Questions with multiple response selections were divided and coded as 0 (response not selected) or 1 (response selected). We calculated the frequency and proportion of all participants who selected the option as at least one of their responses. The number of responses selected by participants was also calculated for each question.

Participant gender was coded into three groups, male, female, and gender diverse. The overarching category “gender diverse” was used rather than individual categories reported by participants (e.g., non-binary and transgender) to protect confidentiality. Participant ethnicity was coded using the (Australian Standard Classification of Cultural and Ethnic Groups [ASCCEG]; [23]) based on free-response answers from participants. For Likert-scale questions, missing data ($n = 3$) was imputed to minimise information loss using person-median substitution. Although suboptimal for larger amounts of missing data, this method was considered unlikely to introduce bias in the current study due to the very small number of missing values [24].

In order to explore whether certain variables predicted participant perceptions of their GP, principal components analysis was used as a dimension reduction method for the seven items. A single measure was calculated “perceptions of GP” and scores were compared at first experience and experience in the past 12 months using Wilcoxon signed rank tests. Linear regression was used to explore predictors of participant perceptions of their GP.

Qualitative responses were analysed using content analysis. The analysis used emergent coding, which draws on grounded theory [25] where codes are generated inductively from the data rather than from a pre-existing theory [26]. This process is used to analyse data where research questions are exploratory or broad [26] and was chosen for this study as very little prior research exists regarding consumer views on anxiety care. Participant responses to each question were read for overall understanding by E.P., and open coding was used to generate and assign codes as concepts became apparent. Axial coding was then used to group similar codes into categories. Constant comparative analysis was used throughout the coding process to look at early and later text to ensure consistency in information being recorded by codes and to refine the coding structure. Codes and categories for each question were finalised after no new concepts were identified from the data. To ensure the accuracy of coding and to address potential bias, E.P. discussed the coding structure and key pieces of text with M.B., a lived experience researcher with extensive experience in consumer research and qualitative methods. Following these discussions, refinements were made to the coding structure, including combining codes that reflected similar concepts and separating others that represented distinct concepts.

3. Results

A total of 351 people responded to the advertisement and proceeded to the survey on Qualtrics. Of these, 138 completed the survey in full. Participants were advised non-completion of the survey would be interpreted as withdrawal of consent. As such, only complete responses were analysed. A flowchart demonstrating survey response rate can be seen in Figure 1. The median completion time for the survey was 26 min.

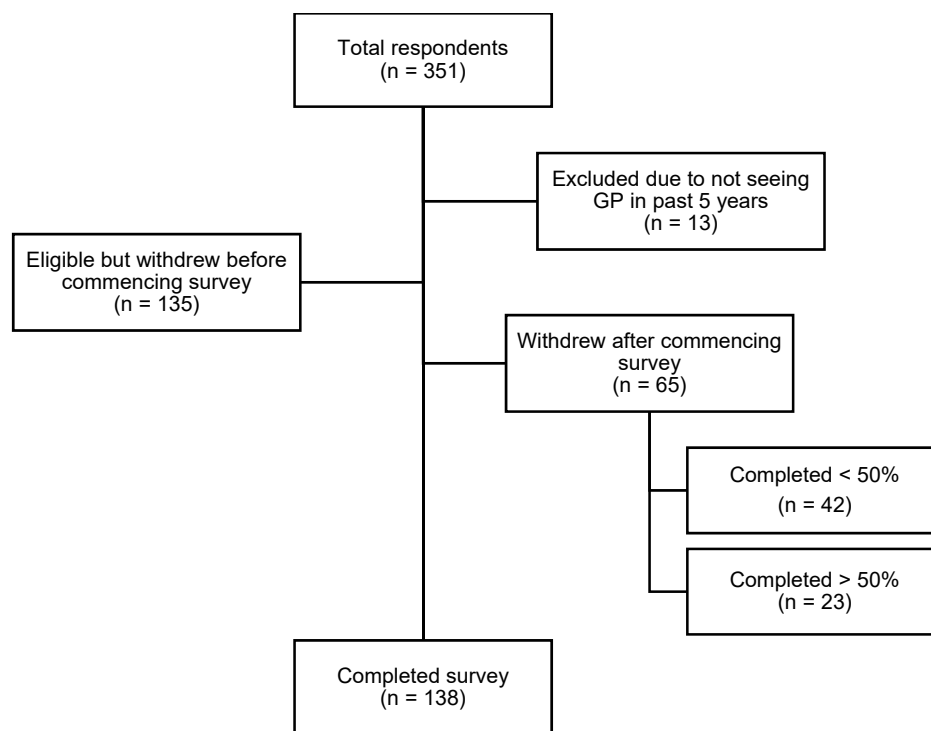


Figure 1. Flowchart demonstrating survey response rate.

3.1. Participant Characteristics

The demographic and clinical characteristics of participants are reported in Table 1. Participant ethnicity was classified according to ASCCEG narrow groups (e.g., Eastern European) as many participants did not report their specific cultural and ethnic group (e.g., Hungarian). The majority of participants were female and White, and the median age bracket was 35–44 years. Most commonly reported lifetime diagnoses included generalised anxiety disorder, followed by major depressive disorder. Participants reporting their diagnosis as “other” mostly listed unspecified anxiety or mixed anxiety/depression. Most participants reported having more than one lifetime diagnosis (median = 2). Furthermore, most participants (n = 77, 55.8%) reported they had a mental health treatment plan at the time of completing the survey.

Table 1. Characteristics of participants (n = 138).

Characteristic	Variable	Frequency (n)	Proportion of Participants (%)
Age	18–24	15	10.9
	25–34	39	28.3
	35–44	28	20.3
	45–54	22	15.9
	55–64	23	16.7
	65+	11	8.0
Gender	Female	112	81.2
	Male	19	13.8
Ethnicity ^a	Gender diverse	7	5.1
	Australian	114	83.3
	Aboriginal or Torres Strait Islander	2	1.4
	New Zealander	1	0.7
	British	4	4.3
	Irish	1	0.7
	Western European	1	0.7

Table 1. Cont.

Characteristic	Variable	Frequency (n)	Proportion of Participants (%)
Lifetime diagnosis	Eastern European	3	2.2
	Chinese Asian	1	0.7
	Southern Asian	3	2.2
	South American	1	0.7
	Multiple	3	2.2
	Generalised anxiety disorder	78	56.5
	Panic disorder	17	12.3
	Social anxiety disorder	16	11.6
	Specific phobia	9	6.5
	Agoraphobia	6	4.3
	Major depressive disorder	57	41.3
	Other depressive disorder	5	3.6
	Obsessive compulsive disorder	15	10.9
	Posttraumatic stress disorder	35	25.4
	Adjustment disorder	7	5.1
	Bipolar disorder	9	6.5
	Autism spectrum disorder	5	3.6
	Attention deficit hyperactivity disorder	4	2.9
	Schizophrenia spectrum disorder	1	0.7
	Substance use disorder	5	3.6
	Personality disorder	9	6.5
	Eating disorder	13	9.4
	Other	11	8.0
	No diagnosis	20	14.5
Unsure/prefer not to say	2	1.4	
Lifetime diagnoses (n)	0	20	14.5
	1	28	20.3
	2	34	24.6
	3	31	22.5
	4	10	7.2
	5+	13	9.4
First help-seeking (year)	<2015	69	50.0
	2015	9	6.5
	2016	2	1.4
	2017	18	13.0
	2018	11	8.0
	2019	10	7.2
	2020	13	9.4
	Unsure	6	4.3

^a Data missing for four participants.

Mean scores on the DASS-21 were moderate to severe for the anxiety subscale ($M = 7.4$, 95% CI = 6.54–8.24). A quarter of participants' scores fell in the normal range ($n = 37$, 26.8%), 13.8% ($n = 19$) were classified as mild, 9.4% ($n = 13$) were classified as moderate, 17.4% were classified as severe ($n = 24$), and approximately a third was classified as extremely severe ($n = 45$, 32.6%). Mean scores were in the moderate range for the depression ($M = 9.0$, 95% CI = 7.85–10.06) and stress ($M = 10.7$, 95% CI = 9.76–11.54) subscales.

3.2. Help-Seeking

Frequencies for the reasons that participants sought help for their anxiety are reported in Table 2. Most participants ($n = 123$, 89.1%) reported that they sought help due to their symptoms becoming too severe to manage. For 89 people, this was the sole reason they sought help, while 26 reported encouragement from others also prompting their help-seeking. Seven participants stated encouragement from others as their sole reason, while a further four stated finding out where to get help as their sole reason. A minority of

participants selected combinations of two other reasons ($n = 9$, 6.5%), and three participants selected more than two reasons for help-seeking.

Table 2. Participant reported reasons for and barriers to seeking help for anxiety.

	Frequency (n)	Proportion of Participants (%)
Reason for help-seeking		
Symptom severity	123	89.1
Encouragement from others	36	26.1
Found where to go to get help	10	7.2
Other reason	7	5.1
Barriers ^a		
Afraid to ask for help	54	39.1
Financial cost	29	21.0
Unsure where to seek help	24	17.4
Unable to access help	19	13.8
Other	36	26.1

Note. Participants could select more than one response so proportions add to more than 100%. ^a Data missing for one participant.

Half of the participants ($n = 69$) reported they had first sought help for anxiety prior to 2015. Three quarters of participants reported they experienced at least one barrier to seeking help for their anxiety. Most reported a single barrier ($n = 64$, 46.4%), 27 (19.6%) reported two barriers, and 13 (9.4%) reported three or more barriers. The most common barrier reported by participants was being afraid to ask for help (Table 2). Among participants who selected “other”, the three most common responses were past negative experience ($n = 7$, 5.1% of total), shame or stigma ($n = 6$, 4.3% of total), and a lack of knowledge about anxiety or treatment options ($n = 5$, 3.6% of total).

Participants were further asked whether they believed that the COVID-19 pandemic had affected their likelihood of seeking help. While almost half of the participants ($n = 67$, 48.6%) reported that their likelihood of seeking help was unchanged, 59 participants (42.8%) stated the pandemic had made them more likely to seek help. A small number of participants ($n = 12$, 8.7%) reported decreased likelihood of help-seeking due to the pandemic.

The survey included separate questions about first experience of help-seeking and experiences in the past 12 months. Quantitative and qualitative findings from these two sections are described separately below.

3.3. First Experience

Most participants sought help in urban areas ($n = 95$, 68.8%) in the south-eastern states of Australia (NSW: $n = 42$, 30.4%; VIC: $n = 29$, 21.0%; and ACT: $n = 23$, 16.7%). Twelve participants (8.7%) each first sought help in Queensland and Western Australia, eleven (8.0%) first sought help in South Australia, and eight (5.8%) first sought help in Tasmania. There were no participants with help-seeking experiences in the Northern Territory.

3.3.1. Treatment Preferences—First Experience

Participants were asked whether they had specific treatment preferences at the first appointment with their GP (Table 3). In total, 52 participants (37.7%) reported no preference for treatment at their first appointment (i.e., they had no expectations and/or were looking for general advice), while the majority of participants ($n = 86$, 62.3%) reported specific treatment preferences. Participants could select more than one response, though most reported a single specific treatment preference ($n = 54$, 39.1% of total participants). Approximately a fifth of participants reported two preferences ($n = 28$), and a small number ($n = 4$, 2.9% of total participants) indicated more than two preferences. Half ($n = 69$) reported they were seeking psychological treatment via a referral to a psychologist, and approximately a third ($n = 43$) indicated they were seeking medication. Of the participants seeking medication, most indicated they were also looking for psychological treatment

($n = 31, 72.1\%$). Only 12 participants reported seeking medication alone. By contrast, just over half of the participants ($n = 38$) seeking referral to a psychologist reported they were looking for this alone.

