Psychoeducational treatment for hypochondriasis.

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Psychoeducational Treatment for Hypochondriasis

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Chapter 1

Introduction and Background

Femke M. Buwalda

In this introductory chapter, several matters pertaining to hypochondriasis will be discussed. The nature of hypochondriasis will be described, as well as how the disorder has been conceptualised in the literature. Furthermore, an overview is given of the research into the developmental and maintaining factors of hypochondriasis. There are now several beneficial treatment forms for hypochondriasis, usually based on cognitive-behavioural theory, which will also be elaborated on in this introduction. I conclude with stating the outline of the separate chapters of this thesis, which focus mainly on a psychoeducational group treatment for hypochondriasis, 'Coping with health anxiety', and cognitive-behavioural bibliotherapy for hypochondriasis. At the end of this chapter the main aim of this thesis is stated, which is to study several forms of validity of the psychoeducational approach for hypochondriasis.

Defining hypochondriasis

DSM-IV-TR

Nowadays, hypochondriasis is predominantly defined by the criteria described in the Diagnostic and Statistic Manual of Mental Disorders (DSM). In the recent version of the DSM, DSM-IV-TR (American Psychiatric Association, 2000), hypochondriasis is classified as one of the somatoform disorders, a group of disorders characterised by physical symptoms suggesting a medical disorder. This category was introduced in the third version of this manual (DSM-III, APA, 1980) to accommodate those patients who suffer from somatic symptoms unexplained by a medical condition, but with too few psychological symptoms to merit an alternative psychiatric diagnosis (Sharpe & Mayou, 2004). Table 1 shows an overview of the diagnostic criteria.

When a patient fulfills these DSM-IV-TR criteria, he or she is said to suffer from full-blown hypochondriasis. However, hypochondriasis is not a disorder with a uniform course for all who suffer from it. People can also suffer from abridged hypochondriasis or transient hypochondriasis, the first indicating that the primary problem presented is health anxiety, although the person does not meet the full DSM-IV criteria of hypochondriasis (Gureje, Üstün, & Simon, 1997) and the latter indicating that clinically significant health anxiety lasts for no more than 6 months (Barsky, Cleary, Sarnie, & Klerman, 1993). In a review of studies on the transient course of hypochondriasis, results showed that the patients with a history of transient hypochondriasis, when re-examined after 1 to 3 years, continued to manifest significantly more hypochondriacal symptoms, more somatisation, and more psychopathological symptoms than nonhypochondriacal patients. However, only one patient (out of 22) met diagnostic criteria for hypochondriasis, leading the authors to conclude that hypochondriacal symptoms do have temporal stability, but do not necessarily lead to DSM-III-R hypochondriasis (APA, 1987) (Barsky et al., 1993).

Table 1: DSM-IV-TR Diagnostic Criteria for Hypochondriasis.

A.	Preoccupation with fears of having a serious disease, or the idea that one has such a disease, based on misinterpretation of one's bodily sensations or changes.
B.	Preoccupation persists despite appropriate medical evaluation and reassurance.
C.	The idea that one has a serious disease is not of delusional intensity (as in delusional disorder) and is not restricted to concerns about one's appearance (as in body dysmorphic disorder).
D.	The preoccupation causes significant distress or impairment in social, occupational, or other important areas of functioning.
E.	Duration of at least six months.
F.	The preoccupation is not better accounted for by generalised anxiety disorder, obsessive-compulsive disorder, panic disorder, a major depressive episode, separation anxiety, or another somatoform disorder.
Poor insight specifier	The person is said to have poor insight if, for most of the time during the course of the disorder, he or she does not recognise that his or her concern about having a serious disease is excessive or unreasonable.

Few longitudinal studies have been conducted into the course of hypochondriasis. One of them (Barsky, Fama, Bailey, & Ahern, 1998), showed that after 4 to 5 years, two thirds of the people originally diagnosed as suffering from hypochondriasis still met the diagnostic criteria. Another longitudinal study (Noyes, Kathol, Fisher, Phillips, Suelzer, & Woodman, 1994) reviewed 48 patients with this disorder and 48 age and sex- matched control subjects after 1 year. Two-thirds of the subjects had continued to meet the criteria for hypochondriasis after 1 year, and the remaining third had persisting hypochondriacal symptoms. More severe symptoms, longer duration of the disorder, and coexisting psychiatric illness were predictive of a worse outcome. The authors conclude that the diagnosis of hypochondriasis is stable over time, and that, although symptoms wax and wane, characteristic features, such as attitudes towards health and disease, and health care use behaviours, tend to persist. A third longitudinal study (Simon, Gureje, & Fullerton, 2001) showed that of those patients meeting an abridged definition of hypochondriasis at baseline, 18 % had continued to do so at 12 months follow-up, and 16 % continued to report hypochondriacal worries. Therefore, they call hypochondriasis a moderately stable disorder over time.

Health anxiety and hypochondriasis.

The DSM-IV-TR classification describes health anxiety as the most prominent feature of hypochondriasis. This anxiety, as it occurs in the most people in the general population to varying degrees, can be a mild reaction to certain physical sensations, but for some people, such as those suffering from hypochondriasis, the anxiety is excessive and chronic (Taylor & Asmundson, 2004). Health anxiety is also a prominent feature of other disorders. In the foreword of the book by Taylor and Asmundson, Wells (2004) states that 'a wide range of disorders may be conceptualised at least partially as health anxiety. These include hypochondriasis, disease phobia, some somatic delusional states, panic disorder, and certain somatoform disorders' (page ix, 2004). Other disorders with a possible component of health anxiety are generalised anxiety disorder and obsessive-compulsive disorder. This implies that health anxiety as a component of other disorders is widespread, and it can sometimes be confusing as to whether participants in a study suffer from hypochondriasis or health anxiety, because sometimes the terms are used interchangeably. Salkovskis and Warwick (2001) state that the classification of hypochondriasis is misleading, as it diverts attention away from the importance of anxiety and therefore threat, and onto more superficial characteristics of the problem. They propose that hypochondriasis should be conceptualised as the most extreme manifestation of health anxiety.

However, since the DSM-IV-TR criteria (APA, 2000) mention health anxiety as the principal component of hypochondriasis, it seems that the diagnosis of hypochondriasis does not so much direct the attention away from anxiety, but rather incorporates it. Furthermore, conceptualising hypochondriasis as a mere manifestation of health anxiety does not seem right, because the disorder, according to the DSM-IV-TR criteria (APA, 2000), also may consist of disease conviction. Some other components that are important in the operationalisation of hypochondriasis (such as attention, and checking and avoidance behaviour) will be elaborated on later on in this introduction.

Prevalence rates, comorbidity, demographic factors, and costs of hypochondriasis.

Prevalence of hypochondriasis

Studies into the prevalence of hypochondriasis have been conducted in several areas: among medical inpatients, in population-based samples, and in primary care. The reported prevalence rates tend to vary, probably because different classification systems and screening instruments have been used across studies.

Among 294 medical inpatients in Denmark, Fink, Hansen, and Oxhøy (2004), found a prevalence rate of 4.7 %. In a review on the epidemiology of hypochondriasis in population-based and primary care samples in Florence (Italy), Canada, the U.S., and Germany, Creed and Barsky (2004) described various prevalence rates of hypochondriasis in population based samples, ranging from 0.2 % to 7.7 % (Faravelli, Salvatori, Galassi, Aiazzi, Drei, & Cabras, 1997; Looper and Kirmayer, 2002; Noyes, Happel, & Yagla, 1999; Rief, Hessel, & Braehler, 2001).

In prevalence studies in primary care, prevalence rates of hypochondriasis ranged from 0.7 % to 6.3 % (Barsky, Wyshak, Klerman, & Latham, 1990; Escobar, Gara, Waitzkin, Cohen Silver, Holman, & Compton, 1998; Gureje, Üstün & Simon, 1997). The first two of these studies took place in the U.S, and the third in 14 different countries.

No specific prevalence studies of hypochondriasis have been undertaken in the Netherlands. However, one Dutch study assessed the prevalence and type of psychiatric disorders in relation to the medical diagnostic findings in a general medicine outpatient clinic, in 191 newly referred patients (Van Hemert, Hengeveld, Bolk, Rooijmans, & Vanderbroucke, 1993). Psychiatric disorders were found to be prevalent among patients with medically ill-explained or unexplained symptoms. Approximately 40% of the patients with psychiatric disorders met DSM-III-R (APA, 1987) criteria for somatisation disorder or hypochondriasis, which is an extraordinarily high prevalence rate.

Although the rates vary, and some studies mention abridged hypochondriacal complaints rather than fullblown hypochondriasis, it can be concluded that in all areas in which hypochondriasis has been studied, the disorder is considerably prevalent.

Comorbidity

It is a common fact that several patients tend to suffer from more than one disorder. For example, as seen in clinical practice, sufferers from hypochondriasis can also report panic attacks, and many of them also report mood problems.

Research has shown that comorbidity seems to occur frequently with hypochondriasis. A review by Creed and Barsky (2004) showed that in 5 out of 6 studies, there was an association between hypochondriasis and anxiety disorders, and in 8 studies an association was found with mood disorders. In a study in which prevalence of hypochondriasis within the community was studied (Faravelli et al., 1997), it was found that the majority of people diagnosed with hypochondriasis had coexisting anxiety or depressive disorders. Noyes and colleagues (1999), who also studied hypochondriasis in the general population, found that hypochondriacal relatives of the subjects had a high rate of comorbidity with anxiety, mood, and other somatoform disorders. Finally, Fink and colleagues (2004) reported a comorbidity of 17.2 % between hypochondriasis and depression and a comorbidity of 7.3 % between hypochondriasis and anxiety disorders (phobias, generalised anxiety, and panic disorder).

Summarising, it seems that, although hypochondriasis can be seen as an independent disorder, it is certainly correlated with other disorders.

Demographic factors.

Hypochondriasis in primary care patients seems to be an equal opportunity diagnosis, apparently unrelated to any given demographic factor (Escobar et al., 1998). In the DSM-IV-TR (APA, 2001) it is stated that findings with respect to age and gender differences in prevalence are inconsistent, but that the disorder occurs across the lifespan in both men and women.

When reviewing the literature with reference to gender, in some prevalence studies no differences between men and women were found with regard to hypochondriasis (Barsky et al., 1990; Creed & Barsky, 2004; Gureje et al., 1997; Speckens, Van Hemert, Spinhoven, & Bolk, 1996), but others found the disorder to be more present in women (Faravelli et al., 1997; Fink et al., 2004).

With regard to age, findings are inconclusive as well. In a review by Creed and Barsky (2004), three studies reported an association with older age, whereas eight studies did not. Gureje and others (1997) found an overall age effect, meaning that patients with abridged hypochondriasis were significantly older than those without. Other studies (Barsky et al., 1990; Speckens et al., 1996) did not find associations of age with hypochondriacal features.

In their systematic review, Creed and Barsky (2004), also included other demographic factors, which have been studied less often than gender and age in the broader research, such as educational level, marital status, and socio-economic status. Half of the studies they reviewed showed an association between hypochondriacal complaints and fewer years of education, but none with marital status. Two out of four studies showed an association between hypochondriasis and lower socio-economic status.

Costs of hypochondriasis

Hypochondriasis can be a costly disorder in several ways. Firstly, there are the personal costs for the patient. As they suffer from health anxiety, costs are high in terms of life satisfaction. For example, hypochondriacal complaints and behaviours can put a strain on personal relationships, by the patient repeatedly asking for reassurance from their partner. Furthermore, patients may feel guilty about their complaints towards their children, and state that they would have been better parents if they did not have the disorder, or fear that their children will also develop hypochondriacal complaints having seen a parent being afraid of diasease. Also, patients might consider themselves unworthy employees because of their hypochondriacal complaints, having to take sickleave more often than others. Therefore, hypochondriasis appears to be a disorder with a substantial burden of personal distress (Barsky, Fama, Bailey, & Ahern, 1998)

Hypochondriasis is also a costly disorder for medical health care systems. People suffering from this, and other somatoform disorders, tend to over-use these systems, by frequently consulting general practitioners and medical specialists, and by using various forms of prescribed and unprescribed medication. Barsky, Ettner, Horsky, and Bates (2001) stated that primary care patients who were rated highly on somatisation and hypochondriacal health anxiety, had significantly higher medical services utilisation, in terms of overall costs, and visits to physicians. In a study into 400 frequent attenders in secondary care (Reid, Wessely, Crayford, & Hotopf, 2002), it was found that 17% had at least two medically unexplained consultation episodes. These patients also had a greater number of referrals to secondary care and were more likely to undergo certain medical examinations. The usage and associated costs of medical examinations of this group of sufferers from medically unexplained symptoms are significantly greater than of the other frequent attenders.

In the Netherlands, frequent attendance has also been studied. Although groups of these frequent attenders in medical settings have not always been diagnosed as suffering from hypochondriasis, De Waal, Arnold, and Eekhof (2004) have found that at least one out of six patients seen by general practitioners can be diagnosed as suffering from a somatoform disorder.

It is as yet unknown to what extent hypochondriacal patients (mis)use medical services, and how many frequent attenders should be diagnosed as suffering from hypochondriasis. However, it seems safe to conclude that hypochondriacal patients, together with patients suffering from other somatoform disorders, are costly in terms of medical services utilisation, which makes better management of these disorders necessary.

Theoretical approaches to hypochondriasis

The cognitive-behavioural model of hypochondriasis

Warwick and Salkovskis (1990) were the first to propose a cognitive-behavioural approach to hypochondriasis.Their cognitive-behavioural hypothesis of health anxiety and hypochondriasis proposed that bodily signs and symptoms are perceived as more dangerous than they really are, and that a particular diasease is believed to be more probable than it really is (Salkovskis, 1989; Salkovskis & Warwick, 1986; Warwick & Salkovskis, 1989). This cognitive hypothesis accounts for the development of hypochondriasis, in that knowledge and past experiences of diasease lead to the formation of specific assumptions about symptoms, disease and health behaviours. These assumptions will often lead to a confirmatory bias in the patient's thinking once a critical incident has resulted in the misinterpretation of bodily symptoms and signs as being indications of a serious diasease. Mechanisms that are subsequently involved in the maintenance of hypochondriacal complaints are anxiety -resulting in physical arousal-, selective attention -such as the perception of normal bodily changes, and previously unnoticed bodily features-, and behaviour, designed to avoid, check for or exclude physical diasease. Warwick and Salkovskis proposed a model of the maintenance of hypochondriacal complaints, which was adapted for clinical practice by Bouman and Visser (1998b). This model is presented in Figure 1.1.