Table 3. Preferences for treatment approach at first appointment with GP.

Treatment Approach	Frequency (n)	Proportion of Participants (%)
Referral for a psychologist	69	50.0
Medication	43	31.2
No specific treatment	34	24.6
General advice	30	21.7
Other	10	7.2

Note. Participants could select more than one response so proportions add to more than 100%.

3.3.2. Treatment Offered—First Experience

Participants were asked which treatments their GP offered at this first appointment. The results are presented in Table 4. Over half of the participants ($n = 79, 57.2\%$) reported at least one of the treatments they were offered was referral to a psychologist. The same number of participants ($n = 79, 57.2\%$) reported being offered medication (short-term medication such as benzodiazepines, long-term medication such as antidepressants or similar, or both). For both treatments (i.e., referral to psychologist or medication), 30 participants (21.7%) reported being offered one but not the other (i.e., medication with no psychologist referral or vice versa). However, most ($n = 49, 35.5\%$) noted being offered both medication and referral to a psychologist. A very small number of participants ($n = 3, 2.2\%$) reported being offered a short-term medication (e.g., benzodiazepines) alone.

Table 4. Treatments offered by GP at first appointment.

Treatment Offered	Frequency (n)	Proportion of Participants (%)
Referral—psychologist	79	57.2
Medication—long-term	69	50.0
Lifestyle	60	43.5
Medication—short-term	27	19.6
Counselling by GP	18	13.0
Referral—psychiatrist	16	11.6
Referral—self-help	11	8.0
Other	11	8.0
None	9	6.5

Note. Long-term medication refers to antidepressants or similar, while short-term medication refers to short-acting drugs such as benzodiazepines.

Discrepancy scores were calculated for each participant to determine whether there was a difference between preferred treatment and that offered by the GP. For those who had specific preferences (58.7%), most reported they were offered at least one of the treatments they were seeking ($n = 62, 44.9\%$ of total participants). Nineteen participants (13.8% of total participants) were not offered any of the treatments they were seeking.

In addition to the type of treatment offered by their GP, participants were asked to rate a series of statements about their GP's approach to treatment at this first appointment. The results are presented in Figure 2. Similar proportions of participants agreed and disagreed that their doctor gave them information about anxiety (46.7% agreed vs. 41.6% disagreed), gave them treatment options (41.6% agreed vs. 45.3% disagreed), and asked about their preferences (44.5% agreed vs. 46.0% disagreed). When asked to rate whether they received enough information about how to manage anxiety, 38.0% of participants agreed and 52.6% disagreed, with the remainder being neutral. While most participants (54.0%) agreed that they felt able to refuse a specific treatment, more than one-fifth (22.7%) felt they could not refuse. Higher agreement was seen across all items for participants who were offered a treatment consistent with their preferences compared with those who were not (Figure 3).

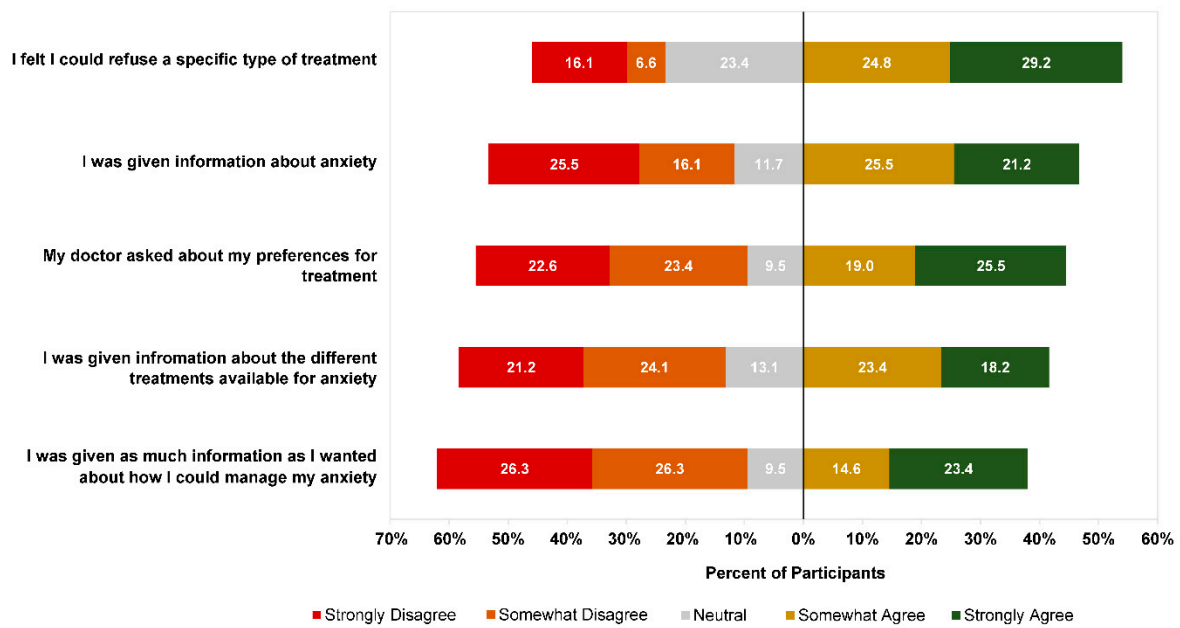


Figure 2. Participant ratings (n = 137) of GP treatment approach at first experience of seeking help for anxiety. Data missing for one participant.

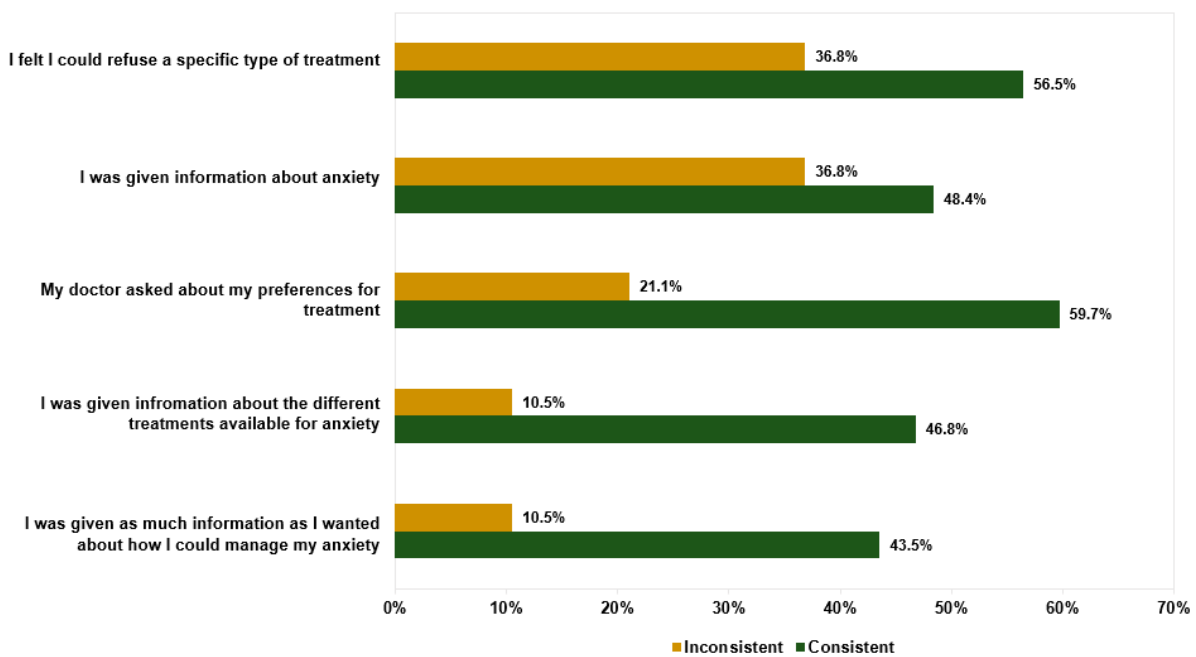


Figure 3. Comparison of agreement ratings with treatment items between participants who received a treatment consistent with their preferences (“consistent”, n = 62) and those who did not (“inconsistent”, n = 19).

3.3.3. Perceptions of GP—First Experience

Participants reported generally positive experiences with their GP when they first sought help for anxiety (Figure 4). The highest agreement ratings were for the statement “my doctor showed respect for what I had to say” (70.3% agreed vs. 20.3% disagreed), and the lowest were for “my doctor seemed to have good knowledge about anxiety” (57.2% agreed vs. 23.2% disagreed).

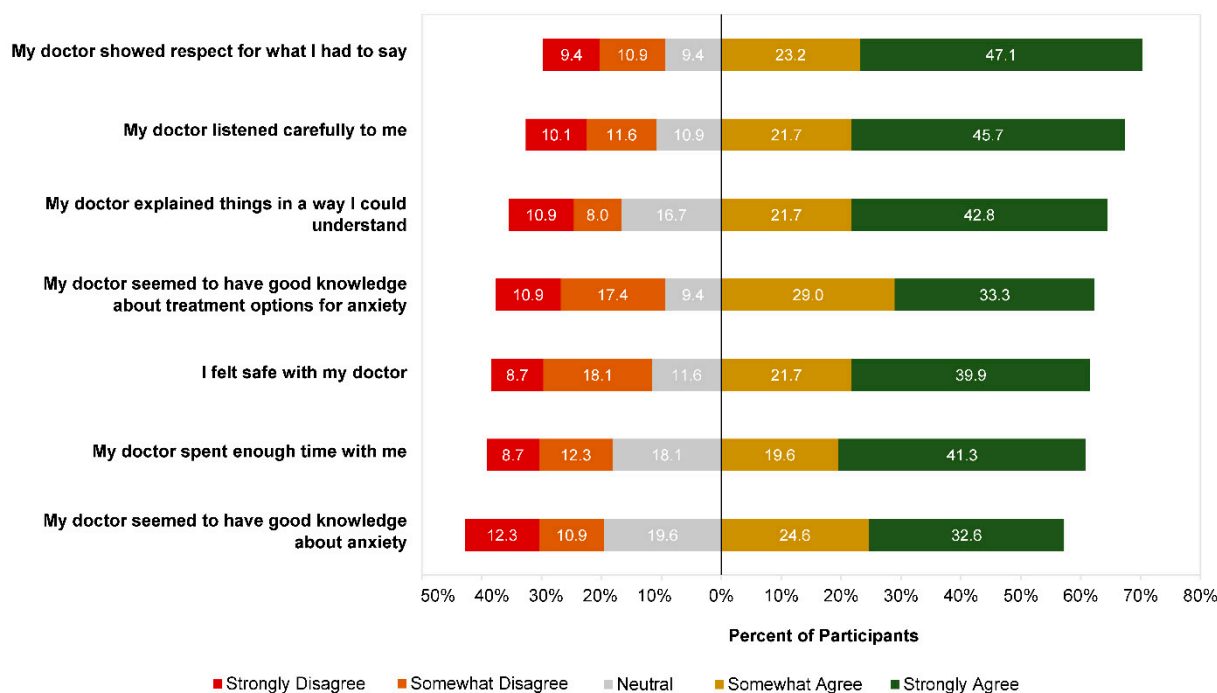


Figure 4. Participant ratings (n = 138) of perceptions of GP at first experience.