Maintaining elements of hypochondriasis

The cognitive hypothesis proposed by Warwick and Salkovskis (1990) has inspired much research, especially into how physical sensations, cognitions and assumptions, selective attention, and behaviour might interplay in maintaining hypochondriacal complaints. Several findings will be described below.

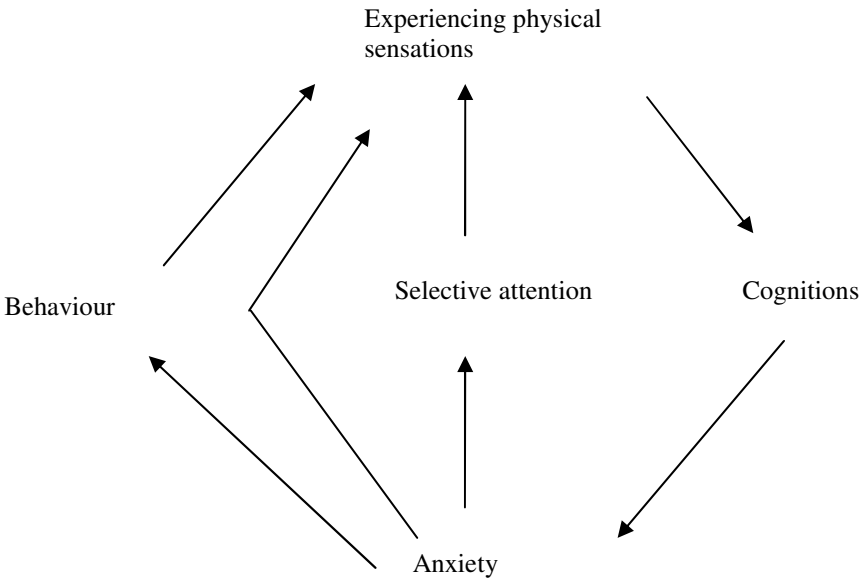

Figure 1.1: The Cognitive-Behavioural Model of the Maintenance of Hypochondriacal Complaints (Bouman & Visser, 1998b, Warwick & Salkovskis, 1990).

The perception of physical sensations and somatosensory amplification

People who suffer from hypochondriasis report many physical symptoms, varying from headaches to the results of autonomic arousal (e.g. palpitations, muscle tension and shortness of breath), which are easily interpreted as signs or symptoms of a serious physical condition. A fundamental question is whether a hypochondriacal patient's experience of somatic symptoms differs from that of nonhypochondriacal patients, and it has been suggested that hypochondriacal patients have a tendency to amplify benign bodily symptoms, therefore experiencing a wide range of somatic sensations as unusually intense and disturbing.

Empirical investigation of symptom amplification in hypochondriacal individuals has been relatively sparse, and it is difficult to draw any definitive conclusions from the literature. However, Barsky and colleagues have conducted several studies of somatosensory amplification and the role it plays in hypochondriacal complaints.

These studies have revealed that somatosensory amplification is highly correlated with several different measures of hypochondriasis, and that amplification is temporally stable in both hypochondriacal and nonhypocondriacal populations, and generally tracks with the severity of hypochondriasis over time. Furthermore, these studies have shown that transiently hypochondriacal patients have higher amplification scores than nonhypochondriacal patients, and that, at follow-up, remitted hypochondriacal

patients have lower amplification scores than patients whose hypochondriasis has not remitted (Barsky, Ahern, Bailey, & Delamater, 1996; Barsky, Cleary, Coeytaux, & Ruskin 1995; Barsky, Cleary, Sarnie, & Klerman, 1993; Barsky, Fama, Bailey, & Ahern, 1998; Barsky, Wyshak, & Klerman, 1990). However, when using a laboratory heartbeat detection test, presented by the authors as an objective means of measuring amplification, DSM-III-R (APA, 1987) patients were not found to be more accurately aware of their resting heartbeat than nonhypochondriacal patients from the same general medical setting (Barsky, Brener, Coeytaux, & Cleary, 1995). Barsky (2001) poses that hypochondriacal patients, rather than focussing on a single bodily sensation and amplifying it, may be thought of as being flooded with many bodily sensations they are unable to ignore, and that hypochondriacal individuals may be thought of as especially sensitive to, and intolerant of bodily sensations in general. However, the concept of somatosensory amplification, and the occurrence of physical symptoms in hypochondriacal patients as a whole, should be studied further.

Cognitions and assumptions about bodily symptoms and diasease

The cognitive-behavioural model (Warwick & Salkovskis, 1990), and the DSM-IV-TR (APA, 2000) criteria for hypochondriasis, pose that people suffering from hypochondriasis tend to misinterpret their bodily symptoms. This was studied, and results show that people who are anxious about their health are more likely to interpret bodily sensations as indicators of poor health, or even of serious disease (Barsky & Wyshak, 1989; Haenen, Schmidt, Schoenmakers, & Van den Hout, 1997; Rief, Hiller, & Margraf, 1998), thereby indicating that misinterpretation indeed seems to play a role in maintaining hypochondriacal complaints. Other studies have demonstrated that people with hypochondriacal complaints are more likely to believe that good health is associated with few or no bodily sensations (Barsky, Coeytaux, Sarnie, & Cleary, 1993), and that they are more likely to believe that they are weak and unable to tolerate stress (Rief et al., 1998). Furthermore, people suffering from hypochondriacal complaints regard themselves as being at greater risk for developing various diseases, but not at greater risk for being in an accident, or for being the victim of a criminal assault (Barsky et al., 2001; Haenen, de Jong, Schmidt, Stevens, & Visser, 2000). These beliefs might persist because of a lack of positive thoughts that nonhypochondriacal people do have (Taylor & Brown, 1988), such as ‘there is no need to worry about my health’. These assumptions and beliefs are specifically targeted during cognitive-behavioural treatment, which will be elaborated on later in this introduction.

Selective attention

Kellner and colleagues found that people with excessive health anxiety may spend a great amount of time attending to their bodies, thereby increasing the chances that they will notice bodily sensations (Kellner, Abbott, Winslow, & Pathak, 1987). Consistent with this idea is that more bodily symptoms are reported when people are deliberately instructed to focus on their bodies (Haenen, Schmidt, Kroeze, & Van den Hout, 1996; Schmidt, Wolfs-Takens, Oosterlaan, & Van den Hout, 1994; Vervaeke, Bouman, & Valmaggia, 1999). It

is possible that attentional focus is a consequence of the beliefs one has about bodily sensations, and that people will tend to search for these sensations if they believe them to be signals of bodily dysfunctioning (Taylor & Asmundson, 2004). Attention can therefore be considered another mechanism maintaining hypochondriacal complaints, and is targeted explicitly during cognitive-behavioural psychoeducation.

Checking and avoidance behaviour

Behavioural factors that play a role in the maintenance of hypochondriasis can be divided in two categories: a) checking behaviour, such as reassurance seeking, and checking the body, and b) avoidance and escaping behaviour. It has been hypothesised that both types of behaviour may perpetuate hypochondriacal complaints, but little research has been conducted so far.

Hypochondriacal patients tend to turn to physicians in particular for reassurance, but this reassurance does not last (Salkovskis & Warwick, 1986). To explain this, it has been hypothesised that doubts might arise in a health-anxious person when a physician does not give the patient a good explanation of what is causing the bodily sensations (Lucock, White, Peake, & Morley, 1998), which may then lead to more visits to physicians in hope of being ultimately reassured. A second reason why reassurance does not work properly might be that no certainty can be associated with medical tests, while many people suffering from hypochondriasis need 100% reassurance that thay are not ill (Taylor & Asmundson, 2004). When they do not receive this certainty, patients will tend to repeat their behaviour, such as asking their partner's opinion or reassurance, and lose the tendency to trust their own judgment. Other behaviours in the same line are body checking, checking health- or disease-related publications, and surfing the internet in search of symptoms that are part of the feared disease.

A second form of behaviour often displayed by hypochondriacal patients is avoidance or escaping behaviour, such as avoiding going to a physician, avoiding articles about feared diaseases, or escaping from situations that are interpreted as dangerous (such as conversations about cancer). It is believed that patients avoid certain situations because they think they will not be able to handle the anxiety they will experience when confronted with diasease-related information. As people keep avoiding those situations, they do not experience the catastrophe (e.g. developing cancer when you talk about it) not taking place. Consequently, patients feel like they have made a narrow escape *because* they have avoided the illess-related situations.

These two patterns of behaviour, both checking behaviour and avoidance, are usually both displayed by people suffering from hypochondriasis, and tend to differ across situations and contexts. For example, some people will visit their GPs weekly, but will avoid conversations about cancer, and others will check their body three times a day, but never see a GP. How these two types of behaviour are related, and which specific role they play in maintaining hypochondriacal complaints, remains to be studied.

The components described in the cognitive model of maintaining factors by Warwick and Salkovskis (1990), the model by Bouman and Visser (1998b), and

subsequent studies into these mechanisms, clarify to some extent how hypochondriacal complaints are maintained. However, research has shown that several other factors might also be important in the conceptualisation of this disorder.

Etiological factors.

People who suffer from hypochondriasis may have been predisposed to develop these complaints by having had certain experiences. For example, it emerges from studies that adolescent and adulthood health anxiety are associated with a childhood history of severe diseases, either suffered by the patient or their family members (Fritz & Williams, 1989; Robbins & Kirmayer, 1996), and that the death of someone close to the person can precipitate hypochondriasis (APA, 2000). Furthermore, it seems that severe health anxiety in adulthood is also associated with childhood exposure to parent-child interactions, such as parental modeling experiences (e.g. giving the child the idea that disease is important and should not be ignored), parental overprotection (e.g. giving the child the idea that he or she is vulnerable), and parental reinforcement of disease behaviours (e.g. impressing upon the child that symptoms are important by adding a rewarding component to being sick, such as allowing to stay home from school and being looked after) (Taylor & Asmundson, 2004). How these etiological factors operate in causing hypochondriacal complaints is as yet unclear, also because most of the studies have been conducted retrospectively.

Metacognition

It has recently been postulated that metacognition, as a cognitive and information processing vulnerability factor, might play a role in the development and maintenance of several disorders (Wells & Matthews, 1994). Metacognition is any knowledge or cognitive process involved in the appraisal, monitoring, or control of cognition (Flavell, 1979), and operates on two different interrelated levels, the meta-level and the object-level (Nelson & Narens, 1990). These two levels and their relation are depicted in Figure 1.2. This figure shows that information flows to and from both levels, and is called *monitoring* when the object-level informs the meta-level of its state, and *control* when the meta-level informs the object-level what to do next. It was hypothesised that the meta-level is controlled and modified by feedback about the effectiveness of particular cognitive and behavioural strategies in relation to activated goals (Wells & Matthews, 1994), thereby providing information about future preferred actions and cognitions.

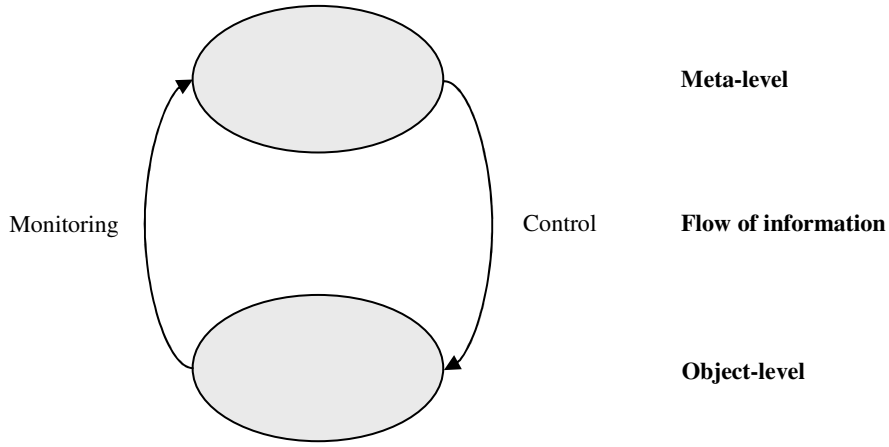

Figure 1.2. Model of the Relation between Meta-level and Object-level (adapted from Nelson and Narens, 1990)

In recent years, maladaptive metacognitive processes have been believed to play a part in the etiology and maintenance of emotional disorders (Wells, 2000). Metacognition can be divided in several components: metacognitive knowledge, metacognitive experiences, and metacognitive control strategies, which are all believed to play a part in the etiology and maintenance of disorders (Wells, 2000).

Metacognitive *knowledge* refers to the beliefs and theories that individuals have about their own cognitions, such as beliefs about the meaning of particular types of thoughts, and beliefs concerning the efficiency of memory and cognitive control. In hypochondriasis, this may take the form of cognitions such as 'all this thinking about diasease must mean I am going crazy'. Furthermore, people who suffer from emotional disorders view themselves as unable to control these intrusive cognitions. This gives rise to perseveration –i.e. recurrent thinking about threat- which, in turn maintains anxiety complaints (Wells & Sembi, 2004).

Metacognitive *experiences* encompass appraisals of the meaning of specific mental events (e.g.thoughts), metacognitive feelings themselves, and judgments of the status of cognition. Appraisal of cognitions leads to specific metacognitions, which can be either negative (in the context of hypochondriasis leading to thoughts as 'I should not be thinking about diasease so much, thinking about it can be dangerous') or positive ('If I keep thinking I will be getting cancer, it might help me cope when I am diagnosed with cancer'). Metacognitive experiences refer to the hypothesis of emotionally disordered patients tending to use feeling-based information (e.g.'having palpitations is dangerous') as a guide to appraise threat. Additionally, they use feeling-based information as a guide for regulating the execution of coping strategies, such as seeking reassurance, and surfing the internet to look for information about diasease.

Metacognitive *control strategies* are the responses individuals make in controlling the activities of their cognitive system. In a maladaptive way this is done by worrying and rumination, or trying to suppress distressing thoughts. Which control strategy is used depends on certain metacognitive aspects. Cartwright-Hatton and Wells (1997) state that *positive* metacognitive beliefs about worry (e.g. 'Worrying helps me cope') stimulate the use of worrying as a processing or coping strategy. On the other hand, if *negative* metacognitive beliefs about loss of control of the activity become more compelling (e.g. 'If I worry too much, I might go crazy'), individuals may attempt to avoid or suppress worrying. Furthermore, metacognitive control strategies also include sustained attention on internal or external sources of threat, a threat-monitoring strategy characteristic for many emotional disorders.

Several studies have shown that certain aspects of maladaptive metacognition might play a role in the development and maintenance of generalised anxiety disorder (Wells & Carter, 2001), depression (Papageorgiou & Wells, 2003), and obsessive-compulsive disorder (Wells, 2000).

Bouman and Meijer (1999) were the first to test the applicability of the metacognitive approach for hypochondriacal complaints, and found that metacognitive aspects also seem to play a role in hypochondriasis. Results of this first study on hypochondriacal metacognition revealed that hypochondriacal patients had many worrisome thoughts about their health, the lack of control on a metacognitive level, and the excess of interference they experienced specifically in relation to their diasease-worries. Additionally, they proved highly aware of their own thoughts and worries.

Treating hypochondriasis

Hypochondriacal patients tend to turn to GPs and medical specialists for reassurance, while they are very hard to reassure that they in fact do not suffer from a serious physical disease. Therefore, hypochondriasis is difficult to manage by health care professionals. In earlier years, mental health care professionals considered hypochondriasis equally impossible to manage with psychological treatment, but recently this pessimistic view has changed, mainly because cognitive and/or behavioural treatments have proven to be valuable in the treatment of hypochondriasis.

Cognitive-behavioural treatment for hypochondriasis

Cognitive therapy (CT) is based on an underlying theoretical assumption that one's affect and behaviour are largely determined by the way in which he structures the world (Beck, Rush, Shaw, & Emery, 1979), and the meaning one gives to certain experiences. The individual's cognitions (pictorial or verbal events in their stream of consciousness) are based on certain attitudes or assumptions (schemas), developed from previous experiences. CT is an active, directive, time-limited, and structured approach, which makes use of therapeutic techniques designed to identify, reality-test, and modify distorted cognitions, as well as underlying dysfunctional beliefs (schemas). The patient is taught the following operations: firstly, to monitor his negative, automatic thoughts (cognitions), secondly, to recognise the connections between cognition, affect,

and behaviour, and thirdly, to examine the evidence for and against these distorted automatic thoughts. Fourthly, the patient is taught to substitute more reality-oriented interpretations for these biased cognitions, and, finally, to learn to identify and change the dysfunctional beliefs which predispose the patient to distort their experiences and maintain this vicious circle (Beck et al., 1979).

Since the 1970s, CT has been used to treat a variety of psychiatric disorders. Nowadays, it is usually referred to as cognitive-behavioural therapy (CBT), because it has been recognised that in addition to cognitive aspects, certain behavioural components (such as, in the case of hypochondriasis, as well as in several other disorders, avoidance and checking behaviour) also play a part in maintaining psychological complaints. Through the use of behavioural experiments, including the identification, reality-testing, and changing of certain behaviour, behavioural components play a major role in CBT. During these behavioural experiments, an individual tests the accuracy of his or her behaviour in real life, in order to check whether the feared consequences of their behavioural actions will occur.

Over the years, several researchers have found beneficial effects of cognitive and/or behavioral therapies for hypochondriasis (Barsky & Ahern, 2004; Bouman & Visser, 1998; Clark, Salkovskis, Hackmann, Wells, Fennell, Ludgate, Ahmad, Richards, & Gelder, 1998; Visser & Bouman, 1992;Visser & Bouman, 2001; Warwick, Clark, Cobb & Salkovskis, 1996; For a recent overview see Taylor & Asmundson, 2004).

An uncontrolled case study showed promising results for behavioural treatment, notably exposure and response prevention. This study involved 17 people who suffered from hypochondriasis or diasease phobia (Warwick & Marks, 1988). In another case series (Visser & Bouman, 1992), six patients were offered six sessions of cognitive therapy, followed by six sessions of behavioural therapy (exposure and response prevention). The study had a crossover design, meaning that the order of the treatments offered varied among patients. Results of the study suggest that both forms of treatment were equally effective.

In the first waiting list controlled study (Warwick et al., 1996), results showed that 16 sessions of CBT, spread over 4 months, were effective across a wide range of measures, such as disease conviction, need for reassurance, time spent worrying about health, and frequency of checking. In this study, 32 patients were randomly assigned to either cognitive-behavioural therapy or a no treatment waiting list control group. The treatment proved not only effective, but also acceptable to patients. Improvements were maintained at 3 months follow-up.

Similar results were found in several other studies. When comparing CBT to behavioural stress management (Clark et al, 1998), both treatments were found to be equally effective at the one year follow-up assessment.

Bouman and Visser (1998a) treated 17 patients suffering from hypochondriasis either with cognitive therapy or exposure in vivo with response prevention, and concluded that both treatments were effective. In a later study (Visser & Bouman, 2001), they compared these two treatments with a waiting-list control condition. In a group of 78 randomly assigned patients, it emerged

that behaviour therapy and cognitive therapy were equally effective, and that both outperformed the waiting-list condition. Statistically and clinically significant improvements were found for hypochondriacal complaints, but improvement was also shown in depressed mood and obsessive compulsive behaviour, and general mental functioning. These results were maintained at the seven months follow-up.

Another form of cognitive-behavioural intervention, explanatory therapy, developed by Kellner (1986), was studied in a randomised controlled trial (Fava, Grandi, Rafanelli, Fabbri, & Cazzaro, 2000). This form of therapy involves interventions directed at convincing the patient that nothing is wrong with them. This intervention includes physical examination at the patient's request. It involves providing accurate information, and teaching the principles of selective perception. In this study, 20 patients were randomly assigned to either explanatory therapy or a waiting list, with subsequent explanatory therapy. Results showed that the therapy condition was superior to the waiting list condition.

Hiller, Leibbrand, Rief, and Fichter (2002) studied 96 patients, who suffered either from DSM-IV hypochondriasis, or scored highly on the Illness Attitude Scales or the Whitley Index. An intense inpatient cognitive-behavioural treatment was offered daily, both individually and in group format, with a mean treatment length of 57.5 days. Because of substantial improvement or even recovery from hypochondriacal symptomatology, 60 % (n = 58) of the patients were classified as responders.

A recent study in Denmark (Wattar, Sorensen, Buemann, Birket-Smith, Salkovskis, Albertsen, & Strange, 2005) examined cognitive-behavioural therapy in a naturalistic setting with 16 hypochondriacal patients, with measurements at 6 and 12 months follow-up. Results showed that health anxiety, anxiety, and depression had decreased substantially, and that results were maintained at follow-up.

Barsky and Ahern (2004) described a large randomised trial in which they compared six sessions of individual cognitive therapy to medical care as usual. They found that the brief cognitive intervention was significantly superior in reducing hypochondriacal concerns and behaviours. Effects were maintained at 6 and 12 months follow-up. A small study (N = 12) was conducted by Martínez and Botella (2005), who found both clinically and statistically significant effects.

A most recent therapy effect study was conducted in the Netherlands, and compared the efficacy of CBT, paroxetine and a placebo in treating hypochondriasis (Greeven, Van Balkom, Visser, Merkelbach, Van Rood, Van Dyck, Van der Does, Zitman, & Spinhoven, in press). In this study, 112 patients were randomised to 16 weeks of outpatient treatment in one of the three conditions. It was found that CBT and paroxetine were both more effective than placebo, but that they did not differ significantly from each other.

In sum, it may be concluded from the studies described above that cognitive-behavioural treatment is acceptable and has been very effective in reducing hypochondriacal complaints. Table 1.2 provides an overview of all the studies on the effect of cognitive-behavioural therapy for hypochondriasis.

Table 1.2: Overview of Cognitive- and/or Behavioural Treatments for Hypochondriasis

Authors	N	Treatment conditions	Results
Warwick & Marks,1988	17	BT	BT effective
Visser and Bouman, 1992	6	CT & BT	CT = BT
Warwick et al., 1996	32	CBT vs.WL	CBT >WL
Clark et al., 1998	48	CBT vs. BSM	CBT = BSM
Bouman and Visser, 1998a	17	CT vs. BT	CT = BT
Fava et al., 2000	20	ET vs. WL	ET > WL.
Visser & Bouman, 2001	78	CT vs. BT vs. WL	CT = BT > WL
Hiller et al., 2001	96	CBT	CBT effective
Barsky and Ahern, 2004	187	CBT vs. WL	CBT > WL.
Martínez and Botella, 2005	12	CBT	CBT effective
Wattar et al., 2005	16	CBT	CBT effective
Greeven et al., 2006	112	CBT vs. Par vs. Pla	CBT = Par > Pla.

Note. BT = behaviour therapy; CT = cognitive therapy; WL = waiting list condition; CBT = cognitive-behavioural therapy; BSM = behavioural stress management; ET = explanatory therapy; Par = Paroxetine; Pla = Placebo.

Psychoeducation for hypochondriasis

Psychoeducation: background.

Despite its obvious effectivity and effectiveness, individual CBT also has its drawbacks. For one, it has to be delivered by trained mental health care specialists, who are both expensive and scarce, the latter leading to long waiting

lists for people who need treatment. Secondly, it is a relatively long lasting treatment, which takes several months to complete. Therefore, there is a need for short-term and less expensive but effective treatment forms. A viable option is psychoeducation, i.e. the teaching of personal and interpersonal attitudes and skills, which can be applied to solve present and future psychological problems (Guerney, Stollak & Guerney, 1971), thereby reflecting a paradigm shift to a more holistic and competence-based approach (Marsh, 1992). People seeking help are seen as 'participants' rather than 'patients' or 'clients', and 'therapists' as 'teachers'.

The very beginning of psychoeducation can be traced back to counseling psychology in the early 1960s, when psychoeducation was derived from learning theory (Authier, Gustafson, Guerney & Kasdorf, 1975). Authier (1977) described three main forces of the psychoeducational movement as it first became popular.

The first force was the practical application of learning principles to clinical problems, as it took place for the first time in the early 1960s (Authier, 1977; Authier et al., 1975). The basic idea was that therapists should view themselves as educators, and apply learning principles to clinical practice, so that people could be educated rather than treated.

The perceived inadequacy of the medical model, dominating therapy at that time, lead to the second force of the psychoeducational movement. The medical model and the educational model (both adopted from Authier, 1977) are shown in Table 1.3, which shows their contrasts clearly.

Table 1.3: The Medical Model Versus the Psychoeducational Model

Medical model	Psychoeducation
Abnormality/illness	Client dissatisfaction
↓	↓
Diagnoses	Goal-setting
↓	↓
Prescription	Skill-teaching
↓	↓
Treatment	Satisfaction/goal-achievement
↓	
Cure	

The problem that health practitioners had with the traditional medical model was the position of patients as passive receptors of diagnoses, prescriptions and treatments. The appropriateness of this medical model was questioned, and healthcare professionals were thought to, by using this model, instill societal and cultural values onto patients, under the guise of making them mentally healthy (Authier, 1977; Authier et al., 1975). Ideally, people could be better helped by

practitioners who had adopted the psychoeducational model, since these practitioners valued and encouraged the independence of their patients.

The third force of the psychoeducational movement consisted of the community mental health movement. The new conviction was that the long-term solution of psychosocial problems lay in prevention rather than in remediation. Prevention as a target called for a more direct teaching approach, so that patients could be taught the psychological content necessary for them to help themselves. Self-help groups, such as Alcoholics Anonymous, demonstrated that people could help themselves and each other. It was hypothesised that a professional who looks at treatment as education and training could provide better training, or at least help group members to provide better training for each other (Authier et al., 1975; Authier, 1977).

Psychoeducation: application.

Psychoeducation has been implemented as part of psychological treatment, for instance with (family members of) patients suffering from schisophrenia (Simon, 1997), but over the last decades, psychoeducation has also emerged as a promising independent treatment form. There are several ways in which psychoeducation can be offered. One way is through psychoeducational courses, usually offered to groups of patients. A second way is through bibliotherapy, enabling people to read the theory and do the exercises in the privacy of their own home. Both of these methods are described below.

Recent psychoeducational courses have (usually) been designed for patients suffering from specific disorders, such as depression (Cuijpers, 1995, 1996; Lewinsohn & Brown, 1984), hypochondriasis (Avia, Olivares, Crespo, Guisado, Sánchez, & Varela, 1997; Barsky, Geringer, & Wool, 1988; Bouman, 2002; Bouman & Van den Broek, 1997) and panic disorder (Baillie & Rapee, 2004). Psychoeducational treatment fits very well in an era in which short-term and cost-containing therapeutic methods are preferred. The courses are based on a certain theory or model, which determines the content of the information that is presented to participants. Although the courses are usually designed for people suffering from specific disorders, the extent to which participants are screened for certain disorders before participating in psychoeducational treatment varies. Since the focus mainly lies on prevention, courses have also been designed for large groups of people and /or people with minor symptoms of anxiety or depression (e.g. Brown, Cochrane, Mack, Leung & Hancox, 1998; Brown, Cochrane & Hancox, 2000; Rubenstein & Craske, 1998).

Important psychoeducational components taught to participants are self-control, problem-solving skills and cognitive skills (Cuijpers, 1996). Elements that are essential to the success of the intervention are: 1) offering a rationale to the participants, and 2) the training of certain skills which participants can learn independently and are motivated to use outside of the intervention. This mastery of skills is thought to cause the improvement of complaints, but the explicit practising of skills has to be undertaken by the participants independently. This is different from traditional treatment forms, in which more guidance is offered. Another explicit difference between regular treatment and psychoeducation is

that the latter embodies the transfer of knowledge, derived from the theory or model at hand.

Lukens and McFarlane (2004) reviewed psychoeducational treatments for various disorders and problems. They concluded that psychoeducational interventions have far-reaching applications for acute and chronic illness and other life challenges across levels of public health, as long as these interventions are developed and implemented carefully, following specific guidelines for delivering and documenting evidence-based practices.

The psychoeducational course 'Coping with health anxiety'.

Barsky, Geringer and Wool (1988) were the first to propose a psychoeducational group course for hypochondriasis, and their suggestion was followed by several others (Avia, Ruiz, Olivares, Crespo, Guisado, Sánchez & Varela, 1996; Bouman, 2002; Stern, & Fernandez, 1991). The course described by Barsky and colleagues (1988) is a cognitive-educational treatment, based on cognitive-behavioural principles, consisting of a group training on the perception and interpretation of physical symptoms. It comprises six weekly meetings, during which six to eight patients receive information about factors that can enhance or prolong somatic problems, such as cognition and symptom attribution, and dysphoric affect (Barsky et al., 1988). Stern and Fernandez (1991) found the treatment, in a group of six participants, to be successful in reducing the number of medical consultations and time spent thinking about disease, but they did not find a significant decrease in measured anxiety and depression parameters. Avia and colleagues (1996) implemented the course in Spain, with modified examples, exercises and therapeutic homework. They reported beneficial effects in a group of 17 students. However, only eight of them actually suffered from DSM-III-R hypochondriasis (APA, 1987).