Inspection of the correlation matrix for the seven items regarding perceptions of GP demonstrated correlations of at least 0.65 between all items. The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.88, and Bartlett’s test of sphericity was significant; $\chi^2(21) = 1069.75, p < 0.001$. Principal component analysis was performed and identified one factor that accounted for 79.6% of the total variance. All items loaded onto the factor at 0.85 or above. A total score for perceptions of GP was therefore calculated ($M = 25.96, SD = 8.56$) for use in further analyses. Hierarchical linear regression explored the effect of discrepancy in preferred and offered treatment, age, and gender on perceptions of GP. The overall model was not significant when age and gender were included (and neither were significant independently), so they were omitted from the final model. The effect of discrepancy was significant; $F(2, 135) = 3.86, p = 0.024, R^2 = 0.054$, see Table 5. Perception of GP scores did not vary between participants with no specific treatment preferences and participants who received a treatment consistent with their preferences ($t = -0.98, p = 0.329$). However, treatment being inconsistent with participant preferences was associated with a 6.1 point reduction in ratings of the GP ($t = 2.78, p = 0.006$) compared with preference-consistent treatment. Comparison across individual items (Figure 5) demonstrated particularly low agreement ratings for statements “my doctor spent enough time with me” and “my doctor explained things in a way I could understand”.

Table 5. Linear regression results for effect of treatment discrepancy on perceptions of GP.

	Estimate	se	t	95% CI		p
				LB	UB	
Intercept	27.42	1.07	25.75	25.31	29.52	<0.001
Consistent (reference)	0.00					
Inconsistent	−6.10	2.20	−2.78	−10.45	−1.76	0.006
No Preference	−1.51	1.54	−0.98	−4.55	1.55	0.329

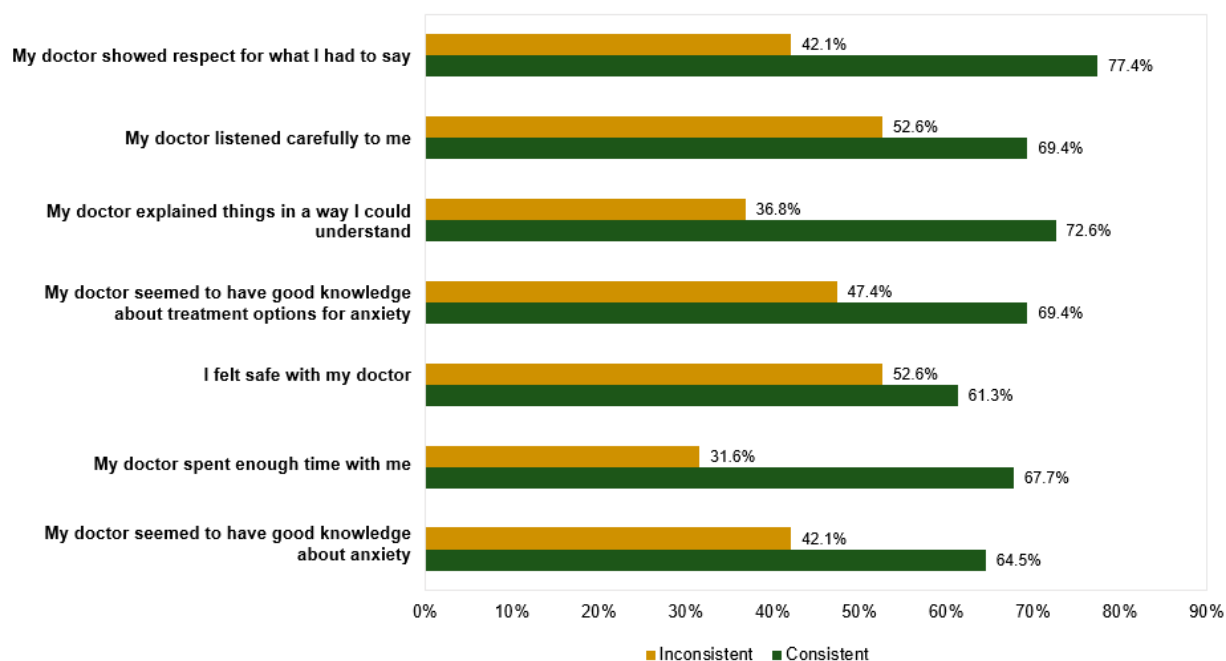


Figure 5. Comparison of agreement regarding perceptions of GP items between participants who received a treatment consistent with their preferences (“consistent”, $n = 62$) and those who did not (“inconsistent”, $n = 19$).

3.3.4. Overall Satisfaction and Improvement—First Experience

About two thirds of participants agreed they were satisfied with their experience of seeking help from a GP; 20.3% ($n = 28$) somewhat agreed, and 38.4% ($n = 53$) strongly agreed. Just over a quarter of participants reported that they either somewhat disagreed ($n = 12$, 8.7%) or strongly disagreed ($n = 25$, 18.1%), and the remainder were neutral. Similarly, 60.6% of participants ($n = 83$) agreed that their needs were met while 27.7% ($n = 38$) disagreed. Of the 115 (84.6%) participants who reported receiving at least one of the treatments their GP offered, most somewhat or strongly agreed that it improved their symptoms ($n = 77$, 67.5%) and quality of life ($n = 79$, 68.7%).

3.3.5. Qualitative Responses—First Experience

Participants were asked whether they wanted to provide additional information about their first experience seeking help in a free-response question. In total, 64 participants (46.4%) answered this question. Two major themes were identified in the responses: beneficial experiences and adverse experiences.

In total, 25 participants (39.1% of those who provided responses to the open-ended question) mentioned having beneficial experiences with their GP. Many of these participants reported an overall positive experience without detailed information, though ten mentioned their GP being supportive and validating.

She listened, she took me seriously, she was gentle, and she recommended treatment immediately.

I think the best part about seeking help from my GP for the first time was that he listened carefully, was empathetic and validated my experiences. I was so scared before I went in. After telling him about what I was experiencing, I remember him saying “That must be really debilitating for you.” I felt heard and like my problems were real.

Eight participants also spoke about being satisfied with the approach their GP took to helping them manage their anxiety.

She didn’t overload me with information that I wasn’t ready for, she just told me the things I needed to know, and what I could handle at that time.

It was very positive and her ability to take time to discuss my anxiety with me was really valuable.

In contrast, 23 participants (35.9% of those who provided responses to the open-ended question) mentioned having adverse experiences when first seeking help from their GP. A major sub-theme among responses was feeling dissatisfied with the treatment or approach the GP took. Ten participants reported this and discussed treatment being inconsistent with their preferences or feeling that they were not given enough information about different treatment options.

It was a terrible experience and I wish I had had a GP that would have explained my options rather than put me straight on medication.

... there was no depth into the symptoms and treatment options. I was given the DASS survey and referred on to a psychologist. It was only when I asked for medication that it was given as a 'stop gap'. I was given no information on other ways to help with anxiety

Seven participants also reported that they found their GP dismissive or invalidating.

She didn't listen to anything I said. She seemed to be following a script of her own, that was generic and not related to my situation.

I was told it was my imagination and I probably just needed a holiday.

I was met with complete disregard and my experience belittled. I was told that going outside would be adequate treatment for my crippling fear, which only added to my pain.

3.4. Previous 12 Months

Of the 138 participants, 88 (63.8%) indicated they had seen their GP in the past 12 months for anxiety, not including people who saw a GP for the first time in the past 12 months ($n = 23$, 16.6%).

3.4.1. Treatment Offered—Previous 12 Months

Almost three quarters of participants ($n = 65$, 73.9%) who had seen their GP in the past 12 months reported at least one of the treatments they were offered was a referral to a psychologist (see Table 6). In total, 61 participants (69.3%) were offered medication (short term, long term, or both). Most who were offered either medication or psychologist referral were offered both ($n = 47$, 53.4%), while 18 participants (20.5%) were offered referral to a psychologist with no medication, and 14 (15.9%) reported the opposite. Again, a small number of participants ($n = 2$, 2.3%) reported being offered a short-term medication alone.

Table 6. Treatments offered by GP in the past 12 months.

Treatment	Frequency (n)	Proportion of Participants (%)
Referral—psychologist	65	73.9
Medication—long-term	56	63.6
Lifestyle	50	56.8
Referral—psychiatrist	24	27.3
Medication—short-term	17	19.3
Counselling by GP	8	9.1
Referral—self-help	6	6.8
Other	3	3.4
None	2	2.3

Participants appeared to rate the treatment approach of their GP more highly for experiences in the past 12 months (Figure 6). Agreement ratings were over 50% for most statements. The highest agreement ratings were for feeling able to refuse a specific type of treatment (77.2% of participants agreed). The lowest was for being given information about anxiety (47.7% agreed), though most participants agreed they were given enough information about managing their anxiety.

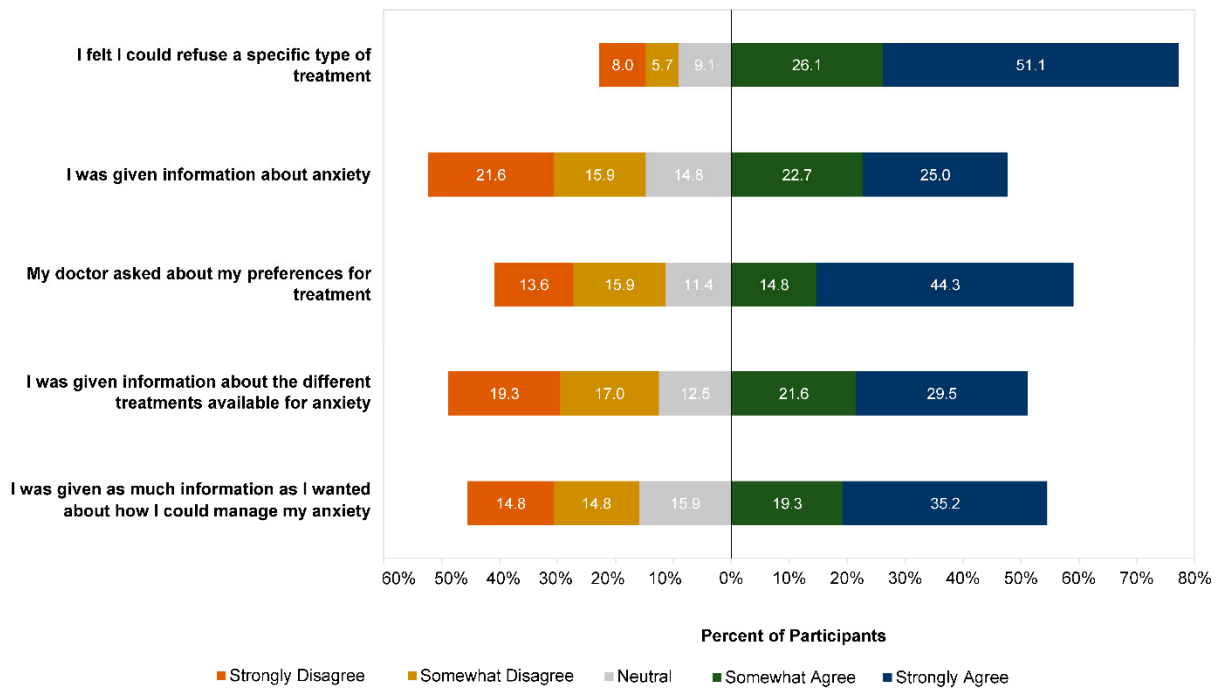


Figure 6. Participant ratings (n = 88) of GP treatment approach in the last 12 months.

3.4.2. Perceptions of GP—Previous 12 Months

Participants again indicated positive perceptions of their GP in the past 12 months, with at least 70% of participants somewhat or strongly agreeing with all statements about their experience (Figure 7).