After redesigning the course in line with the cognitive-behavioural model of hypochondriasis described earlier in this chapter (Bouman & Visser, 1998b, Warwick & Salkovskis, 1990), Bouman applied the course in the Netherlands. The community-based course was studied in an uncontrolled trial (Bouman, 2002), and in a waiting list controlled trial (Bouman & Polman, submitted). A total of 21 DSM IV-diagnosed hypochondriacal participants (APA, 1994) were included in the first and 53 in the second study. The results support the notion that this program leads to significantly reduced hypochondriacal complaints, depressive complaints, medical services utilisation, and trait anxiety. These improvements were maintained at six months follow-up. Table 1.4 shows an overview of the treatment studies of psychoeducation for hypochondriasis. The course 'Coping with health anxiety', as implemented by Bouman and colleagues, will be described in detail in chapter 2 of the present thesis.

Table 1.4: Chronological Overview of Earlier Studies of Psychoeducational Courses for Hypochondriasis.

Authors	N	Duration of treatment	Format	Results
Stern and Fernandez, 1991	6	9, 1.5 hour long, weekly sessions.	Open trial	Decrease in medical consultations and in time spent thinking about disease, no decrease in anxiety and depression.
Avia et al., 1996	17	6, 1.5 hour long, weekly sessions.	Waiting list controlled	Decrease in hypochondriacal complaints, dysfunctional attributions and bodily symptoms.
Bouman, 2002	21	6, 2 hour long, weekly sessions + booster session	Open trial	Decrease in hypochondriacal complaints, depression, trait anxiety, and medical services utilisation.
Bouman and Polman, submitted	53	6, 2 hour long, weekly sessions + booster session	Waiting list controlled	Decrease in hypochondriacal complaints, depression, and trait anxiety. The course outperformed the waiting list period.

Cognitive-behavioural bibliotherapy.

Bibliotherapy is another form through which psychoeducation can be delivered. It can be described as an intervention for the purpose of supplying written self-help material. Bibliotherapy can be a part of regular treatment, or an independent treatment form, in which participants work through the material independently, with minimal or no therapist contact.

In the past decades, cognitive-behavioural theory has increasingly been offered to patients suffering from different complaints by means of bibliotherapy. It was shown to be effective in the treatment of depression (Cuijpers, 1995, 1997; Scogin, Hamblin, & Beutler, 1987; McKendree-Smith, Floyd, & Scogin, 2003; Floyd, Scogin, McKendree-Smith, Floyd, & Rokke, 2004), sexual dysfunctioning (Van Lankveld, 1998), panic disorder and other anxiety disorders (Lidren, Watkins, Gould, Clum, Asterino, & Tulloch, 1994;

White, 1995; Wright, Clum, Roodman, & Febbraro, 2000; Newman, Erickson, Przeworski, & Dzus, 2003), insomnia (Mimeault, & Morin, 1999), and alcohol problems (Apodaca, & Miller, 2003).

In a meta analysis of bibliotherapy for depression, Cuijpers (1997) concluded that bibliotherapy can be useful for a number of reasons: it can be highly efficient and (cost)effective, and can reach large populations of patients who are unwilling or unable to be engaged in a more traditional form of therapy.

Most meta-analyses on bibliotherapy for different disorders have shown medium to large effect sizes (Newman et al., 2003; Van Lankveld, 1998; Apodaca et al., 2003). These effects are not only found at post-treatment. Effects were maintained at 8 years follow-up for alcohol problems (Apodaca et al., 2003), at 3 years follow-up for depression (Smith, Floyd, Scogin & Jamison, 1997), and at 3 and 6 months follow-up for panic disorder (Lidren et al., 1994). These favourable effects are said to be comparable to therapist delivered interventions (Gould & Clum, 1993; Cuijpers, 1997).

In their review of treatments Taylor and Asmundson (2004) stated that hypochondriasis or health anxiety had never been treated with bibliotherapy. However, there was one study that investigated bibliotherapy for health anxiety (Jones, 2002). The results supported the notion that a cognitive-behavioural self help treatment for health anxiety can be useful in reducing anxiety about diasease. The study did however suffer from some methodological flaws. The participants under study suffered from health anxiety, and some also from identifiable physical diseases. It was not reported whether the participants feared the diasease they suffered from. Furthermore, the study lacked a clear diagnosis of hypochondriasis or health anxiety.

The present thesis

Outline

Individual cognitive-behavioural therapy has shown to be effective in treating hypochondriacal complaints. However, individual CBT is costly and rather time consuming, and it would therefore be useful to find out whether short-term and cost-effective, CBT-based treatment forms can be as effective in reducing hypochondriacal complaints. Furthermore, studies on the effect of CBT have demonstrated that cognitive and/or behavioural therapy forms work as a package. Little is known about which ingredients of CBT are most important in producing effect, which mechanisms or vulnerability factors of a specific disorder they target, or which patient characteristics can predict who will benefit from treatment.

In this thesis several studies focus on the course ‘Coping with health anxiety’. The first of these is described in Chapter 2, which focuses on describing the background, content, and implementation of this course. Thereby, it provides a further introduction of psychoeducational treatment for hypochondriacal complaints.

The third chapter describes a study in which this CBT-based course’s construct validity was examined, by comparing its effect to the effect of a problem-solving psychoeducational course, designed specifically for this study.

Internal validity in terms of effect of the psychoeducational approach is studied as well.

The third study focusing on 'Coping with health anxiety' (chapter 4) describes the effect the course has on metacognition, which is believed to be one of the underlying factors of several emotional disorders (Wells, 2000). Hypochondriacal metacognition is measured by the Metacognition-Cognitions about Health Anxiety (MCHA; Bouman & Meijer, 1999). Furthermore, the course's internal validity in terms of effect is studied in this chapter as well.

The focus of chapter five lies on predicting treatment effect of the 'Coping with health anxiety' course, thereby examining an aspect of its external validity. Participants of this study are they who have taken part in the four outcome studies (Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006; Buwalda, Bouman, & Van Duijn, accepted pending revisions). The specific aim of this explorative study is to investigate the predictive abilities of several variables, which were demographic (age, gender, and level of education), disorder-related (baseline severity of hypochondriacal complaints, duration of hypochondriacal complaints, severity of depressive complaints, and severity of trait anxiety), and patient-related (level of rigidity, and treatment expectation).

Chapter 6 describes a study on cognitive-behavioural bibliotherapy for hypochondriasis. Both acceptability and efficacy (internal validity) of this form of psychoeducation are studied.

The final chapter of this thesis consists of a general discussion on the most important findings described in the foregoing chapters. Several forms of validity of the psychoeducational treatments and practical implications of the findings will be discussed.

Aims of this thesis

This thesis' major objective is to examine the various forms of validity of the psychoeducational approach for hypochondriasis. Firstly, the internal validity of 'Coping with health anxiety' and cognitive-behavioural bibliotherapy will be examined.

Secondly, with regard to construct validity, the cognitive-behavioural course is compared to a problem-solving course, in order to investigate whether content or format can be held responsible for its efficacy. Furthermore, the role of metacognitive aspects is examined, as a mechanism that may be responsible for the effect found of the course 'Coping with health anxiety'.

Finally, external validity of the course will be examined in the prediction study described in this thesis, by discussing generalisability of the course.

Chapter 2

A Psychoeducational Approach to Hypochondriasis: Background, Content, and Practice Guidelines.

Theo K. Bouman & Femke M. Buwalda

This chapter is based on Bouman, T.K., & Buwalda, F.M. (accepted pending revisions). A psychoeducational approach to hypochondriasis: background, content and practice guidelines. *Cognitive and Behavioral Practice*.

Abstract

Patients suffering from hypochondriasis are difficult to engage in a psychological treatment, although it has now been empirically established that cognitive-behavioural treatments are beneficial for many of these patients. A first important step is to change their orientation from a biomedical to a biopsychosocial perspective. One way of promoting this change is to provide focused psychoeducation. A number of studies showed that group psychoeducation for patients with hypochondriasis results in a reduction in hypochondriacal concerns, depression and medical services utilisation.

The purpose of this chapter is to describe the background, content and implementation of a course entitled 'Coping with health anxiety'. The empirical support, as well as the potentially active ingredients of this approach are discussed.

Introduction

Many patients who suffer from hypochondriasis tend to stick to a biomedical conceptualisation of their problems, seek refuge in medical care, and are reluctant to accept or even consider a more fruitful biopsychosocial perspective. The reasons for their reluctance are quite diverse, such as unfamiliarity with psychological treatments, the dualistic vision that the problem is in their bodies rather than in their minds, and the social stigma that being in psychotherapy means being insane. These attitudes and misconceptions prevent people from being motivated to engage in a potentially beneficial treatment. This is an unfortunate situation, as the efficacy of cognitive-behavioural therapy (CBT) has now been established in a number of controlled studies (Barsky & Ahern, 2004; Bouman & Visser, 1998; Clark, Salkovskis, Hackman, Wells, Fennell, Ludgate, Ahmad, Richards, & Gelder, 1998; Visser & Bouman, 2001; Warwick, Clark, Cobb, & Salkovskis, 1996; see Taylor & Asmundson, 2004, for an overview).

However, patients involved in these treatment studies seemed to be willing to be referred for psychological treatment, suggesting that they are a subsample of all patients with hypochondriasis in the community at large. Reaching a larger number of people and transferring knowledge about (psychological) treatments for their excessive health concern seems to be problematic and poses a challenge for the delivery of adequate and evidence based mental health care. On the other hand, in a small scale study Walker, Vincent, Furer, Cox and Kjernisted (1999) found 74% of patients with hypochondriasis to prefer psychological treatment over pharmacological treatment once they decided to be referred for non-medical treatment.

It seems that many patients suffering from hypochondriasis are contemplating to change their situation but are not sure what action to undertake. It may be argued that there is a need for an approach to health anxiety that (a) has a low threshold, (b) is without psychotherapeutic connotations, (c) is time limited, (d) is cost-effective, (e) is highly acceptable to participants, and (f) is available to a large portion of the community. This can be realised by providing a brief, structured and problem oriented approach, which is psychoeducational rather than psychotherapeutic in nature, and can be delivered in group format. The costs of such an approach can stay low by employing specifically trained instructors, rather than more expensive and less available psychotherapists or physicians who more often than not can only be reached via waiting lists. Barsky (1996, p. 55) already stated that “the need for such treatments will only grow with the growing imperative to contain medical care costs and to curtail undue medical utilisation”.

Psychoeducational treatment could be a useful tool within a stepped care treatment program. Stepped care, according to Bower and Gilbody (2005), deploys several treatments of differing intensity. It has two main features: a) the recommended treatment in a stepped care model should be the least intense and time-consuming of those available, but still likely to provide significant health gain, and b) it is a model that is self-correcting, meaning that the results of treatments, and decisions about treatment provision, are monitored systematically. Progression to the next step in the model is considered when current treatment is not achieving significant health gain. Professional care is

stepped in intensity, starting with limited professional input and systematic monitoring and is then augmented for patients who do not achieve an acceptable outcome (Van Korff, Glasgow, & Sharpe, 2002). From a stepped-care point of view it is desirable to reach people who on the one hand have not (yet) been admitted to (mental) health settings, but who on the other hand recognise that they are suffering from persistent health concerns such as hypochondriasis. Psychoeducational interventions might provide one of the first steps in a stepped care program.

The purpose of the present paper is to describe the background, content and empirical evidence of a psychoeducational approach to hypochondriasis and health anxiety (as a factor prominent in hypochondriasis and its subclinical manifestations).

Psychoeducation and hypochondriasis

Psychoeducation refers to an educational model of care delivery, in contrast to a medical model (Authier, 1977; Brown, 1998; Lukens & McFarlane, 2004). Broadly speaking, it is characterised by the provision of focused information about mental health problems. The roles of patients and doctors (and other health care professionals) are redefined in terms of pupils and teachers. In clinical practice it is considered important to engage health anxious patients as active participants, rather than as passive recipients of care (cf. Asmundson & Hadjistavropoulos, 2004). Furthermore, the patients' predicament is not described in terms of abnormality or disease, but rather as dissatisfaction with a current dysfunctional situation. This leads to the formulation of goals, coping, and problem solving (cf. Authier, 1977; Barsky, 1996). The beneficiaries from psychoeducation can be very diverse, ranging from the general public, to caregivers, family members, and patients themselves.

Psychoeducation in itself may take many forms, from being a phase in a treatment, to an explicit component of such a treatment, to being an intervention in its own right. A recent review (Lukens & McFarlane, 2004) shows psychoeducation to be effective for many disorders, and qualifying as Category II (i.e. ‘probably or possibly efficacious intervention’) in terms of the criteria for evidence based interventions (Chambless & Hollon, 1998).

Cognitive-behavioural therapists are familiar with psychoeducation as they use the explanation of the treatment rationale in the early stage of treatment. Typically, part of a session is devoted to the aim of socialising the individual patient into the cognitive-behavioural model of his or her particular problem(s). Usually in somatoform and related disorders, this involves broadening the patient’s perspective from a biomedical to biopsychosocial orientation. Salkovskis (1989) proposes the dual hypotheses approach to invite the patient to test whether the complaints are only somatic, or a mix of somatic and mental components (such as concern and worry about disease). In general, there seems to be consensus about the need for broadening the patient’s perspective and for providing a plausible alternative model for somatic complaints early in treatment.

Empirical support

From a cognitive-behavioural perspective, stand-alone psychoeducation can be regarded as a specific form of reattribution, namely the delivery of an illness theory and a treatment rationale (i.e. a certain perspective on hypochondriacal symptoms) without the ensuing formal treatment. The primary goal is a modification of the interpretation of the disorder itself (i.e. a more accurate understanding about the nature of hypochondriasis), rather than the reduction of physical and mental symptoms. A number of authors have studied this particular form of psychoeducation for hypochondriasis. Barsky, Geringer and Wool (1988) proposed a groupwise cognitive-behavioural educational approach in which information regarding the maintaining factors of hypochondriasis are presented. The original authors have not empirically tested this approach, although many of its features emerge in the waiting list controlled CBT study by Barsky and Ahern (2004).

Earlier small scale studies testing the applicability of group psychoeducation were conducted by Stern and Fernandez (1991) (n = 6) and by Avia and her colleagues (1996). The latter concerned a small waiting list controlled study involving 14 participants who were mainly university students, part of them not fulfilling DSM-criteria for hypochondriasis. Fava, Grandi, Rafanelli, Fabbri and Cazzaro (2000) randomised 20 patients with hypochondriasis into either 8 sessions of explanatory therapy (along the lines of Kellner, 1986) or a waiting list condition, and found a reduction in hypochondriacal symptoms and medical services utilisation. These studies however, suffer from a number of methodological flaws, such as the use of small sample sizes, and diagnostic ambiguity.

A series of outcome studies investigated the feasibility and efficacy of group psychoeducation for hypochondriasis. A pilot study involving 21 DSM-IV patients with hypochondriasis (Bouman & Van den Broek, 1997; Bouman, 2002) showed that this approach resulted in a significant decrease of the level of hypochondriacal symptoms, as well as general anxiety and depression. Quite remarkable was the substantial reduction (around 40%) of the number of GP and medical specialist consultations.

In a second study (n = 53) cognitive-behavioural psychoeducation was compared with a waiting list control group (Bouman & Polman, submitted). The results demonstrated no reduction on relevant variables in the waiting list period, whereas the decrease in hypochondriacal symptoms, anxiety and depression from the pilot study was replicated in the active psychoeducation condition.

Next, the efforts concentrated on the question whether the content or the format of the psychoeducation is the active ingredient. For that purpose cognitive-behavioural psychoeducation about hypochondriasis was compared to a similar format aimed at teaching participants a general problem-solving model. The idea in the latter condition was to focus on contingent factors assumed to maintain hypochondriasis (such as relational problems, perfectionism, general lack of social problem solving), rather than on the mechanisms of the disorder itself, as described in the cognitive model of hypochondriasis (Bouman & Visser, 1998; Warwick & Salkovskis, 1990).

Buwalda, Bouman and Van Duijn (in press) included 48 participants satisfying DSM-IV criteria for hypochondriasis and randomised them into either of the two conditions. Results showed again a significant reduction in hypochondriacal symptoms, anxiety and depression. Interestingly, the problem-solving course performed equally well as the cognitive-behavioural course did. This study is described in chapter 3 of this thesis.

Overall, it can be concluded, both from the literature and from our own experiences, that a brief focused psychoeducational approach is a feasible way of reducing hypochondriacal symptomatology.

The course 'Coping with health anxiety'

General background

Model

Inspired by Barsky's format (Barsky et al., 1988) we have developed an educational course aimed at providing its participants insight into the mechanisms of hypochondriasis. In order to lower the subjective threshold for potential participants, the term 'treatment' or 'therapy' was avoided and replaced by the word 'course'. The course was baptised as 'Coping with health anxiety'. The Dutch colloquial equivalent of the latter term (i.e.'ziektevrees') was chosen because is has a less stigmatising connotation than 'hypochondriasis'. 'Coping' carried the suggestion of management rather than cure. People who signed up for this course were not considered 'patients' or 'clients', but rather 'participants'. Our approach is paradigmatic and departs from an explicit cognitive-behavioural model (see Figure 2.1), which is an adaptation from Warwick and Salkovskis (1990).

The model focuses on the various concepts that are assumed to maintain health anxiety: the misinterpretation of bodily sensations, anxiety, selective attention for bodily sensations, and safety behaviour.

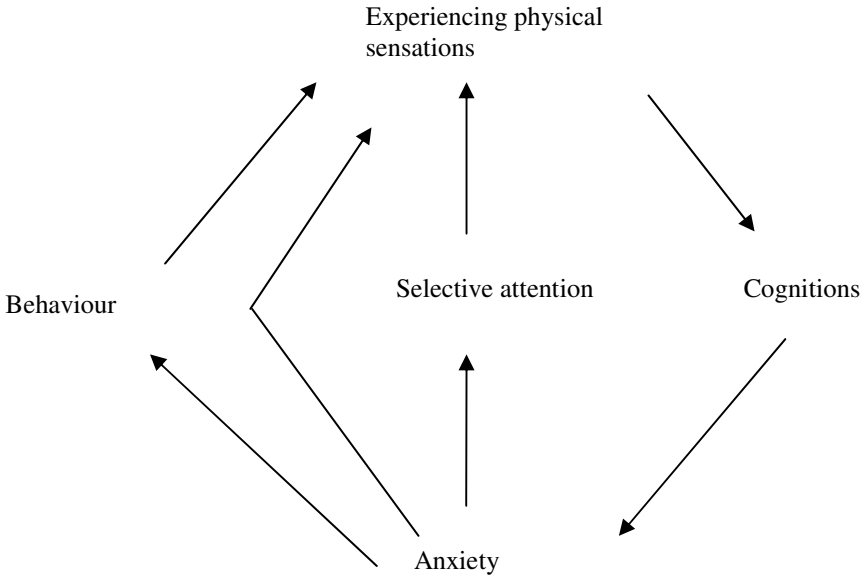

Figure 2.1. The General Vicious Circle used in the Course "Coping with Health Anxiety"

Aim

The aim of this course is to provide *insight* into the mechanisms of hypochondriasis from a cognitive-behavioural point of view, rather than *cure* participants from their fear of serious disease. The course was designed to provide a low threshold to treatment, because it was meant for people who did not immediately consider getting referred to a mental health facility for whatever reason. This aim was explicitly communicated to potential participants, so as to provide them with realistic expectations.

Indication

Although in clinical practice one may adopt rather loose inclusion criteria, we feel that this type of approach is not a priori considered appropriate for severe cases that need more intensive and individual attention. For that reason we aimed at participants who, on the one hand, were not formally under psychological / psychiatric treatment, but on the other hand did suffer from fear of, and preoccupation with, serious disease to the extent that it influenced their everyday life.

Aspiring participants were screened for psychopathology during a structured 30 minute telephone interview, which is a condensed version of the Anxiety Disorders Interview Schedule (Bouman, De Ruiter & Hoogduin, 1997; DiNardio, Brown, & Barlow, 1994). This instrument screens for DSM-IV (APA, 1994) somatoform, anxiety, and mood disorders. Participants were also asked about previous psychological treatment. The interview led to an evaluation of the presence or absence of any of the disorders mentioned above. The main

inclusion criterion is the presence of a DSM-IV diagnosis of hypochondriasis. In addition, both literacy and the willingness to contribute to a group are considered important. Exclusion criteria are the primacy of other psychopathology (such as depression, OCD and panic disorder), a serious somatic disease being the focus of the health anxiety, and previous or concurrent cognitive-behavioural treatment for hypochondriasis. Although many participants did suffer from comorbid anxiety and depression, they were included in the course since their primary complaint was hypochondriasis.

Format of the course

The course consists of six weekly two-hour sessions and one or two booster sessions, with two facilitators per group. Sessions are held during the evening, so as to not interrupt participants' occupational life.

Components

Each session comprises mini-lectures, demonstrations, brief exercises, and focused group discussions. In order to emphasize the educational nature of the course, use is made of various audiovisual facilities, such as whiteboards, transparencies, video fragments and other course material (see below). Following the mini-lecture, specific exercises are undertaken to provide the participants with hands-on experience with the topics discussed (see below).

The facilitators try to elicit many examples and opinions from the participants, in order to engage them as much as possible. This is generally no problem since most participants are eager to be engaged in discussion, and are usually very willing to speak about their experiences. At the end of the sessions participants are encouraged to do some brief homework assignments during the coming week, which never takes more than about 30 minutes of the participant's time. The homework's content is described in the course manual, which is described in more detail below.

General structure

Every session has roughly the same structure. The facilitators open the session with the presentation of the agenda and a motto that summarises the idea of the session. At the start of every session, the vicious circle (see Figure 2.1) is shown, and the role of this session's component in the circle is discussed. Previous week's homework is discussed at the beginning of the sessions to check its level of difficulty and the participants' understanding.

Next, a mini-lecture is held on the theme of the present session. The first five sessions focus on one component of the vicious circle described in Figure 1, and the sixth session integrates the previous sessions into the entire circle. During the lecture, the facilitators explain: a) the *nature* of the component, b) *why* the component is important in hypochondriasis (for example 'how does selective attention maintain hypochondriacal complaints'), and c) *how* one can alter this particular component's impact on hypochondriacal complaints. In this final part of the lecture, the practical application of what is learned is very important. One of the course's aims is that participants gain more control over their anxiety. By showing them ways of taking action, participants become empowered.

At the end of each session the main points are summarised and an easy-to-remember slogan is provided. Finally, homework of the week to come is explained, and then the session is closed.

Interactional style

The interactional style used by the facilitators relies on Socratic questioning, leading to questions such as: "Could anyone give an example of ..", "How would that fit into the model?". This facilitator attitude is very important because we have experienced that this group of participants is very eager to share their difficulties with the group and the facilitators, and thereby supply a great deal of information. Guided discovery as to the meaning and functions of sensations and experiences has proven to be more helpful than providing the 'right' answer. During the entire session, the facilitators make sure they leave room for questions, and they try to engage the participants in the session as much as possible. In this way the atmosphere is one of a group of active participants, rather than passive consumers. Some participants have to be explicitly invited to take this role, since they have developed into passive medical patients, who wait to hear what the doctor has to offer. The facilitators are explicitly instructed to provide a non-threatening, relatively relaxed atmosphere in which the use of humor has its place.

Materials

At the beginning of the course, the participants receive a 25-page course booklet including a summary of the sessions, a description of the model, and homework assignments. There is ample room for taking notes, and the relevance of this is explicitly emphasised, again contributing to an active attitude.

The facilitators use a 50-page course manual describing each session. This provides them with suggestions for mini-lectures, group discussions, and demonstrations and exercises. The manual is intended to be a guide throughout the course, rather than a must-do. For each session the general goal is formulated, example text is provided, as well as a number of exercises. The explicit instruction is to elicit responses and examples from the participants, rather than to provide them with an overload of information. In addition, throughout each session the most important information is projected on a screen, or written on the whiteboard, all underscoring the educational approach.

Facilitators

Each group is run by two facilitators who take turns and complement each other in the presentation of information and structuring the discussion in subgroups. In our studies these were usually graduate students of clinical psychology, with some previous experience of individual cognitive-behavioural treatment for hypochondriasis. At least one of the facilitators has previous experience with coaching this particular course. They have received the facilitator manual as well as a brief two-hour introduction into the course's content and into basic didactic skills. While coaching the course, all the facilitators receive weekly supervision by either one of the authors of this chapter, both of whom have extensive experience as facilitators. It is important

to mention that outside our studies, some groups have been run by nurses and other paramedical staff with equally beneficial effects. It appears that the facilitators feel very confident in using the manual, and in their reliance on Socratic questioning.

Content of sessions

Table 2.1 summarises the courses general outline.

Table 2.1. The Outline of the Course's Content

Session 1:	What is health anxiety?
Session 2:	The role of your thoughts
Session 3:	Attention and health anxiety
Session 4:	Behaviour and health anxiety
Session 5:	Stress and bodily symptoms
Session 6:	Your own vicious circle
Session 7:	Booster session

Session 1: 'What is health anxiety?'

In this session participants and facilitators are introduced to each other. During the first part of the session, the participants are invited to describe the nature of their health anxiety. Participants often state that they felt as if they were the only one suffering from this anxiety, and hearing others 'tell their story' is an eye-opener to them right from the start. Next, it is explained that the purpose of the course is to offer the participants specific guidelines through which they can learn to cope with the anxiety they are currently experiencing. It is emphasised that the approach is no substitute for psychotherapy, but rather a first way to gain insight into hypochondriacal complaints, and control over anxiety.

During the first session, participants are informed that in each of the future sessions, one theme will be elaborated on, based on the health anxiety model described in Figure 2.1 (Bouman & Visser, 1998b; Warwick & Salkovskis, 1990). Participants are invited to discuss their thoughts about the model and to link their own experiences to its different components. The model's various components (bodily sensations, cognitions, emotions, attention, and behaviour) are clarified by examples provided by the facilitators, and are drawn on the whiteboard as a vicious circle.

The second topic of this first session is 'what is health anxiety'? This is a question that has to be answered before anyone can learn how to cope with this complaint. Participants are invited to discuss this question, and an inventory is made of their thoughts on the components of health anxiety. Some examples of answers to ‘what is health anxiety?’ have been: 'fear of having a disease’, and,

'thinking that bodily sensations are a sign of a serious disease'. In the same fashion, an inventory is made of what health anxiety is *not*. A possible answer to this question is: ‘suffering from health anxiety means you're crazy’, ‘you are just pretending to be ill while you are not’, or ‘you’re only crying out for other people’s attention’.

Next, as the first component of the model, the role of cognitions in health anxiety is addressed. Many of the participants hold the belief that bodily sensations are the direct cause of their anxiety. During this part of the session, the facilitators explain the intervening role of cognition in this connection. They illustrate this intervention by using the ‘burglar example’ (Beck, et al., 1979), which clarifies the mediating role of cognition. The burglar example incorporates the following: the facilitators ask participants to imagine themselves lying in bed at night. Suddenly, they hear a crashing noise. Then, the facilitators ask how the participants would feel if they would think ‘there is as burglar in my house’. Many participants then indicate that they would feel anxious. Then, the facilitators ask them how they would feel if they thought ‘maybe I left a window open, and the wind must have knocked over a vase’. Many participants answered that they would feel neutral, perhaps a bit annoyed that they had left a window open, and now a vase is broken. Once the role of cognitions is illustrated by the use of this example, and participants understand how certain thoughts can lead to certain emotions, facilitators ask the participants whether they have personal experiences with certain cognitions surrounding disease leading to anxiety.

Then, homework assignments for the week to come are introduced, which consist of reading the general information about the course, written in the participants’manual, writing down the physical sensations that start their own vicious cycle of health anxiety, and formulating the associated cognitions as explicitly as possible. For example, the cognition 'a stomach ache means that I may have cancer', provides more insight into one’s fears than ' a stomach ache means that something is wrong'.

Session 2: 'The role of your thoughts'.

After showing the agenda of this session and supplying the motto, the facilitators and participants briefly discuss last week’s homework. Participants are usually able to write down which physical sensations trigger their anxiety. Sometimes help is needed in specifying certain cognitions, since many participants are not comfortable with using words like 'cancer', ‘tumor’ and 'heart attack’. When this is the case, a connection is made with the role of avoidance behaviour, which is discussed in session 4.

After this, the process of the reasoning bias is explained, by eliciting examples from the group and discussing them. Reasoning biases that usually play a part in hypochondriacal complaints in our experience are catastrophising (‘this lump means I have cancer and will certainly die soon’), personalising (‘bad things always happen to be, I am bound to get a terrible disease’), black-and-white thinking (‘either you are very sick, or you are perfectly healthy’), and overgeneralisation (‘if you are sick, then you die’). Examples the participants mention are usually centered on the misinterpretation of bodily sensations.

Therefore, during this session, some attention is given to the bodily sensations participants have, and which thoughts they experience in connection with these sensations. Furthermore, the focus is on the involuntary and automatic nature of the thoughts participants experience in relation with their complaints. The facilitators explain that these thoughts are habits that can be changed. This appears to be an eye-opener for many of the participants, who tend to think of these thoughts as 'certainly true' and unchangeable. The facilitators address the topics of distorted reasoning (e.g. black-and-white thinking and personification) and thinking habits, and then participants team up in pairs and practice examining their thoughts.