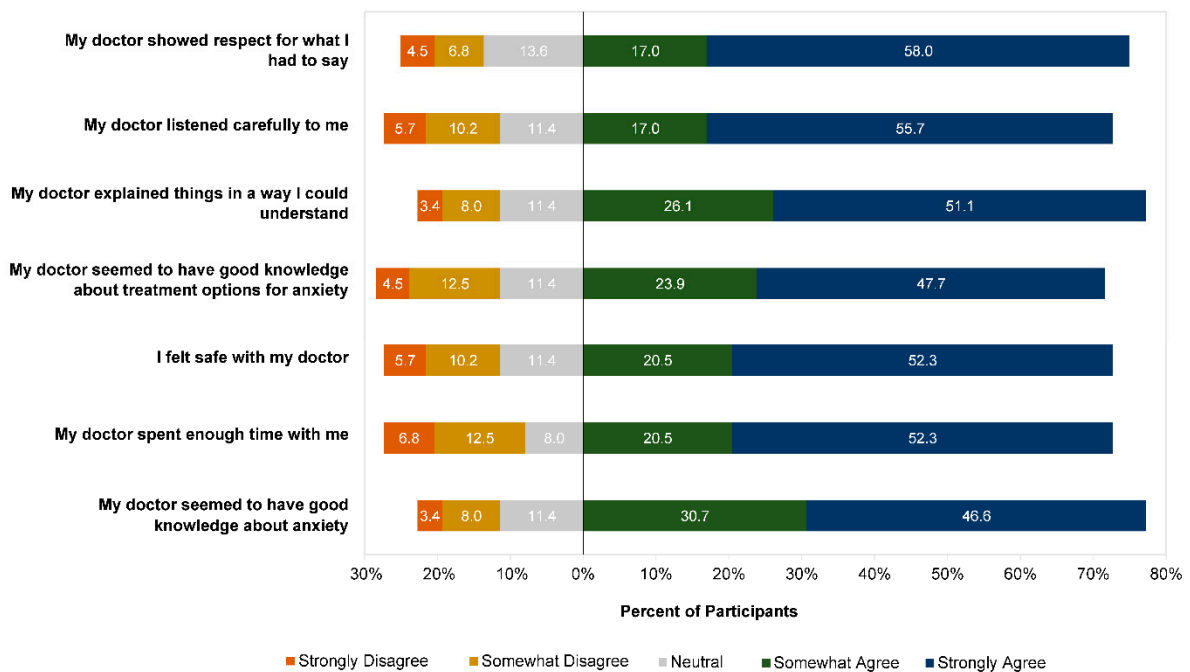


Figure 7. Participant ratings (n = 88) of perceptions of GP in the last 12 months.

The results of the principal components analysis found the same single factor model for perceptions of GP at 12 months, which accounted for 81.2% of the variance. Composite scores were calculated, and the mean overall score for perceptions of GP was 28.47 (SD = 7.66). The results of the hierarchical linear regression found that the selected

participant characteristics (age and gender) and location of help-seeking (urban vs. rural/remote) did not predict perceptions of GP at 12 months; $F(9, 77) = 0.65, p = 0.755$. Due to skewed data, a Wilcoxon signed-rank test was used to compare perceptions of GP at the two time points. The results found significantly higher ratings for perceptions of GP in the past 12 months ($M = 28.47$) than at first experience ($M = 25.96$); $Z = 2.35, p = 0.015$, with a moderate effect size of $r = 0.35$.

3.4.3. Overall Satisfaction and Improvement—Previous 12 Months

Most participants ($n = 64, 72.7\%$) either somewhat or strongly agreed they were satisfied with the experience of seeking help from their GP in the past 12 months, and 73.9% ($n = 65$) agreed their needs had been met. Of the participants who received at least one of the treatments their GP offered during the past 12 months, most somewhat or strongly agreed it improved their symptoms ($n = 60, 73.2\%$) and quality of life ($n = 61, 74.4\%$).

3.4.4. Qualitative Responses—Previous 12 Months

In total, 50 of the participants who had seen a GP in the past 12 months (56.8%) provided additional information about their experience. As with their first experience, participants' responses were broadly categorised into beneficial or adverse experiences. Many participants commented they had seen a different GP than at their first experience, which was typically, though not always, related to having a more positive experience. A handful of participants also noted they had first sought help a long time ago and believed that GPs now had improved training and awareness of mental health difficulties.

In total, 18 participants (36.0% of those who provided responses to the open-ended question) provided information about having beneficial experiences with their GP. A major subtheme among these responses ($n = 7$) was having a caring, supportive, and understanding GP.

My GP has continued to care for my mental health and anxiety issues, and I feel as though she understands me, and is a partner with me, helping me and guiding me, and willing to listen.

My current GP is the perfect example of how a practitioner should treat someone with concerns about anxiety. She listens to me very carefully and is very open and thorough about explaining options.

My GP in the last 12 months has always been very caring and has listened well to my concerns about my anxiety. I have no hesitation in approaching him if I needed help/advice.

A further five participants spoke about their anxiety improving or being resolved.

I feel so much better and am proud of the progress I have made. I have an appointment every now and then when I want tips/refreshers on managing my anxiety.

In total, 16 participants (32.0% of those who provided responses to the open-ended question) mentioned adverse experiences with their GP in the past 12 months. This typically related to feeling dismissed by their GP rather than factors related to any treatment offered.

I feel very rushed and as if my GP just doesn't have time to see me. She doesn't take my concerns very seriously anymore . . .

I felt the GPs I consulted were adversely biased [sic] because of my age, the result was to fail to register the severity of my symptoms.

3.5. Treatment Priorities

Participants were asked to select from a list of factors they thought important when considering treatment for anxiety. Participants could select as many of the options as they wished and were able to include other factors not on the list. Figure 8 reports the percentage of participants who designated the specific factor as important. Almost all participants (n

= 127) selected how well the treatment works as important while considering treatment options, while less than half (n = 59) selected how quickly the treatment works. Most participants were concerned with any potential side-effects (n = 91) and factors related to access (e.g., cost: n = 83; ease of access: n = 82). After selecting the important factors, participants were asked to rank their choices from most to least important. The rankings across the five main treatment considerations (i.e., excluding “other”) are presented in Figure 9. Effectiveness of the treatment was the most important factor for most participants (n = 65), followed by cost (n = 32) and potential side effects (n = 25). Only small numbers of participants ranked ease of access (n = 7) or how quickly the treatment works (n = 6) as their top priority.

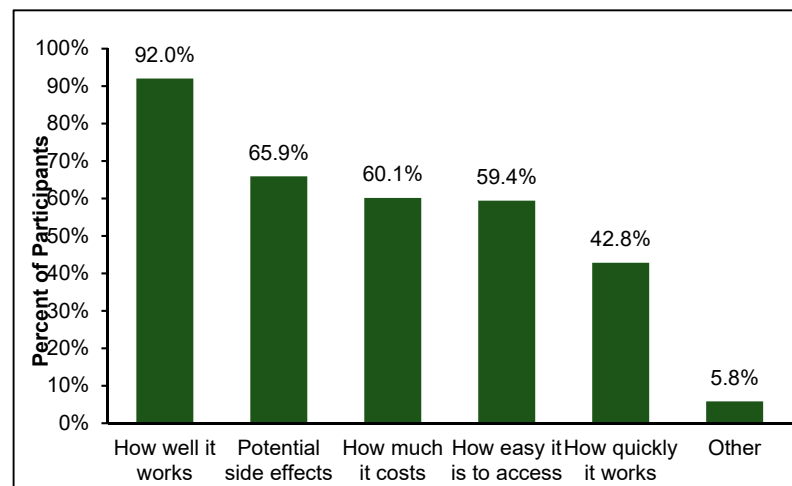


Figure 8. Important factors to participants when considering anxiety treatment.

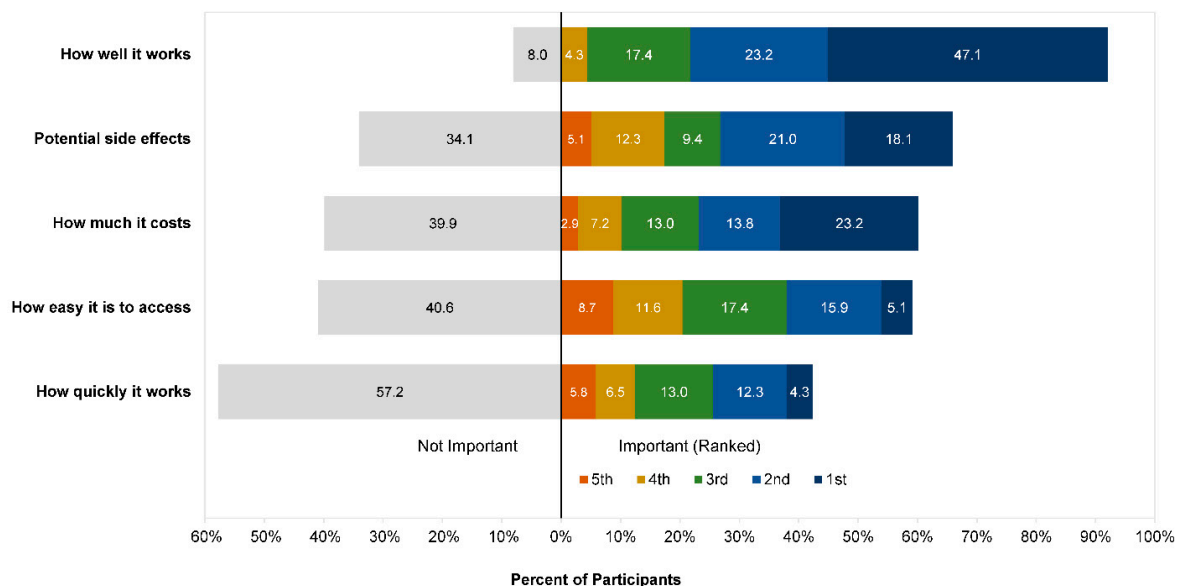


Figure 9. Participant importance rankings for each treatment consideration. “Not important” = percent of participants who did not select the option as important to them, “important” = percent of participants who selected the option as important and the rank they assigned it relative to other considerations (1 = most important to 5 = least important).

Qualitative Responses—Treatment Priorities

In total, 40 participants (30.0%) provided additional information about their preferences for treatment in a free-response question. Three major themes were identified

among the responses: specific treatment preference, problems with treatment, and difficulty accessing treatment.

For example, 17 participants mentioned having a preference for a specific kind of treatment. Among these responses, six discussed a preference for psychological interventions and four expressed they did not want medication without specifying a preference for another kind of intervention.

These days I prefer psychological treatment above anything else, however I am always open to a medication to help regulate my symptoms, provided the benefits outweigh the side effects.

I am not interested in taking medication. I have done so in the past but prefer not to.

A further four participants discussed a preference for non-clinical or alternative treatments.

I have had shiatsu massage with mindful meditation as a part of the same treatment. I think there is a wealth of possible treatments that GPs have no idea about.

I would really like to get access to ketamine treatment through a psychiatrist as it has been the only effective treatment with no side effects.

Difficulty accessing treatment was reported by 14 participants, who most commonly spoke about financial cost. For the seven people who mentioned cost as a barrier, this typically related to access to specialist care.

I would prefer if [p]sychologist visits were better funded by Medicare, both the amount of the rebate and the number of sessions allowed.

As a student, cost can be a prohibitive factor for getting help.

Three people also discussed difficulty accessing treatment due to living in a rural or remote area. Again, this related mainly to specialist mental health care.

There definitely needs to be better access to mental health services in the country. There are also not enough [p]sychiatrist[s] in the regional areas.

Nine people spoke about problems with their treatment that were not associated with access issues. Most of these participants discussed concerns about medication side effects and a lack of recognition for this from their treatment providers.

Very little significance is placed on how the side effects of these medications impact your day to day life. Last time I went on a medication it severely increased my suicidal ideation and reduced impulse control.

3.6. Suggestions for Improvement

At the conclusion of the survey, participants were asked if they had suggestions for improving anxiety care in Australia. In total, 89 participants (64.5%) responded to this question. Four key themes were identified in the responses: better access and funding, improving knowledge and reducing stigma, better training for GPs, and better treatments.

3.6.1. Better Access and Funding

A clear theme in the responses was improving access and funding for mental health services, which was suggested by 34 participants. Typically, this related to access to psychologists although some participants also discussed access to psychiatrists and cheaper medications. Three key sub-themes were identified. First, 15 participants mentioned wanting more affordable options for mental health care generally.

[D]ecrease costs of treatment—especially psychologists.

Make treatment free, I can't move all the money for treatment around so many times.

Cheaper counselling, free medication.

Furthermore, 13 participants specifically mentioned increasing funding under mental health treatment plans, either through increasing the number of sessions available or increasing the Medicare rebate for services.

Better Medicare rebates for [p]sychologists, both the amount of the rebate, and the number of sessions allowed.

I wish the mental health plan didn't run out after 10 a year. 10 sessions a year isn't much when there are 52 weeks of anxiety and depression to get through.

Keep the 20 mental health care plan psychology appointments! There have been times in my life I have absolutely needed this and couldn't afford the treatment . . .

The third sub-theme was reducing wait-times or increasing numbers of mental health professionals, which was suggested by 11 participants.

I think more psychologists need to be made available. The wait lists are far too long.

Provide affordable support that you do not have to wait months to receive.

3.6.2. Improving Knowledge and Reducing Stigma

Improving community knowledge about anxiety and reducing stigma was mentioned by 32 participants. The majority of participants (n = 28) discussed increasing general public knowledge about anxiety symptoms, the available treatment options, and how to support those experiencing anxiety.

More education on recognising the symptoms of anxiety, how common it is, how it can manifest physically. More work to reduce the stigma of anxiety.

Teach people how to support someone with anxiety. Education about benzodiazepine use.

Greater community awareness, exposure and knowledge about it and its impacts could mean people with anxiety feel less isolated.

A sub-theme, mentioned by six participants, was improving awareness or reducing stigma specifically in the workplace.

I think we need to change how mental health is viewed and discussed in the workplace—it is not a personality weakness, it is an illness. Workplaces need to have better processes and attitudes when it comes to managing staff with anxiety or other mental health issues.

I think raising community awareness and making workplaces more anxiety friendly will assist in making the path to wellness much more smooth for people living and working with anxiety and other mental health issues in Australia.

3.6.3. Better Training for GPs

Improving training for GPs was suggested by 15 participants. For many, this related to a need for GPs to have better supportive counselling skills as well as knowledge about anxiety.

GPs need to have a lot more training in aspects of mental health and 'listening' in the doctor-patient relationship.

In light of Covid 19 and increased cases of anxiety in the general population, I think it is imperative that GP's are well-versed in treatment options for anxiety sufferers, how and whom to refer patients onto, and [are] able to [provide] access to concrete information/ie handouts/printouts/phone numbers for patients seeking help for their anxiety.

For GPs to be educated more than they currently are about the best first line treatments and how to speak to a patient about their anxiety in a way that is not dismissive.

3.6.4. Better Treatments

Seven participants also mentioned a need for better treatments for anxiety. Four people discussed wanting better medication options and three discussed wanting alternative treatments to be available.

More medications which don't have side effects, or which are anxiety specific.

Medicinal cannabis is amazing for anxiety and becoming commonplace in places like the US.

Introduce alternative therapies such as kinesiology and aromatherapy.

4. Discussion

This study aimed to explore the experiences and priorities of consumers regarding anxiety care in general practice. Many consumers reported they were initially seeking general advice or information from their GP or had no specific preferences for treatment. However, for consumers who stated an initial treatment preference, it tended to be for referral to a psychologist or combined treatment with medication. Few participants noted preferring medication alone when they first sought help for anxiety. Most participants with specific treatment preferences reported that these were at least partially met.

Overall, participants reported positive perceptions of their GP. Participants indicated they felt listened to and respected, and commented on feeling supported or validated during their interactions with GPs. Qualitative responses tended to emphasise interpersonal aspects of care including among participants who had adverse experiences, noting that this was often due to feeling dismissed or invalidated. This aligns with previous research demonstrating that although consumers want providers with sound clinical knowledge, they value the relational aspects of their mental health care most highly [27,28]. Although perceptions of GPs were positive at first experience, satisfaction with care and the extent to which consumers felt their needs had been met was only moderate. This may be explained by less favourable ratings of the treatment approach taken by the GP at these first experiences, as many people indicated their GP had not asked about their treatment preferences and did not give them enough information about anxiety or treatment options. Qualitative responses echoed this, indicating consumers wanted more in-depth information from their GP to help them understand the different treatment options and make an informed choice.

Participants with unmet treatment preferences had particularly unfavourable perceptions of their GP, and the vast majority indicated their GP had not asked about their treatment preferences. By comparison, almost two thirds of those who received at least one of the treatments they were seeking indicated their GP had asked about treatment preferences. Consumers with unmet treatment preferences also indicated they were generally not given information about different treatment options or enough information about how they could manage their anxiety. Collaborative decision-making is important for consumer experiences of mental health care [29,30], and a lack of ownership over treatment decisions is associated with increased likelihood of disengaging from treatment over time [31]. However, these approaches to care are not yet widely implemented [32], and consumers have reported paternalistic experiences in primary care, where decisions about treatment are made for them rather than with them [11].

Consumers gave more positive ratings of their GP, the treatment approach, and their satisfaction with care in the past 12 months than when thinking about their first experience seeking help for anxiety from a GP. Several participants qualified this by noting they had seen a different GP recently than at their first experience, or perceived care had improved since they first sought help some years ago. Most participants stated their doctor had both asked about treatment preferences and given them enough information about managing anxiety in the past 12 months, compared with less than half of participants who agreed with these statements regarding their first experience. However, it may be the case that participants who had not seen their GP in the past 12 months ($n = 50$, 36.2%) were more likely to have had negative first experiences and not returned for further care. This may have created a selection bias for people with more positive experiences among those reporting 12 month experiences. Furthermore, half of participants reported that their first experience was more than five years ago, potentially limiting the accuracy of their recollections.

When asked about their priorities for anxiety treatment, consumers reported the most important consideration was effectiveness and were much less concerned with how quickly

the treatment works. GPs often report perceptions that consumers expect medications for anxiety and have noted feeling pressure to provide “quick fix” treatments for mental health problems [33,34]. Our results suggest that this may be at odds with the preferences of consumers for anxiety. This may be particularly the case if the trade-off is long-term effectiveness, as in the case of benzodiazepines [35]. The majority of participants also reported potential side-effects as an important consideration in their treatment. This was echoed in qualitative findings, with several participants noting medication side-effects had been an issue with their treatment, and was a factor to consider in improving the care for anxiety. Adverse effects are a key reason consumers cease medication for mental health problems [31,36], and certain side-effects (e.g., sexual dysfunction) and their impact on quality of life are underemphasised in information provided to consumers [37].

Strong themes were identified among responses from consumers about improving care, much of which related to better access and funding for psychological services. This has been noted in previous research on consumer perspectives and is a well-documented issue in the current Australian mental health system [38]. Lack of specialists in regional and remote areas is also a particular concern, which was identified as a thread in participants’ qualitative responses. Many consumers reported barriers to initial help-seeking related to stigma, problems with accessing treatment due to cost, and a lack of knowledge about services. The integration of mental health professionals in primary care is considered imperative in improving mental health care and addressing many of these issues, and trials of such models have been viewed favourably by consumers [15,39]. However, although this is becoming more common in Australia, this is not yet commonplace [3]. Furthermore, while many practices have access to co-located mental health specialists, these are typically privately practicing clinicians working under secondary care referral arrangements [40].

The recently announced permanency of Medicare rebates for telehealth services are important for providing consumers with flexible care and help to address some access and funding issues. However, wait-times for psychologists remain long and the COVID-19 pandemic has resulted in even further demand for services [41]. The finding that the pandemic either did not change or increased the likelihood of seeking help for most participants suggests increased help-seeking among those with existing conditions may account for this increase. Workforce issues are complex to resolve, and rates of anxiety management are increasing in primary care. E-mental health options such as online treatment programs may serve as an appropriate psychological treatment option for many consumers, which circumvents many issues about access and funding [42]. There are many advantages to online interventions, which are available at any time, can be self-paced, and can be used as an adjunct to therapy with a psychologist. Guided versions of these interventions have good evidence and are suitable for GPs to administer in primary care, though purely self-directed programs are also effective [4,43]. However, despite their effectiveness, uptake of these programs and adherence has been relatively low [44]. In line with this, few participants in the study noted being referred to self-help programs by their GP, and online treatments were scarcely mentioned in qualitative responses. Previous research on consumer views has found a preference for face-to-face over e-mental health interventions, though consumers are generally not averse to considering these treatments [45]. There is a perception among the public that e-mental health interventions are less helpful than face-to-face therapy, and professional support has been found to be essential for help-seeking intentions when experiencing psychological distress [46]. Normalising these interventions and emphasising their effectiveness has been found to be important in improving uptake [47], which can be in part facilitated by GPs. Consumers also tend to perceive guided online treatment programs as more acceptable than purely self-guided programs [46], and as such, these programs may be a more appropriate option for treatment at present. That said, GPs also require further education about the effectiveness of online treatment programs and the ways in which they could guide consumers through such programs [48,49].

Finally, participants suggested better education and training for GPs is needed to improve anxiety care more broadly, particularly regarding interpersonal and supportive

counselling skills. The evidence for training programs is mixed and tends to focus on improving diagnostic accuracy and clinical treatment practices (e.g., use of medication and referrals) rather than the interpersonal aspects of care. Some research has found that training programs, including brief programs [50], are effective for improving confidence and competence in recognising and managing common mental health conditions [51]. However, other research has found that education programs, on their own, are not sufficient for improving mental health care [52] and are costly to implement on a large scale. Further research is needed to explore the effectiveness of training programs in improving the aspects of care deemed most important to consumers.

Strengths and Limitations

There has been little prior research exploring consumer views of primary care management of anxiety and almost none in Australia. This study provides important information about consumer experiences and priorities for treatment, which are vital in evaluating and improving anxiety management in Australian primary care. The use of a mixed-methods approach was a strength of the current study, as this provided rich, comprehensive data on the experiences of people with anxiety.

There are also several limitations of this research, primarily regarding the generalisability of the findings due to the use of a non-random sample. Although anxiety is more common in women [53] and women are more likely to seek help [54], women were likely overrepresented in our data. Only a small number of men and an even smaller number of gender diverse people participated, limiting what can be said about their experiences with seeking help. The online nature of our survey and use of social media for advertising means that those with limited access to technology or poorer internet-literacy are unlikely to have participated in the study. People also self-selected into our study after seeing the advertisement, and previous research has demonstrated that people with positive experiences are more likely to respond to surveys about health care satisfaction [55,56]. Furthermore, our survey was cross-sectional and more than half of participants reported their first experience was over five years ago. Due to the retrospective nature of the study, these reflections may be affected by recall bias, and comparisons between consumers first experience and experience in the past 12 months should be interpreted with this in mind.