Later on in the session, the participants learn how to challenge thoughts that maintain their health anxiety. This challenging is done with the help of two CBT-techniques: the two-column technique and the pie chart technique. By means of the two-column technique, the participants are taught to think of evidence for and against certain thoughts, and write these down in two columns. An example of a thought that can be challenged by using this technique is ‘an abnormality on my skin means I have skin cancer’. Evidence for this thought might be ‘my dad died of skin cancer, and had certain skin abnormalities’, and evidence against the thought might be ‘a slight redness on my skin does not look like the marks my dad had on his skin’, and ‘I went to see my GP and he said that this redness was not an indication of me having skin cancer’. Writing evidence down in the two columns provides the participants with more information about whether their cognition is sound, and guides them into reviewing their cognition, so that a more realistic alternative cognition may be formulated, which is less anxiety provoking.

By means of the pie chart technique, participants learn how to award percentages to all the possible causes of a certain bodily sensation. They might award 100 % to a brain tumor at first when they experience a headache, but when they are asked to write down other possible causes, such as stress, drinking too much coffee, and being tired from having worried all night, they learn how to award certain percentages to all of these possible causes of a headache. This technique also provides the participants with more information about their cognition, and when they have reviewed the possible causes of for example a headache, they are less likely to be convinced that a brain tumor is actually causing the headache. However, they are also taught that the brain tumor should still be one of the possible causes, because it cannot be ruled out entirely.

Then, the facilitators give a summary of all that has been discussed during the session. Next week’s homework assignments focus on learning how to change unwanted cognitions. The manual provides guidelines for the pie-chart and two-column techniques. At the end of this session participants should be able to recognise hypochondriacal thoughts and the associated reasoning errors. They have also been exposed to cognitive modification strategies.

Session 3: 'Attention and health anxiety'

This session focuses on the role of selective attention in the maintenance of health anxiety. Firstly, the two facilitators present the agenda, and last week’s

homework is discussed. In our experience, participants are usually excited about having learned how to change anxiety provoking thoughts and are very enthusiastic about the two challenging techniques.

The mini lecture focuses upon the 'attention' part of the vicious circle. Firstly, the facilitators explain that attention automatically turns to that which is attention-provoking, because there is only a limited amount of attention available, and it is considered reasonable and logical to pay attention to those things you fear. An example we have used often is that when you are crossing a street, and a car is approaching you, you will give that car your full attention because you are afraid you might be run over. However, paying too much attention to physical sensations because you are afraid of having or getting a disease might be less rational.

Furthermore, it is explained that selective attention makes sure that details are perceived. Therefore, participants may perceive bodily sensations as more prominent or even worse than they actually are, because a lot of attention is awarded to these symptoms.

Using the metaphor of a spotlight, the facilitators explain that attention can be focused in certain different ways: it can be focused weak or strong, broad or narrow, fixed or flexible, automatic or controlled and inward or outward. In the context of hypochondriasis, attention tends to be strong, fixed, narrow and automatically directed inward. As an exercise, the participants are asked to focus their attention on one hand and to report after a few minutes what they feel in that hand as compared to what they feel in the other hand, which they were not paying attention to. Participants usually report experiencing many sensations in the hand they were paying attention to, such as a tingling sensation, or a numb feeling, but usually report having felt nothing in the other hand. Another demonstration of how attention works is presented through the white bear experiment (purposefully suppressing certain images). Participants are asked firstly to imagine a white bear as vividly as they can. They are then asked to think about something completely different, and not to think about white bears at all. They are asked to record how many times they still did think about a white bear during the minute or so the experiment takes place. Usually, the image of the white bear cannot be suppressed and participants report many thoughts of a white bear even though they were explicitly asked not to think of one.

Subsequently, the facilitators explain to the participants that they can practice directing the attention outwards and try to focus their attention less fixedly on their body, but that suppression will result in the thoughts or images returning. A helpful exercise can be to have the participants think of different things to focus on when they notice their attention moving 'inward'.

Next, the main points are summarised, emphasising that the aim of this session is to become aware of the usefulness of flexible allocation of attention. For this purpose, the first homework assignment consists of switching the attention from something inward (e.g. a bodily sensation) to something outward (e.g. the smell of food) and notice how that change affects the perception of bodily sensations. The second homework exercise focuses on experiencing the limitation of attentional resources. By having to pay attention to two different

things at the same time, participants notice that this influences how well either of the subjects is perceived (for example, focusing on the design of a vase and the structure of the carpet at the same time).

Session 4: ' Behaviour and health anxiety'

The focus of the fourth session lies on understanding behaviours that maintain hypochondriacal complaints. Previous week's homework exercises are discussed briefly, and usually the participants have gained insight in their attentional process and have some idea how to change selective attention towards their body.

The facilitators explain that there are various types of safety behaviour that maintain health anxiety: avoidance behaviour, checking behaviour and reassurance seeking. The participants are invited to discuss their own behavioural patterns in connection with health anxiety, with a focus on short- and long term benefits and costs. Furthermore, several themes surrounding behaviour are addressed: a) how certain behaviour can worsen physical symptoms and sensations (e.g. rubbing a little lump underneath the skin will cause the skin to redden), b) how certain behaviour can indicate that one has an unbalanced way of dealing with information (e.g. searching for illness-related information on the internet, in the GP's waiting room, and in magazines), and c) how behaviour can influence relationships with other people (e.g. providing the participants with insight in the mechanism of reassurance-seeking).

Furthermore, the relationship between health anxiety and medical service utilisation is discussed, and participants are given suggestions on how to deal with -and even profit from- medical consultations. After this introduction, participants form pairs and ask each other which types of behaviour they exhibit, and how this influences their hypochondriacal complaints. Both facilitators join the subgroups every now and again to support a constructive discussion.

Towards the end of the session, a summary is presented about the topics discussed. As homework assignment participants are encouraged to record which behaviours they exhibit during the week. Secondly, participants are encouraged to think of a plan to replace this behaviour (such as asking for reassurance) with more adaptive behaviour, to practice for a number of days, and to keep record of the results.

Session 5: 'Stress and bodily sensations'

During session five, the focus lies on how stress and anxiety can influence bodily sensations. Firstly, last week's homework is discussed, and participants usually have noticed a number of (automatic) behaviours that maintain their anxiety and they also usually have made a first attempt in altering these behaviours.

The mini-lecture in this session highlights the specific role of bodily sensations in the vicious circle. Firstly, the connection between physical sensations, stress, and anxiety is explained. Catastrophic thoughts about physical sensations lead to anxiety, and anxiety itself promotes and augments physical sensations, such as a racing pulse, palpitations, and sweating. Stress also plays a large role in this lecture, both in its acute and chronic form. Certain bodily

sensations are a result from either acute or chronic stress, and should be interpreted that way. The facilitators elicit and discuss the various manifestations and causes of stress. Later, the discussion moves towards bodily sensations: which bodily sensations do the participants experience themselves when they suffer from anxiety or stress?

As an exercise, progressive relaxation is undertaken in combination with abdominal breathing. During progressive relaxation, the participants are taught to relax 17 muscle groups throughout their body. The exercise is undertaken with the group as a whole, with one facilitator participating, and the other providing the instructions.

A second exercise during the session is have the participants figure out and discuss what they can do in daily life to relax. An inventory is made on the whiteboard of what people like to do to relax, and usually many different options are suggested. Three categories are suggested, i.e. (1) the use of specific relaxation exercises (e.g. progressive relaxation, yoga, meditation), (2) introducing relaxing moments during the week (e.g. listening to music, reading a book, taking a long bath, or taking a nap), (3) promoting a more relaxing life style (e.g., don't fill your agenda with appointments and obligations, resolve interpersonal problems, or behave less perfectionistic). A discussion in subgroups aims at making participants aware of the specific type of relaxation strategies they would find most beneficial.

After the conclusions of this week's session have been formulated, the homework exercises entail two parts. Firstly, an exercise in muscle relaxation is provided, and participants are asked to practice relaxation at home, with the accompanying remark that it takes some time to master this technique. As a second exercise, the participants are asked to think about the link between stress and bodily sensations. Furthermore, they are asked to write down which activities they can do to help themselves relax, and what they can change in their daily schedules to achieve less stress.

Session 6: 'Your own vicious circle'

After having discussed last week's homework, this session is dedicated to putting together each participant's personal vicious circle on a form on which the general entries of the circle are given. After a brief interactive recapitulation, all work in pairs to construct their own vicious circles, with their own automatic thoughts, attention, behaviours and bodily sensations. The partners help each other by asking questions, and so do the facilitators who rotate between pairs. The second half of the session is devoted to a plenary discussion of the emerged vicious circles. This also provides with an opportunity to correct or modify certain aspects of specific issues. For example, if someone writes down the thought 'I wish the pain would go away', then the facilitators use that as a point for discussing the nature of hypochondriacal thoughts. It is our observation that during this session quite a few participants already speak in the past tense about their fears: 'I used to think that having palpitations meant I was going to have a heart attack, but now I know that may not be true'.

Finally, time is also taken to answer questions about past sessions and participants are encouraged to carry on with the progress they have made thus far.

Session 7: 'Booster session'.

The booster session takes place one month after the sixth session. The main point on the agenda is to discuss if and how the participants have been able to apply and integrate the course's information into their daily lives. The facilitators present themselves as very curious about how life goes on with the newly acquired knowledge.

The content of this entire session largely depends upon issues raised and questions asked by the participants. Time is reserved for questions, and a recapitulation of the model and its components. Participants may also want to refreshen their knowledge about a certain part of the vicious circle. Usually, ways to challenge automatic thoughts are elaborated on further.
Finally, the course is formally terminated.

Discussion

Over the years, the psychoeducational course 'Coping with health anxiety' has proven to be a feasible, efficacious and effective option for people suffering from hypochondriasis. Research has shown that acceptability of the course is high (over 85 % attendance, and over 80% of the participants doing their homework). When asked about how they feel about the course, participants also state that the course teaches them a lot and that they benefit greatly from being able to discuss these matters with people who have similar complaints. Many participants state explicitly that there is a lot of recognition when they see the cognitive model of health anxiety for the first time and experience relief at the thought that 'they are not the only one suffering from this'. The approach described in this paper shares many similarities with these from Barsky et al. (1988) and Avia et al. (1997). Rief, Bleichardt and Timmer (2002) developed an eight-session group approach for inpatients with somatisation disorder containing many of the same treatment components. In their study (n = 107) they found high acceptance and feasibility as well as gradual improvement. All are based upon a similar cognitive-behavioural conceptualisation and aim at presenting corrective information.

The psychoeducational approach described here has many potentially active ingredients that need further scrutiny. We will mention a number of candidates.

On a behavioural level, the facilitators explicitly and implicitly use *selective reinforcement* of healthy responses. For example, talking about health anxiety is welcomed rather than discouraged, which is probably different from what participants usually experience in daily life. Furthermore, rather than reinforcing complaining behaviour, the facilitators emphasise the emergence of adequate coping with fear and bodily sensations.

In addition, discussing serious diseases and doing various homework exercises provides *exposure* to issues most patients suffering from hypochondriasis try to avoid. For example writing down their feared disease after the first session may be very confronting to some participants. Some have

feared that writing the word 'cancer', would actually increase the risk of developing the disease. This fear is explicitly addressed and is taken as an example of one of the reasoning errors.

On a cognitive level, *disclosure* may be an important factor, according to the participants' responses. Many of them had not been able (or willing) to share their worries with other people in the way they did during the course. In particular, the acknowledgement of the seriousness of health anxiety had been quite relieving to most of them.

During the sessions participants generally experienced a *broadening* of their cognitive style. Their initial restricted frame of reference prevented them from generating alternative interpretations in health related areas. Discussing this area in more detail with other people revealed that there are many ways to interpret bodily sensations, even if these interpretations would be equally anxiety provoking. This can be considered as change on a metacognitive level, i.e. the realisation that there are many ways to interpret the world in and around us. Metacognitive aspects in relationship with hypochondriasis and the course are described in chapter 5 of this thesis.

On a different level of abstraction, the psychoeducational approach seems to fit nicely within the *transtheoretical model of change* (Prochaska & DiClemente, 1982). The course provides information and issues for people in many stages of change: precontemplation (unawareness or denial of the problem), contemplation (considering change), preparation (taking initial steps), action (changing behaviour), and maintenance (sustaining new behaviour). The information provided is tuned to the needs of participants in each of these stages. For example, discussing the nature of health anxiety (session 1) may help them to move from the precontemplation to the contemplation stage. In addition, when in the second half of each session we provide suggestions on *how* to apply the information in every day life, this may help people to consolidate the 'action stage'. For some participants the course is a sneak preview of what a cognitive-behavioural treatment could mean; their 'action' is to seek professional help.

Despite its many advantages psychoeducation could face a number of potential pitfalls (Roe & Yanos, 2006), such as facilitators being too much preoccupied with rigidly delivering the 'right' information and thereby ignoring the participant as an individual. The great opportunity lies in promoting empowerment and increased self-awareness, thus emphasising the importance of the role of facilitator.

Hypochondriasis is a costly psychological problem for which more and more solutions are emerging. We find that a psychoeducational approach like the one described in this paper is an excellent candidate as an initial step in a network of stepped care mental health facilities. A first step is a clear diagnosis and sometimes handing out a leaflet on how to deal with this problem. A second possible step is cognitive-behavioural bibliotherapy, the effect and acceptability of which is described in chapter 6 of this thesis. Next, a psychoeducational group format comes into play, since it is less intensive, less costly, and requires less expensive staff than individual psychotherapy, which is a further step in the model. Bower and Gilbody (2005) discuss a number of requirements related to the clinical and economic evaluation of stepped care models. Although much

needs to be investigated further in this area, at the same time it is encouraging to see that patients with hypochondriasis find a psychoeducational group an acceptable format.

Chapter 3

Psychoeducation for Hypochondriasis: A Comparison of a Cognitive-Behavioural Approach and a Problem-Solving Approach.

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Abstract

In this study, two six-week psychoeducational courses for hypochondriasis were compared, one based on the cognitive-behavioural approach, and the other on the problem-solving approach. Effects of both courses on hypochondriacal complaints, depressive symptomatology, trait anxiety, and number of problems encountered in daily life, were measured pre-treatment, post-treatment, and at one and six months follow-up. Participants ($N = 48$, of whom 4 dropped out), suffering from DSM-IV hypochondriasis, were randomised into one of the two course conditions.

Results showed beneficial effects of both courses. Few differential treatment effects were found: in both conditions all effect measures decreased significantly over time ($p < 0.01$). However, considerable between- and inter-individual variability in decrease-patterns led to large deviations from the mean pattern. Acceptability and feasibility of both courses were rated highly by participants.