5. Conclusions

This research indicates that consumers perceive interactions with their GP positively when seeking help for anxiety, though they have mixed experiences of the approach taken to treatment. Consumers appear to prioritise effective rather than fast acting treatment and, in many cases, want more information from their GP about how to manage their anxiety. It is important that GPs ask consumers about treatment preferences, as many may come to their first appointment seeking a particular treatment approach and tend to have more negative experiences of care if these expectations are not discussed. Furthermore, it is important to provide information to consumers regarding the different treatment options so they can make informed decisions about their care.

Many consumers appear to prefer psychological interventions and see improving access and funding for these treatments as crucial in improving the care for anxiety in Australia. Raising the profile of e-mental health programs in the community and within primary care may give consumers more options for psychological intervention. Collaboration with consumers to develop information materials for use in primary care may also assist GPs in providing information to consumers about anxiety and the effective treatment options.

Supplementary Materials: The following supporting information can be downloaded at <https://www.mdpi.com/article/10.3390/ijerph19095706/s1>, Supplementary File S1: full survey method.

Author Contributions: Conceptualisation, E.P. and M.B.; methodology, E.P.; formal analysis, E.P.; writing—original draft preparation, E.P.; writing—review and editing, M.B.; visualisation, E.P.; supervision, M.B. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Australian National University Human Research Ethics Committee (protocol 2019/910 approved 1 July 2020).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: All pertinent data reported in published article. Raw data available upon request.

Acknowledgments: The authors acknowledge Daniel Fassnacht of Flinders University and the Australian National University for his contributions to the conceptualisation of the study and editing of this manuscript.

Conflicts of Interest: The first author (E.P.) runs a sole-trader business as a psychologist in private practice. The authors declare no other conflict of interest.

References

1. Britt, H.; Miller, G.C.; Bayram, C.; Henderson, J.; Valenti, L.; Harrison, C.; Pan, Y.; Charles, J.; Pollack, A.J.; Chambers, T.; et al. *A Decade of Australian General Practice Activity 2006–2007 to 2015–2016*; Sydney University Press: Sydney, Australia, 2016.
2. Burgess, P.M.; Pirkis, J.E.; Slade, T.; Johnston, A.; Meadows, G.N.; Gunn, J.M. Service use for mental health problems: Findings from the 2007 National Survey of Mental Health and Wellbeing. *Aust. N. Z. J. Psychiatry* **2009**, *43*, 615–623. [[CrossRef](#)] [[PubMed](#)]
3. Wakida, E.K.; Talib, Z.M.; Akena, D.; Okello, E.S.; Kinengyere, A.; Mindra, A.; Obua, C. Barriers and facilitators to the integration of mental health services into primary health care: A systematic review. *Syst. Rev.* **2018**, *7*, 211. [[CrossRef](#)] [[PubMed](#)]
4. Parker, E.L.; Banfield, M.; Fassnacht, D.B.; Hatfield, T.; Kyrios, M. Contemporary treatment of anxiety in primary care: A systematic review and meta-analysis of outcomes in countries with universal healthcare. *BMC Fam. Pract.* **2021**, *22*, 92. [[CrossRef](#)] [[PubMed](#)]
5. Howard, P.B.; El-Mallakh, P.; Kay Rayens, M.; Clark, J.J. Consumer perspectives on quality of inpatient mental health services. *Arch. Psychiatr. Nurs.* **2003**, *17*, 205–217. [[CrossRef](#)]
6. Oermann, M.H.; Templin, T. Important attributes of quality health care: Consumer perspectives. *J. Nurs. Scholarsh.* **2000**, *32*, 167–172. [[CrossRef](#)]
7. Daya, I.; Hamilton, B.; Roper, C. Authentic engagement: A conceptual model for welcoming diverse and challenging consumer and survivor views in mental health research, policy, and practice. *Int. J. Ment. Health Nurs.* **2020**, *29*, 299–311. [[CrossRef](#)]
8. World Health Organization. *Mental Health in Primary Care: Illusion or Inclusion?* World Health Organization: Geneva, Switzerland, 2018.
9. Banfield, M.A.; Barney, L.J.; Griffiths, K.M.; Christensen, H.M. Australian mental health consumers' priorities for research: Qualitative findings from the SCOPE for Research project. *Health Expect.* **2014**, *17*, 365–375. [[CrossRef](#)]
10. Banfield, M.A.; Griffiths, K.M.; Christensen, H.M.; Barney, L.J. SCOPE for Research: Mental health consumers' priorities for research compared with recent research in Australia. *Aust. N. Z. J. Psychiatry* **2011**, *45*, 1078–1085. [[CrossRef](#)]
11. Lester, H.; Tait, L.; England, E.; Tritter, J.Q. Patient involvement in primary care mental health: A focus group study. *Br. J. Gen. Pract.* **2006**, *56*, 415–422.
12. Lester, H.; Tritter, J.Q.; Sorohan, H. Patients' and health professionals' views on primary care for people with serious mental illness: Focus group study. *BMJ* **2005**, *330*, 1122. [[CrossRef](#)]
13. Archer, C.; Kessler, D.; Wiles, N.; Turner, K. GPs' and patients' views on the value of diagnosing anxiety disorders in primary care: A qualitative interview study. *Br. J. Gen. Pract.* **2021**, *71*, e450–e457. [[CrossRef](#)] [[PubMed](#)]
14. Kadam, U.T.; Croft, P.; McLeod, J.; Hutchinson, M. A qualitative study of patients' views on anxiety and depression. *Br. J. Gen. Pract.* **2001**, *51*, 375–380.
15. Ashcroft, R.; Menear, M.; Greenblatt, A.; Silveira, J.; Dahrouge, S.; Sunderji, N.; Emode, M.; Booton, J.; Muchenje, M.; Cooper, R.; et al. Patient perspectives on quality of care for depression and anxiety in primary health care teams: A qualitative study. *Health Expect.* **2021**, *24*, 1168–1177. [[CrossRef](#)] [[PubMed](#)]
16. AHMAC National Mental Health Strategy Evaluation Steering Committee Evaluation of the National Mental Health Strategy: Final Report. Available online: <https://www1.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-e-strateval-toc> (accessed on 4 March 2022).
17. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed.; American Psychiatric Association: Arlington, VA, USA, 2013.
18. World Health Organization. *International Classification of Diseases*, 11th ed.; (ICD-11); World Health Organization: Geneva, Switzerland, 2018.
19. Agency for Healthcare Research and Quality CAHPS ECHO Survey Measures. Available online: <https://www.ahrq.gov/cahps/surveys-guidance/echo/about/survey-measures.html> (accessed on 4 March 2022).
20. Lovibond, P.F.; Lovibond, S.H. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behav. Res. Ther.* **1995**, *33*, 335–343. [[CrossRef](#)]

21. Antony, M.M.; Bieling, P.; Cox, B.; Enns, M.; Swinson, R.P. Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychol. Assess.* **1998**, *10*, 176–181. [[CrossRef](#)]
22. JASP Team. *JASP, 0.16.1*; The JASP Team: Amsterdam, The Netherlands, 2022.
23. Australian Bureau of Statistics Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG). 2019. Available online: <https://www.abs.gov.au/statistics/classifications/australian-standard-classification-cultural-and-ethnic-groups-ascceg/2019> (accessed on 7 February 2022).
24. Zhang, Z. Missing data imputation: Focusing on single imputation. *Ann. Transl. Med.* **2016**, *4*, 9.
25. Glaser, B.G.; Strauss, A.L. *The Discovery of Grounded Theory: Strategies for Qualitative Research*; Aldine: London, UK, 1967.
26. Stemler, S. Content analysis. In *Emerging Trends in the Social and Behavioral Sciences*; Scott, R., Kosslyn, S., Eds.; Wiley: New York, NY, USA, 2015; pp. 1–14.
27. Lang, A.J. Mental health treatment preferences of primary care patients. *J. Behav. Med.* **2005**, *28*, 581–586. [[CrossRef](#)]
28. Kelly, E.L.; Davis, L.; Mendon, S.; Kiger, H.; Murch, L.; Pancake, L.; Giambone, L.; Brekke, J.S. Provider and consumer perspectives of community mental health services: Implications for consumer-driven care. *Psychol. Serv.* **2019**, *16*, 572–584. [[CrossRef](#)]
29. National Institute for Health and Care Excellence. *Service User Experience in Adult Mental Health: Improving the Experience of Care for People Using Adult NHS Mental Health Services*; British Psychological Society: Leicester, UK, 2012.
30. Slade, M. Implementing shared decision making in routine mental health care. *World Psychiatry* **2017**, *16*, 146–153. [[CrossRef](#)]
31. Hunot, V.M.; Horne, R.; Leese, M.N.; Churchill, R.C. A cohort study of adherence to antidepressants in primary care: The influence of antidepressant concerns and treatment preferences. *Prim. Care Companion J. Clin. Psychiatry* **2007**, *9*, 91–99. [[CrossRef](#)]
32. Care Quality Commission. *Community Mental Health Survey 2021*; Care Quality Commission: London, UK, 2021.
33. Anthierens, S.; Pasteels, I.; Habraken, H.; Steinberg, P.; Declercq, T.; Christiaens, T. Barriers to nonpharmacologic treatments for stress, anxiety, and insomnia: Family physicians' attitudes toward benzodiazepine prescribing. *Can. Fam. Physician* **2010**, *56*, e398–e406. [[PubMed](#)]
34. Sim, M.G.; Khong, E.; Wain, T.D. The prescribing dilemma of benzodiazepines. *Aust. Fam. Physician* **2007**, *36*, 923–926. [[PubMed](#)]
35. National Institute for Health and Care Excellence. *Generalised Anxiety Disorder and Panic Disorder in Adults: Management*; National Institute for Health and Care Excellence: London, UK, 2011.
36. Goethe, J.W.; Woolley, S.B.; Cardoni, A.A.; Woznicki, B.A.; Piez, D.A. Selective serotonin reuptake inhibitor discontinuation: Side effects and other factors that influence medication adherence. *J. Clin. Psychopharmacol.* **2007**, *27*, 451–458. [[CrossRef](#)] [[PubMed](#)]
37. Higgins, A.; Nash, M.; Lynch, A.M. Antidepressant-associated sexual dysfunction: Impact, effects, and treatment. *Drug Healthc. Patient Saf.* **2010**, *2*, 141–150. [[CrossRef](#)] [[PubMed](#)]
38. National Mental Health Commission. *Report of the National Review of Mental Health Programmes and Services: Summary*; National Mental Health Commission: Sydney, Australia, 2014.
39. Rugkåsa, J.; Tveit, O.G.; Berteig, J.; Hussain, A.; Ruud, T. Collaborative care for mental health: A qualitative study of the experiences of patients and health professionals. *BMC Health Serv. Res.* **2020**, *20*, 844. [[CrossRef](#)] [[PubMed](#)]
40. Britt, H.; Miller, G.C.; Henderson, J.; Bayram, C.; Harrison, C.; Valenti, L.; Pan, Y.; Charles, J.; Pollack, A.J.; Wong, C.; et al. *General Practice Activity in Australia 2015–2016*; Sydney University Press: Sydney, Australia, 2016.
41. Australian Institute of Health and Welfare. *Mental Health Services in Australia*; AIHW: Canberra, Australia, 2021.
42. Batterham, P.J.; Sunderland, M.; Calear, A.L.; Davey, C.G.; Christensen, H.; Teesson, M.; Kay-Lambkin, F.; Andrews, G.; Mitchell, P.B.; Herrman, H.; et al. Developing a roadmap for the translation of e-mental health services for depression. *Aust. N. Z. J. Psychiatry* **2015**, *49*, 776–784. [[CrossRef](#)]
43. Andrews, G.; Basu, A.; Cuijpers, P.; Craske, M.G.; McEvoy, P.; English, C.L.; Newby, J.M. Computer therapy for the anxiety and depression disorders is effective, acceptable and practical health care: An updated meta-analysis. *J. Anxiety Disord.* **2018**, *55*, 70–78. [[CrossRef](#)]
44. Fleming, T.; Bavin, L.; Lucassen, M.; Stasiak, K.; Hopkins, S.; Merry, S. Beyond the trial: Systematic review of real-world uptake and engagement with digital self-help interventions for depression, low mood, or anxiety. *J. Med. Internet Res.* **2018**, *20*, e199. [[CrossRef](#)]
45. Meurk, C.; Leung, J.; Hall, W.; Head, B.W.; Whiteford, H. Establishing and governing e-mental health care in Australia: A systematic review of challenges and a call for policy-focussed research. *J. Med. Internet Res.* **2016**, *18*, e10. [[CrossRef](#)]
46. Apolinário-Hagen, J.; Kemper, J.; Stürmer, C. Public acceptability of e-mental health treatment services for psychological problems: A scoping review. *JMIR Ment. Health* **2017**, *4*, e10. [[CrossRef](#)]
47. Gulliver, A.; Calear, A.L.; Sunderland, M.; Kay-Lambkin, F.; Farrer, L.M.; Banfield, M.; Batterham, P.J. Consumer-Guided Development of an Engagement-Facilitation Intervention for Increasing Uptake and Adherence for Self-Guided Web-Based Mental Health Programs: Focus Groups and Online Evaluation Survey. *JMIR Form. Res.* **2020**, *4*, e22528. [[CrossRef](#)] [[PubMed](#)]
48. Anderson, J.; O'Moore, K.; Faraj, M.; Proudfoot, J. Stepped care mental health service in Australian primary care: Codesign and feasibility study. *Aust. Health Rev.* **2020**, *44*, 873–879. [[CrossRef](#)] [[PubMed](#)]
49. Whitton, A.E.; Hardy, R.; Cope, K.; Gieng, C.; Gow, L.; MacKinnon, A.; Gale, N.; O'Moore, K.; Anderson, J.; Proudfoot, J.; et al. Mental health screening in general practices as a means for enhancing uptake of digital mental health interventions: Observational cohort study. *J. Med. Internet Res.* **2021**, *23*, e28369. [[CrossRef](#)] [[PubMed](#)]
50. Naismith, S.L.; Hickie, I.B.; Scott, E.M.; Davenport, T.A. Effects of mental health training and clinical audit on general practitioners' management of common mental disorders. *Med. J. Aust.* **2001**, *175*, S42–S47. [[CrossRef](#)] [[PubMed](#)]