It was concluded that both courses could be considered equally beneficial and effective over time, with the effects evident immediately after treatment, and maintained over the follow-up period.

Introduction

Hypochondriacal patients suffer from the fear or conviction of having a serious physical disease. This fear or conviction is based on the misinterpretation of bodily symptoms (APA, 1994). The consensus among practitioners used to be that these patients were very difficult to treat with psychological interventions. Recently, this view has changed, as several studies suggest the effectiveness of cognitive and/or behavioural interventions (Barsky & Ahern, 2004; Visser & Bouman, 2001; Warwick, Clark, Cobb & Salkovskis, 1996; for a recent overview see Taylor & Asmundson, 2004). Cognitive-behavioural therapy (CBT) for hypochondriasis is usually based on a cognitive model (Bouman & Visser, 1998b; Warwick & Salkovskis, 1990), which focuses on the various concepts that seem to maintain or even bring about hypochondriacal complaints: the misinterpretation of bodily symptoms, anxiety, selective attention for bodily sensations, and checking and/or avoidance behaviour. The treatment goal is a change in hypochondriacal cognitions and behaviour.

Another form of treatment with known beneficial effects is psychoeducation, which is among the most effective of the evidence-based practices that have emerged in both clinical trials and community settings (Lukens & McFarlane, 2004). Historically, psychoeducation has been described as the teaching of personal and interpersonal attitudes and skills which the individual applies to solve present and future psychological problems (Guerney, Stollak & Guerney, 1971). It regards people who seek help as 'participants' rather than as 'patients' or 'clients', and 'therapists' as 'teachers'. Its original goal is to move participants away from the medical model. Furthermore, psychoeducation reflects a paradigm shift to a more holistic and competence-based approach (Marsh, 1992).

The psychoeducational format has often been combined with cognitive-behavioural theory, and is usually disseminated in the form of short-term, focused courses, aimed at people who function relatively well, to teach them about their disorder. Barsky, Geringer and Wool (1988) were the first to propose a psychoeducational course for hypochondriasis, and their suggestion was followed by several others (Avia, Olivares, Crespo, Guisado, Sánchez & Varela, 1997; Avia, Ruiz, Olivares, Crespo, Guisado, Sánchez, & Varela, 1996; Bouman, 2002; Stern & Fernandez, 1991). The course developed by Barsky and colleagues (1988) is a cognitive-educational treatment, consisting of group training on the perception and interpretation of physical symptoms. It comprises six weekly meetings, during which six to eight patients receive information about factors that can enhance or prolong somatic problems, such as cognition and symptom attribution, and dysphoric affect (Barsky et al., 1988). Stern and Fernandez (1991) found the treatment, in a group of six participants, to be successful in reducing complaints such as medical consultations and time spent thinking about disease. They did not find a significant decrease in measured anxiety and depression parameters. Avia and colleagues (1996) implemented the course in Spain, with modified examples, exercises and therapeutic homework. They reported beneficial effects in a group of 17 students, eight of whom actually suffered from DSM-III-R hypochondriasis.

After making considerable adaptations, Bouman applied the course in the Netherlands. This community-based course was studied in an uncontrolled trial (Bouman, 2002), and in a waiting list controlled trial (Bouman & Polman, submitted). A total of 27 DSM IV-diagnosed hypochondriacal participants (APA, 1994) were included in the first, and 53 in the second study. The results support the notion that this program leads to significantly reduced hypochondriacal complaints, depressive complaints, medical services utilisation, and trait anxiety. These improvements were maintained at six months follow-up. In the waiting list controlled study (Bouman & Polman, submitted), the course also outperformed the passage of time.

So far, psychoeducation seems to be successful in mitigating hypochondriacal and comorbid complaints in hypochondriacal populations. Although most studies mentioned earlier used small sample groups without control groups, a case has been made for the internal validity of psychoeducation. Moreover, psychoeducational courses have been proven to outperform mere passage of time (Bouman & Polman, submitted). However, little is known about its construct validity, i.e. the question whether the relation between the intervention and behaviour change is due to the construct given by the investigator (Kazdin, 1998). In the context of individual treatment, the question of construct validity was studied earlier by Clark, Salkovskis, Hackmann, Wells, Fennell, Lugate, Ahmad, Richards, and Geller (1998). They compared individual cognitive-behavioural treatment to individual behavioural stress management, finding both approaches to be equally powerful in reducing hypochondriacal complaints at one year follow-up of both treatments.

To seek an answer to the question of contruct validity, we decided to compare the cognitive-behavioural (CB) psychoeducational group treatment with problem-solving (PS), delivered in a similar format. The problem-solving course was specifically designed for the purpose of this study. Its content was based upon the social problem-solving approach (D'Zurilla & Nezu, 1999) which involves the application of four major problem-solving skills: problem definition and formulation, generation of alternative solutions, decision making, and solution implementation and verification. The problem-solving approach used in this study is model-based, structured, and directive, to ensure that its format is similar to that of the CB-course. They only differ in specific content (see Method for more details). We chose problem-solving because this approach puts hypochondriacal complaints into a broader context. All aspects of life, including possible comorbid depressive symptomatology, anxiety, and relationship problems, can be considered in problem-solving treatment, not just hypochondriacal complaints. These problems are thought to play a maintaining and antecedent role, and their reduction is assumed to have a positive effect on hypochondriasis. It should be noted that we did not aim at testing the problem-solving model per se, but only its approach in a psychoeducational framework.

In this study it is hypothesised that the psychoeducational approach has beneficial effects over time, implying a significant improvement on effect measures for both the CB and the PS course. In addition, the CB course is expected to lead to a greater reduction of hypochondriacal symptomatology, because of its more specific focus on this disorder.

Method

Recruitment, screening and randomisation

Participants were recruited by notifying the local press, local radio networks, General Practitioners (GPs), and low threshold general health care facilities several times over a period of three years (1999, 2000, and 2001). The desired sample size was set at 25 participants per course condition, which was based on prior experience with this course. The course was introduced as a way of learning how to cope with health anxiety and to gain insight into hypochondriacal complaints. It was specifically stated that the course was open to self-referral, and that the course should not be perceived as group therapy (Bouman, 2002). This effort yielded 83 respondents.

Potential participants were screened for psychopathology during a structured 30 minute telephone interview, which is a condensed version of the Anxiety Disorders Interview Schedule (Bouman, De Ruiter & Hoogduin, 1997; DiNardio, Brown, & Barlow, 1994). This instrument screens for DSM-IV (APA, 1994) somatoform, anxiety and mood disorders. Participants were also asked about previous psychological treatment. The interview led to an evaluation of the presence or absence of any of the disorders mentioned above.

Inclusion criteria were: (1) the presence of a DSM-IV diagnosis of hypochondriasis, (2) being over 18 years old, (3) being Dutch speaking, and (4) being willing to participate actively in the course. Exclusion criteria were: (1) the presence of other DSM-IV Axis I disorders more prominent than hypochondriasis, (2) the presence of a serious somatic disease being the focus of the hypochondriacal concern, and (3) a previous or concurrent cognitive-behavioural treatment for hypochondriasis. The participants using psychotropic medication (antidepressants, tranquillizers, or sleep medication) when entering the study (15 of the completers), were asked to keep their dosage constant.

Informed consent was obtained by first giving potential participants information about the nature of the study, and then informing them they were free to withdraw from the study at any given time, without this interfering with their participation in the course. All participants agreed to the terms stated above.

Participants were randomly assigned to either the CB course or the PS course, by order of application: once six to eight participants had applied, and had been included, either a CB or a PS course started. This randomisation was undertaken irrespective of patient characteristics, and was performed by the first author. The courses were taught at a Home Care organization, in cooperation with the University of Groningen, where the study was conducted.

Participants

Of the 83 people interested in the courses, 35 were not included in the study for the following reasons. Four of them preferred individual treatment, six of them had already been treated with CBT elsewhere, four were unable to attend, three felt that their complaints were not severe enough, seven had other primary complaints (mostly panic disorder or depression), another four could not be contacted after the telephone interview, five were no longer interested, and the

Dutch linguistic proficiency of two of them was not sufficient enough to enter the course.

The 48 remaining participants were divided into six groups (three PS groups, and three CB groups) of 5-8 participants. Four (8.3%) participants dropped out of the course, after the first or following sessions (one in the PS course, and three in the CB course). Reasons for drop-out were predominantly unrelated to the course: only one drop-out (in the CB condition) stated she did not think the course suited her problems. The others quit the course for different reasons: the second drop-out stated she was too busy, the third decided he wanted individual psychotherapy, and the fourth had to work at his new job the evenings the course took place. Both courses were completed by 22 participants.

Of the CB group completers, 16 participants were female (72.7%). Of the PS course completers, 17 participants (77.3%) were female. The mean age of the completers in the CB group was 41.5 (*SD* = 13.0, range 21-70), and the mean age of the completers in the PS group was 40.5 (*SD* = 11.2, range 23-59). In both conditions, 18 of the 22 (81.8%) completers were cohabitating or married. Of the CB completers, 4 (18.2%) had a professional or academic educational level, 10 (45.5%) a higher secondary, and 8 (36.4%) a lower secondary level. Of the PS completers 9 (41.0%) had a professional or academic educational level, 7 (31.8%) a higher secondary, and 5 (22.7%) a lower secondary level. Differences in educational level are non-significant ($\chi^2 = 3.1$, $p = 0.21$).

The mean duration of hypochondriacal complaints of the CB course completers was 103.1 months (*SD* 112.4, range 8-500), and of the PS course completers it was 96.3 months (*SD* 78.6, range 17-325).

Principal illness fears concerned cancer, heart disease and AIDS. Nineteen (86.4%) participants of the CB group and 17 participants (77.3%) of the PS group feared cancer; 11 (50%) of the CB completers, and 13 (59.1%) of the PS completers feared heart disease; 1 (4.5%) of the CB completers, and 2 (9.1%) of the PS completers feared AIDS, and 3 (13.6%) of the CB completers, and 5 (22.7%) of the PS completers feared other fatal diseases. These percentages exceed 100 because several participants indicated fearing more than one illness. Mann-Whitney tests and t-tests revealed no significant differences between CB completers and PS completers on any of these biographical variables.

Comorbid complaints reported by participants are summarised below. Ten (45.5 %) of the completers in the CB course, versus 5 (22.7 %) of the PS condition ($\chi^2 = 2.5$, $p = 0.11$), suffered from panic attacks; 2 participants (9.1 %) in the CB group, versus 5 participants (22.7%) in the PS group ($\chi^2 = 1.5$, $p = 0.22$), suffered from agoraphobic complaints; 4 participants (18.2 %) in the CB condition, versus 7 (31.8 %) in the PS condition ($\chi^2 = 1.1$, $p = 0.30$), suffered from general anxiety complaints; 12 completers (54.5 %) in the CB course, versus 10 in the PS group ($\chi^2 = 0.4$, $p = 0.55$), suffered from specific phobia complaints; 9 (41.0 %) completers of the CB course, versus 6 (27.3 %) of the completers in the PS group ($\chi^2 = 0.9$, $p = 0.34$), suffered from social phobic complaints; 2 (9.1 %) completers in the CB condition, versus none of the completers of the PS condition ($\chi^2 = 2.1$, $p = 0.15$), suffered from obsessive-compulsive complaints; 7 (31.8 %) of the completers in the CB course, versus 5 (22.7 %) of the completers of the PS group ($\chi^2 = 0.5$, $p = 0.50$), suffered from

depressive complaints. A substantial number of participants suffered from more than one anxiety or depressive complaint. Because all of these participants stated that their primary complaint was hypochondriasis, they were included in this study after being informed that hypochondriacal complaints would be the sole focus of the course.

Procedure

There were several similarities between the two approaches. They both departed from explicit models: 1) a problem-solving model, and 2) a cognitive-behavioural model. The courses were implemented as six two-hour sessions, each of those consisting of a mixture of mini-lectures, demonstrations, video illustrations, focused group discussions and brief exercises. In order to increase personal relevance and active mastery of the information provided, the facilitators tried to elicit as many examples and responses as possible from the participants themselves. Sessions one to five were followed by brief, optional, homework assignments. In both courses, the model unfolds gradually over the six sessions, with the general model presented by the facilitators at the beginning, and the personalised model presented by the participants at the end. A booster session with an open format was held four weeks after session six. In this session the participants decide about the topics for discussion, and are free to ask questions about the theory at hand.

Each group was coached by two facilitators. The group of facilitators consisted of one Associate Professor of Clinical Psychology (second author) and several graduate students of clinical psychology (six females, among whom the first author, and one male, all in their early twenties). All facilitators had some experience with individual cognitive-behavioural treatment for hypochondriasis; some had previous experience with coaching courses. A detailed session-by-session manual was provided and used by the facilitators. They were supervised weekly by the second author, to discuss progress, specific content of the sessions, and to detect and solve possible problems. These supervision sessions also served as a way to qualitatively assess adherence to the manual. Having two facilitators teaching the course served as a safeguard for treatment fidelity, as did having them write down detailed session reports.

The courses differed in specific content, which will be described below.

The CB-course (Bouman, 2002; Bouman and Buwalda, accepted pending revisions) departs from an explicit cognitive-behavioural model for hypochondriasis (Bouman & Visser, 1998b; Warwick & Salkovskis, 1990). Session 1 *'What is hypochondriasis?'* provides an introduction to the cognitive behavioural model (i.e. a vicious circle) and an orientation towards maintaining rather than etiological factors. In session 2, *'The role of your thoughts',* the role and the contents of catastrophical misinterpretations are addressed as well as ways to challenge these. Session 3, *'Attention and illness anxiety'*, addresses the nature and the effects of selective attention as a maintaining factor. Session 4, *'Safety behaviours and illness anxiety'*, highlights behavioural aspects of hypochondriasis, such as safety behaviours, avoidance, asking for reassurance and checking. Session 5, *'Stress and bodily symptoms'*, elaborates on the contribution of bodily stress symptoms to misinterpretations and to increased

physical dysfunctioning. Finally, in session 6, *'Your own vicious circle'*, participants use the previous information to construct their own idiosyncratic vicious circle and deduct possible interventions.