51. Sinnema, H.; Majo, M.C.; Volker, D.; Hoogendoorn, A.; Terluin, B.; Wensing, M.; van Balkom, A. Effectiveness of a tailored implementation programme to improve recognition, diagnosis and treatment of anxiety and depression in general practice: A cluster randomised controlled trial. *Implement. Sci.* **2015**, *10*, 33. [[CrossRef](#)]
52. Gilbody, S.; Whitty, P.; Grimshaw, J.; Thomas, R. Educational and Organizational Interventions to Improve the Management of Depression in Primary Care: A Systematic Review. *JAMA* **2003**, *289*, 3145–3151. [[CrossRef](#)]
53. Bandelow, B.; Michaelis, S. Epidemiology of anxiety disorders in the 21st century. *Dialogues Clin. Neurosci.* **2015**, *17*, 327–335. [[CrossRef](#)]
54. Harris, M.G.; Baxter, A.J.; Reavley, N.; Diminic, S.; Pirkis, J.; Whiteford, H.A. Gender-related patterns and determinants of recent help-seeking for past-year affective, anxiety and substance use disorders: Findings from a national epidemiological survey. *Epidemiol. Psychiatr. Sci.* **2016**, *25*, 548–561. [[CrossRef](#)]
55. Lin, B.; Kelly, E. Methodological issues in patient satisfaction surveys. *Int. J. Health Care Qual. Assur.* **1995**, *8*, 32–37. [[CrossRef](#)]
56. Mazor, K.M.; Clauser, B.E.; Field, T.; Yood, R.A.; Gurwitz, J.H. A demonstration of the impact of response bias on the results of patient satisfaction surveys. *Health Serv. Res.* **2002**, *37*, 1403–1417. [[CrossRef](#)]

APPENDIX E
SURVEY OF CONSUMERS

Introduction

Thank you for your interest in our survey.

The following page contains details about the project, and the information you need to know as a participant.



Participant Information Sheet

Researcher

The primary investigator for this research is Ms Erin Parker. Ms Parker is a Doctor of Philosophy (PhD) candidate in Clinical Psychology, in the Research School of Psychology, College of Health and Medicine at the Australian National University (ANU). Ms. Parker is supervised by Dr Michelle Banfield, a Senior Research Fellow at the Centre for Mental Health Research, in the Research School of Population Health, College of Health and Medicine at the ANU.

Project Title: Consumer perspectives on help-seeking and treatment of anxiety in primary care

General Outline of the Project

- **Description and Methodology:** The objective of this project is to investigate the treatment of anxiety in Australian primary care, from the perspective of people who receive that treatment. This aim will be achieved by conducting anonymous online surveys of people who have sought help for anxiety from their general practitioner (GP). This study is part of a larger project that aims to investigate the management of anxiety and make recommendations for improving care.
- **Participants:** This study aims to survey adult Australians (aged 18 years and above) who have seen their GP for anxiety in the past five years. Approximately 200 people will be recruited.
- **Use of data and feedback:** Results from the survey will be prepared for publication and presentation at mental health conferences, and will also be included as part of the primary investigator's PhD thesis. A plain language summary of results will be made available online [here](#) and through a shared dropbox folder that does not require login information to be viewed. The website address and link to the folder will be provided again at the conclusion of the survey.

Participant Involvement

- **Voluntary participation & withdrawal:** Participation in this research is voluntary, and you may withdraw at any point before you submit your responses to the researcher at the end of the survey. There are no consequences for withdrawing from the study, and you do not need to provide a reason for doing so. If you decide to withdraw from the survey, any information you have already provided will be destroyed and not used in the research. You may also choose not to answer

certain questions as you complete the survey.

- **What does participation in the research entail?** You will be asked to complete an anonymous online survey about your experiences of seeking help for anxiety from your GP. The survey will ask questions about your general experience of seeking help (e.g., what you wanted, whether your needs were met), the type of treatment or support you were offered, and any suggestions you have for improvements. You will also be asked questions about your anxiety, such as any symptoms you are currently experiencing, whether you have ever received a diagnosis. You will also be briefly asked about any current symptoms of depression and stress, and any impacts of COVID-19 on your experience in primary care.
- **Location and duration:** You will be asked to complete a single survey, which can be done online from a location of your choosing. The survey will take approximately 15-30 minutes to complete.
- **Risks:** We anticipate that answering questions about your experience of seeking help may cause discomfort or distress, particularly if you have had a negative experience. This may also be true for answering questions about the impact of COVID-19. If you feel distressed at any point, you may contact the services below for further support. Both services provide telephone counselling as well as online chat support.

Lifeline

Phone counselling (24/7): 13 11 14

Web chat (7pm – 12am, 7 days): [Lifeline Online Chat](#)

Website: www.lifeline.org.au

Beyond Blue

Phone counselling (24/7): 1300 224 636

Web chat (3pm – 12am, 7 days): [Beyond Blue Online Chat](#)

Website: www.beyondblue.org.au

Additional resources are available at headtohealth.gov.au/covid-19-support/covid-19. You may also contact the primary researcher via email (erin.parker@anu.edu.au) to discuss any concerns you have about the survey.

- **Benefits:** We expect that this research will increase understanding of consumer experiences and priorities for anxiety care. This information will be combined with information gathered from the research literature, and a future study to be conducted with GPs, to hopefully improve the care of anxiety in Australia.

Exclusion Criteria

This study will not include people who saw their GP primarily for post-traumatic stress disorder or obsessive compulsive disorder. The reason for this is that both of these conditions are no longer classified as anxiety disorders, and instead fall into their own, distinct categories. People who saw their GP for anxiety when they were under 18 years will also be excluded.

Confidentiality

Information will be kept confidential as far as the law allows. Surveys are anonymous to protect confidentiality. You will be asked to provide demographic information such as your age bracket, gender, ethnicity, and the State or Territory in which you sought treatment. The survey will not ask for any other information that could potentially be used to identify you. To protect your confidentiality, please do not include any identifying information (e.g., your name) in response to open-ended questions. If you accidentally identify yourself, this information will be deleted once the data is downloaded. Research data will be presented in aggregate form and individual responses will not be reported in full. Information provided in response to open-ended questions may be used to support numerical data (i.e., as a quote) but will not be linked with your responses to other questions.

Privacy Notice

In collecting your personal information within this research, the ANU must comply with the Privacy Act 1988. The ANU Privacy Policy is available at https://policies.anu.edu.au/ppi/document/ANUP_010007. The information you provide about your healthcare experience will not be associated with any information that would allow someone to identify you.

Data Storage

- **Where:** Data will be stored on secure, password protected computers at the ANU, in folders that are only accessible to the research team.
- **How long:** Data will be stored for a period of at least five years from the date of any publication arising from the research. Following completion of Ms Parker's PhD, the data will continue to be stored at the ANU by Dr Banfield or the Head of the Research School of Psychology.
- **Handling of data following the required storage period:** Following the required storage period, data will be archived at the Research School of Psychology, at the ANU.

Queries and Concerns

- **Contact details for more information:** If you have any questions about this research, please direct them to the primary investigator.

Primary Investigator	Supervisor / Co-Investigator
Ms Erin Parker erin.parker@anu.edu.au	Dr Michelle Banfield michelle.banfield@anu.edu.au

- **Contact details if in distress:**

Lifeline

Phone counselling (24/7): 13 11 14
Web chat (7pm – 12am, 7 days): [Lifeline Online Chat](#)
Website: www.lifeline.org.au

Beyond Blue

Phone counselling (24/7): 1300 224 636
Web chat (3pm – 12am, 7 days): [Beyond Blue Online Chat](#)
Website: www.beyondblue.org.au

Ethics Committee Clearance:

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 2019/910). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager
The ANU Human Research Ethics Committee
The Australian National University
Telephone: +61 2 6125 3427
Email: Human.Ethics.Officer@anu.edu.au

Please click [here](#) to open this sheet in a new window if you would like to refer back to it while you complete your survey.

If you would like to refer back to the Information Sheet while you complete your survey, please click [here](#) to open it in a new window.

If you would like to withdraw from the survey, you can do so by closing your browser at any stage prior to submitting your responses.

Please click "next" to begin.

Inclusion Criteria

Do you live in Australia?

- Yes
 No

Since becoming an adult (18 years old), have you ever been to see a general practitioner (GP) in Australia for help with anxiety?

- Yes
 No

Thank you for your interest in participating.

Our study focuses specifically on the experience of adult Australians who have sought help for anxiety from a general practitioner (GP). You have told us that you do not live in Australia, or have not seen a GP about your anxiety since being 18 years old.

However, if you have seen any Australian health professional for help with anxiety and have suggestions about improving the standard of care, please leave a response in the box below.

Part 1: Decision to Seek Help

The first part of the survey will ask about your experience with anxiety and deciding to seek help, including any barriers you faced.

If you do not feel comfortable answering any of the questions, you may leave them blank.

To begin, please tell us a bit about your experience with anxiety. You can write about any aspect of this experience you like (e.g., your symptoms, the impact anxiety has had on you).

What made you decide to seek help? Select all that apply.

- My symptoms got too severe for me to handle
- Others encouraged me to seek help
- I found out where to go to get help
- Other reason not listed above (please specify)

Were there any barriers that made help-seeking difficult? Select all that apply.

- No barriers
- I could not afford to get help
- I was afraid to ask for help
- I could not easily access services (e.g., due to location)
- I did not know where or how to get help
- Other (please specify)

Was your general practitioner (GP) the first health professional you saw about anxiety?

- Yes

- No
- Unsure

Who did you see, or where did you seek support, before going to see your GP? Select all that apply.

- Psychologist
- Psychiatrist
- Hospital
- Counsellor
- Other (please specify)

What made you decide to seek help from your GP specifically? Select all that apply.

- Recommended by other health professional
- Recommended by family member or friend
- Information found online
- Easy to access
- Unsure
- Other (please specify)

Please tell us a bit about what you were expecting when you first saw your GP.

Were you looking for any particular treatment? Select all that apply.

- No, I was not looking for anything specific
- No, just general advice or information
- Yes, medication
- Yes, referral for psychological therapy
- Yes, other (please specify)

Please tell us anything else you would like to say about the decision to seek help, or your expectations of your GP.



Part 2a: First Appointment

Thank you for telling us about your experience with anxiety and the decision to seek help.

The rest of the survey will ask specifically about your experience with your GP.

The next set of questions are about when you **first** saw your GP. Please answer them as best you can.

When did you **first** seek help from a GP for anxiety?

- Before 2015
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- Unsure

Was this GP in an urban or rural/remote area?

- Urban area (major cities of Australia)
- Rural and remote area (all areas outside major cities)
- Unsure

Please select the State or Territory where the GP was located.

- ACT
- NSW
- NT

- QLD
- SA
- TAS
- VIC
- WA

Please indicate how much you agree with the following statements based on your **first** experience with a GP.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
My doctor seemed to have good knowledge about anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor seemed to have good knowledge about treatment options for anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor explained things in a way I could understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor listened carefully to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor showed respect for what I had to say	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor spent enough time with me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt safe with my doctor when I went to them about anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate how much you agree with the following statements based on your **first** experience.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I was given information about anxiety (e.g., verbally, information sheets)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was given information about the different treatments available for anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was given as much information as I wanted about how I could manage my anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor asked about my preferences for treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I could refuse a specific type of treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

At this **first** appointment, what treatments did your GP offer? Select all that apply.

- None
- Lifestyle advice (e.g., advice to change eating, sleeping, or exercise patterns)
- Referral to a psychologist
- Referral to a psychiatrist
- Referral to self-help therapy program (e.g., online, workbook)
- Counselling or therapy (provided by the GP themselves)

- Medication - long term (taken daily and takes a few weeks to work; please specify)
- Medication - short term (taken when you feel particularly anxious and works immediately; please specify)
- Other (please specify)

Did your GP complete a Mental Health Care Plan (also called a Mental Health Treatment Plan) with you?

- Yes
- No
- Unsure

After you **first** sought help, did you receive any of the treatments your GP recommended?

- Yes
- No - I chose not to access treatment (please specify)
- No - There were barriers that prevented me from accessing treatment (please specify)

Please tell us about the treatment you received and who it was provided by. Select all that apply.

	Treatment Received (select)	Treatment Provider				
		GP	Psychologist	Psychiatrist	Nurse	Other
Self-help therapy program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Counselling or psychological therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medication (please specify) <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify) <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate how much you agree with the statements below.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The treatment I received improved my anxiety symptoms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The treatment I received improved my quality of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Were there any problems with the treatment you received? (E.g., side effects, financial cost, treatment was ineffective)

Did you seek support elsewhere for your anxiety? (E.g., online, health professional other than who my GP recommended, friends and family)

No

Yes (please specify)

Please indicate how much you agree with each of the statements below based on your **first** experience of seeking help from a GP.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Overall, I was satisfied with the experience of seeking help from my GP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I felt my needs were met by my GP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there anything else you would like to say about your **first** experience with your GP?

Part 2b: Last 12 Months

Thank you for your responses.

The next block will ask you similar questions about your recent experiences in the **last 12 months**. Please answer as best you can.

Thank you for your responses.

The next set of questions will ask about treatment preferences, and whether you have seen multiple GPs for anxiety.

In the **last 12 months**, did you go to your GP about anxiety?

- Yes
- No
- Unsure

In the **last 12 months**, was your GP in an urban or rural/remote area?

- Urban area (major cities of Australia)
- Rural and remote area (all areas outside major cities)
- Unsure

Please select the State or Territory where the GP was located.

- ACT
- NSW
- NT
- QLD
- SA
- TAS
- VIC
- WA

Please indicate how much you agree with the following statements based on the **past 12 months**. If you have seen multiple GPs in this period, please answer as best you can based on your overall experience.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
My doctor seemed to have good knowledge about anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor seemed to have good knowledge about treatment options for anxiety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor explained things in a way I could understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor listened carefully to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My doctor showed respect for what I had to say	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Treatment Received (select)	Treatment Provider				
		GP	Psychologist	Psychiatrist	Nurse	Other
Medication (please specify) <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify) <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate how much you agree with the statements below about your treatment in the **last 12 months**.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The treatment I received improved my anxiety symptoms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The treatment I received improved my quality of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Were there any problems with the treatment you received in the **last 12 months**? (E.g., side effects, financial cost, treatment was ineffective)

Please indicate how much you agree with each of the statements below based on your experience in the **past 12 months**.

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Overall, I was satisfied with the experience of seeking help from my GP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I felt my needs were met by my GP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there anything else you would like to say about your experience in the **past 12 months**?

Thank you for telling us about your recent experience.

The next set of questions will ask about treatment preferences, and whether you have seen multiple GPs for anxiety.

Part 2c: Treatment Preferences

Do you **currently** have a Mental Health Care Plan (also called a Mental Health Treatment Plan)?

- Yes
- No
- Unsure

Do you have a regular GP?

- Yes
- No

Since becoming an adult, have you seen more than one GP for anxiety?

- Yes
- No

What were your reasons for changing GPs? Select all that apply.

- Dissatisfied with GP
- I moved to another location
- GP moved/retired/went on leave
- I do not have a regular GP
- Other (please specify)

Please tell us anything else you would like to say about your reasons for changing GPs.

When considering treatment for your anxiety, which of the following things are important to you? Select all that apply.

- How much it costs
- Potential side effects
- How quickly it works
- How well it works
- How easy it is to access
- Other (please specify)

Please drag to rank your answers from most to least important

How much it costs

Potential side effects

How quickly it works

How well it works

How easy it is to access

`#{q://QID51/ChoiceTextEntryValue/9}`

Is there anything else you would like to say about your preferences for treatment?

Part 3: Symptoms and Diagnosis

Thank you for giving us some information about your experiences with help-seeking and treatment.

The next set of questions are about your current anxiety symptoms and any diagnoses you have been given.

We are collecting this information because it helps us understand the experiences of people with different types of anxiety. It also helps us know how well our results apply to

the wider population. It does not matter whether you have been given a diagnosis or not, we are still interested in your experience.

If you do not feel comfortable answering certain questions, you can select "prefer not to say" or leave the answer blank.

Please read each statement and indicate how much the statement applied to you **over the past week**. There are no right or wrong answers. Do not spend too much time on any statement.

	Never	Sometimes	Often	Almost Always
I found it hard to wind down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of dryness of my mouth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't seem to experience any positive feeling at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to work up the initiative to do things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tended to over-react to situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced trembling (e.g., in the hands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was using a lot of nervous energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about situations in which I might panic and make a fool of myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I had nothing to look forward to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found myself getting agitated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt down-hearted and blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was intolerant of anything that kept me from getting on with what I was doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I was close to panic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was unable to become enthusiastic about anything	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I wasn't worth much as a person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was rather touchy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt scared without any good reason	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that life was meaningless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

We are also interested in the impact of COVID-19 on your experience in the past few months.

As with other questions in the survey, you may choose not to answer if you prefer.

Please tell us how COVID-19 has affected any **treatment** you are receiving

Compared to previously, how likely are you to seek help for your anxiety?

- More likely
- Less likely
- Unchanged

Please tell us anything else you would like to say about the impact of COVID-19.

Thank you for answering the previous questions. If you feel distressed or are concerned, please contact your healthcare provider or the support services below.

Lifeline

Phone counselling (24/7): 13 11 14
Web chat (7pm – 12am, 7 days): www.lifeline.org.au/get-help/online-services/crisis-chat
Website: www.lifeline.org.au

Beyond Blue

Phone counselling (24/7): 1300 224 636
Web chat (3pm – 12am, 7 days): www.online.beyondblue.org.au/OutOfHours#/chat/questions1
Website: www.beyondblue.org.au

Please click "next" to continue with the survey. The next two questions are about diagnosis.

Have you ever been given a mental health diagnosis? Please select all that apply.

- | | |
|--|---|
| <input type="checkbox"/> I have never been given a diagnosis | <input type="checkbox"/> Major Depressive Disorder |
| <input type="checkbox"/> Generalised Anxiety Disorder | <input type="checkbox"/> Substance Use Disorder |
| <input type="checkbox"/> Social Anxiety Disorder (Social Phobia) | <input type="checkbox"/> Bipolar Disorder |
| <input type="checkbox"/> Agoraphobia | <input type="checkbox"/> Psychotic Disorder (e.g., Schizophrenia) |
| <input type="checkbox"/> Panic Disorder | <input type="checkbox"/> Eating Disorder |
| <input type="checkbox"/> Specific Phobia (e.g., animals, flying) | <input type="checkbox"/> Personality Disorder |
| <input type="checkbox"/> Obsessive Compulsive Disorder | <input type="checkbox"/> Autism Spectrum Disorder (incl. Asperger's Syndrome) |
| <input type="checkbox"/> Posttraumatic Stress Disorder | <input type="checkbox"/> Unsure or prefer not to say |
| <input type="checkbox"/> Adjustment Disorder | <input type="checkbox"/> Other (please specify) |
| | <input type="text"/> |

Please tell us who gave you the diagnosis/es and in what year.

	Diagnosed by					Year (enter)
	GP	Psychologist	Psychiatrist	Other	Unsure	
Generalised Anxiety Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Social Anxiety Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Agoraphobia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Panic Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Specific Phobia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Obsessive Compulsive Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Posttraumatic Stress Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Adjustment Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Major Depressive Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Substance Use Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Bipolar Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Psychotic Disorder (e.g., Schizophrenia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Eating Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Personality Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Autism Spectrum Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Other: \${q://QID11/ChoiceTextEntryValue/15}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Part 4: Demographics

Thank you for your responses.

The next set of questions will ask for demographic information.

This helps us understand the needs and experiences of different people when seeking help for their anxiety. As with the previous questions, this information also helps us know how well our results apply to the wider population.

Your answers will not be used to identify you specifically.

What is your age?

- 18 - 24 years
- 25 - 34 years
- 35 - 44 years
- 45 - 54 years
- 55 - 64 years
- 65+ years

How do you describe your ethnicity? (e.g., "I am Aboriginal", "Caucasian", "I am of Chinese background", "I am Maori and Caucasian")

How do you describe your gender identity? Select all that apply.

- Male
- Female
- Non-binary / third gender
- Prefer to self describe (please specify)
- Prefer not to say

Part 5: Overall Reflections

Thank you.

You will now be asked for some final reflections on the experience of seeing your GP for anxiety.

Overall, what was good about your experience of seeking help from your GP?



What was bad about your experience, or could have been done better?



Do you have any other suggestions about how we can improve care for anxiety in Australia?



End of Survey

Almost finished!

Thank you for participating in our survey.

Please click "submit" below to send your responses to the researcher.