The PS course was designed around a flow-chart consisting of seven different steps, with the two-fold aim to 1) provide insight into the wider context of hypochondriasis, such as everyday problems, and 2) to help participants find a structured method a) how to identify problems and define them, and b) how to solve problems. The step-by-step content of this course was as follows: session 1, *'What is hypochondriasis?'*, provided an introduction to the problem-solving flow-chart and its relations with hypochondriasis, as well as an orientation on how general problems can maintain and elicit hypochondriacal complaints. During session 2, *'Problem description and goal-setting'*, the participants were taught how to define the exact problem at hand, and were asked what they wanted to achieve when solving a problem, thereby inviting them to generate some thoughts about how a problem can be solved. Session 3 *'Which resources do you have?'*, addressed the means participants had to solve their problems effectively. Session 4, *'Generating solutions'*, aimed at teaching participants how to generate different solutions, obtained through a brainstorm technique. In session 5, *'Choosing and applying a solution'*, participants were taught how to pick the best or most efficient solution, and apply it to the problem. Furthermore, during this session they were taught how an evaluation can show you whether a problem is solved. The last session, number 6, *'Your own problem-solving model'*, focused on the participants applying the entire flow-chart to one of their own problems, and on working through all its steps. During the PS course, the emphasis was on those problems people can encounter in everyday life, one of them being hypochondriacal complaints. Therefore, hypochondriasis was only discussed in terms of being a problem, and was not given more attention than the other everyday problems participants brought up for discussion. Some general problem areas that were dealt with were described in the course book, (e.g. having a financial problem), and specific examples of problems that were brought up by participants were: not knowing whether to move house or not, a conflict with a partner or relatives, problems at work, and not being able to decide which bicycle would be the best buy.

Measurements

Repeated measures were taken at pre-treatment, at post-treatment, at 4 weeks after the course had ended, and at 6 months after the ending of treatment.

Primary Outcomes.

Hypochondriacal complaints. The Groningen Illness Attitude Scale (GIAS; Visser, 2000) is a 42-item self-report questionnaire that measures 4 aspects of hypochondriasis: 'disease conviction' (15 items; $\alpha = 0.92$), 'bodily symptoms and complaining' (12 items; $\alpha = 0.88$), 'health anxiety and thanatophobia' (8 items; $\alpha = 0.85$), and 'checking and avoidance behaviour' (7 items; $\alpha = 0.71$). The GIAS is based on the Illness Attitude Scales (Kellner, 1986) and the Whitely Index (Pilowsky, 1967). The applicability of each item during the seven days prior to assessment is scored on a 5-point scale (from 1 = 'never', to 5 = 'nearly always').

The questionnaire has satisfactory discriminative validity, and strong convergent validity.

Depression. Beck's Depression Inventory (Beck, Rush, Shaw, & Emery, 1979; Dutch version: Bouman, Luteijn, Albersnagel, & Van der Ploeg, 1985) measures the severity of depressive symptoms and consists of 21 groups of 4 statements describing depressive symptoms, from which the patient chooses the most applicable.

Trait Anxiety. The trait scale of the Dutch authorised version of the State-Trait Anxiety Inventory (Dutch version: Van der Ploeg, Defares & Spielberger, 1980) was used in this study. This scale consists of 20 items and measures inter-individual differences in anxiety.

Number of problems. The Problem Areas Questionnaire, designed for the purpose of this study, comprises four main problem areas people may encounter in daily life: 'Personal problems' (14 items, e.g. ‘feeling guilty about something’), 'Interpersonal problems' (13 items, e.g. ‘having a problem with your partner’), 'Work related problems' (9 items, e.g. ‘being too busy at work’), and 'Various other problems' (6 items e.g. ‘problems with money’). The items were scored on a 5-point scale (from 1 = 'no problem', to 5 = 'very much a problem').

Treatment Process Measures

A process of change questionnaire was administered at the end of each session, asking the participants to judge the session on several aspects, such as clarity of the presented theory and opportunity to interact with other participants. A scale ranging from 1 (= ‘extremely poor’) to 10 (= ‘excellent’) was used. After the first session, additional questions were asked about how acceptable the participants would rate the approaches, how much participants expected to benefit from the course, and how credible the rationale seemed to the participants. For these questions, a scale ranging from 1 (= ‘not at all’) to 10 (= ‘very much’) was used. Furthermore, session attendance was recorded weekly by the facilitators.

Course evaluation was also carried out at post-assessment, using questions about the course as a whole, about each individual session, and about the facilitators. A scale ranging from 1 (= ‘extremely poor’) to 10 (= ‘excellent’) was used.

Analytic Plan

Multilevel analysis

Multilevel analysis was conducted to test whether a) the psychoeducational treatment was effective for hypochondriacal complaints, and b) the two approaches differed in effectiveness.

Multilevel models were estimated for the four outcome measures of hypochondriacal complaints, depressive complaints, trait anxiety, and number of problems experienced in daily life. The first step in the modelling process was to find an adequate representation of the variance structure of the repeated assessments, using dummy variables for the second through fourth assessment. Furthermore, the effect of treatment was investigated, using effect coding with

weights,-1/2 for the PS group and ½ for the CB group, plus their interaction with the dummy variable for time. Next it was checked whether the model could be improved by gender, age, and level of education covariates.

Theoretically, a third level could have been included in the model, representing the variable 'group'. However, due to the small number of groups in this study this was not a feasible option.

In multilevel analysis, the statistical significance of single fixed effects is tested by approximate t-tests (Snijders & Bosker, 2000), of which two-sided p-values are reported. The significance of multiple fixed effects and of random effects is tested using a likelihood ratio test, based on the deviance, defined as –2 times the log likelihood value. The difference in deviance of two nested models (i.e. models that only differ with respect to the variable(s) to be tested) follows a chi-square distribution, with as many degrees of freedom as the number of parameters to be tested.

Attendance and evaluation

The attendance and evaluation of the participants of both courses are described by their means and standard deviations. Furthermore, the difference between groups with reference to attendance and evaluation was tested using *t*-tests.

Clinical significance

Clinical significance was tested with the reliable change index (RCI). This index (Jacobson and Truax 1991) was designed to determine whether the magnitude of change for a given participant is statistically reliable, and shows whether change reflects more than the fluctuations of a measuring instrument. The formula used in calculating the RCI is described in Figure 3.1.

$$RC = (x_2 - x_{1)} / S_{diff.}$$
$$S_{diff.} = \sqrt{2(S_E)^2}$$

Figure 3.1. The Reliable Change Index
Note. RC = reliable change; x_1 = a participant's pre-test score; x_2 = the same participant's post-test score; $S_{diff.}$ = the spread of the distribution of change scores that would be expected if no actual change had occurred; S_E = the standard error of measurement.

Considering the twofold criterion for clinically significant change (Jacobson, Roberts, Berns, & McGlinchey, 1999), it was determined whether participants ended up in a range that renders them indistinguishable from well-functioning people after taking part in the course. For that purpose, the participants in this study were compared to a community sample with regard to the GIAS (Visser, 2000), by means of *t*-tests.

Results

Missing data

Missing data occurred in this study: 14 (63.6 %) of the 22 completers in the CB condition returned all four assessments and 19 (81.8 %) of the 22 completers in the PS condition did so. Firstly, those who have not returned all their questionnaires were compared with those who have returned all questionnaires, with regard to their post-assessment by means of *t*-test. Comparisons were made for the four outcome measures: GIAS, BDI, STAI, and PAQ. These tests showed that both groups did not differ significantly at post-assessment (GIAS: $t = 1.4$, $p = 0.17$; BDI: $t = -0.6$, $p = 0.56$; STAI: $t = 0.1$, $p = 0.91$; PAQ: $t = 0.04$, $p = 0.97$).

Secondly, it was studied whether they who had not returned all questionnaires in the CB group differed from they who had not returned all the questionnaires in the PS group. When analyzed with a Mann-Whitney test, it was found that these two groups did not differ either on any of the outcome measures (GIAS: $Z = -0.2$, $p = 0.83$; BDI: $Z = -1.4$, $p = 0.2$; STAI: $Z = -1.3$, $p = 0.18$; PAQ: $Z = -0.3$, $p = 0.73$). These results should be viewed with caution, because 8 participants had not returned all measurements in the CB group, versus 3 in the PS group, which makes comparison difficult.

Outcome of the multilevel analyses

Results of the multilevel analyses are shown in Table 3.1. As preliminary analyses showed that none of the biographical variables (age, gender, and level of education) had a significant effect, they were not included in the descriptions of the multilevel analyses, or in Table 3.1.

Hypochondriacal complaints.

The total-score of the GIAS was implemented in the analysis, as a preliminary analysis showed that the four subscales described in the method section displayed a similar pattern of decrease over time.

Table 3.1 shows a substantial decrease in hypochondriacal complaints between assessment 1 and 2 ($t = -5.8$, $p < 0.0001$). Scores on the GIAS decreased further at assessment 3 and 4. Differences between the courses were non-significant at all times of assessment.

The between-individual variance of random effects (466.69, implying a standard deviation of almost 22 points) demonstrated that the differences in mean scores of all participants were considerable, and of approximately the same size as the mean improvement. The measurement variance (indicating differences over time within participants) was smaller (264.51) but also considerable, with a standard deviation of approximately 14.

Depressive complaints.

Table 3.1 indicates that, between assessments 1 and 2, the mean score of the BDI dropped significantly ($t = -4.7$, $p < 0.0001$). At assessments 3 and 4 the scores decreased further. For condition, no significant interaction effects were found, indicating that both courses performed equally well.

The measurement variance at the first assessment was somewhat larger than at the later time points (approximately 20 instead of 14). Again, the between-individual variance was larger (31.03) than the measurement variance (14.89).

Table 3.1: Multilevel Models for the Development of the GIAS, the BDI, the STAI, and the PAQ over Time and Between Conditions.

	GIAS			**BDI**			**STAI**			**PAQ**		
Fixed effects	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*
Intercept (mean score at t1)	92.16	4.07		14.48	1.30		54.86	1.63		79.14	2.75	
Mean difference at t2 (vs. t1)	-20.17	3.50	-5.76***	-4.09	0.87	-4.70***	-6.12	1.38	-4.43***	-2.20	1.72	-1.28
Mean difference at t3 (vs. t1)	-25.46	3.77	-6.75***	-5.10	0.92	-5.54***	-7.23	1.47	-4.91***	-6.06	1.85	-3.28**
Mean difference at t4 (vs. t1)	-29.72	3.90	-7.62***	-6.00	0.96	-6.63***	-6.63	1.55	-4.28***	-9.98	2.91	-3.43***
Treatment (PS vs. CB) difference at t1	-4.96	8.15	-0.62	0.32	2.59	0.12	4.00	3.26	1.23	2.91	5.50	0.53
Treatment (PS vs. CB) difference at t2	10.75	7.00	1.54	3.27	1.75	1.87	6.59	2.75	2.40**	8.33	3.45	2.42**
Treatment (PS vs. CB) difference at t3	10.71	7.54	1.42	0.76	1.85	.41	3.54	2.94	1.20	-.37	3.70	-0.10
Treatment (PS vs. CB) difference at t4	4.10	7.81	0.52	-.089	1.91	-.046	-5.14	3.10	-1.66	.076	3.90	0.019
Random effects						χ^2						
Between individual variance	466.69	117.06		31.03	7.96		76.17	18.97		268.55	61.56	
Additional variance at t1				4.91	6.25	9.1						
Covariance				11.96	4.91							
Measurement variance	264.51	35.66		14.10	2.39		40.91	5.51		64.21	8.66	

Note. CB = Cognitive-behavioural group; PS = Problem-Solving group; t1 = pre-treatment assessment; t2 = post-treatment assessment; t3 = follow-up at 1 month; t4 = follow-up at 6 months; *S.E.* = Standard Error; * = $p < .05$; ** = $p < .01$; *** = $p < .001$

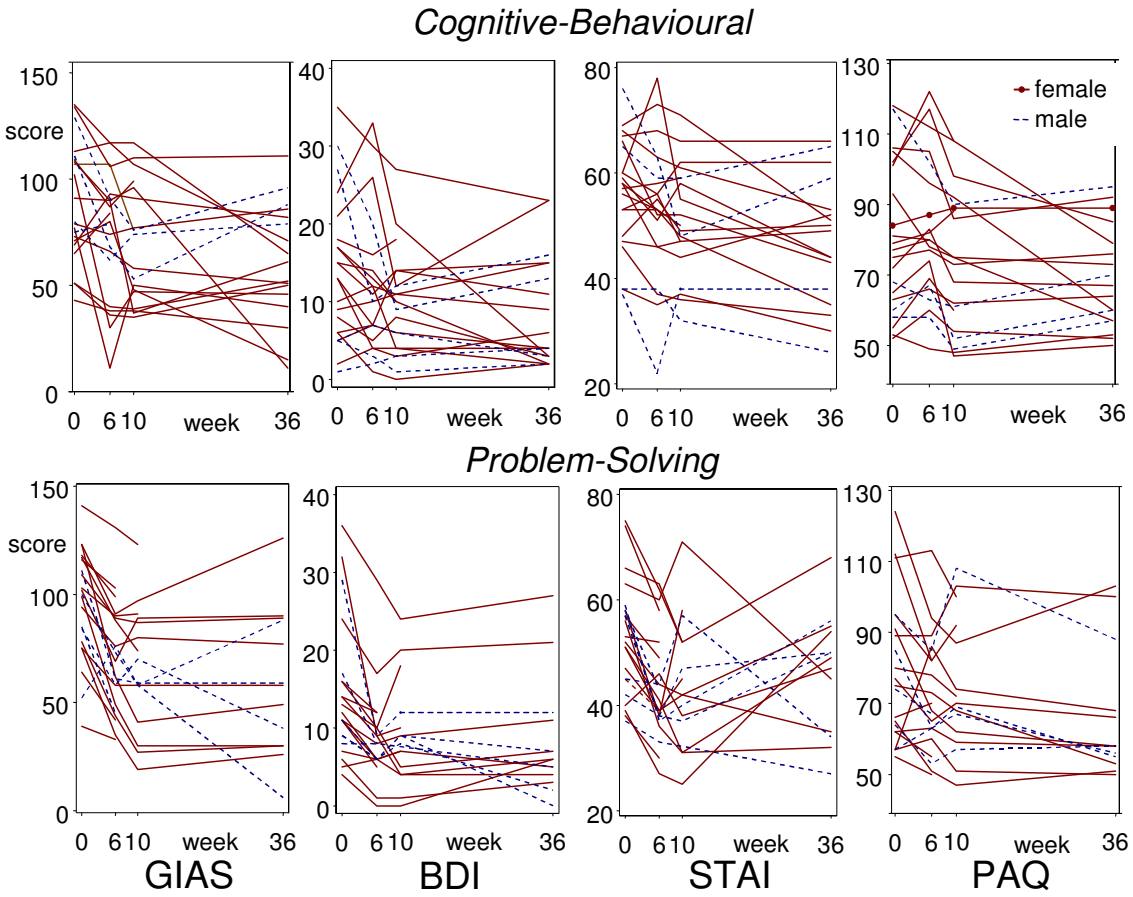

Figure 3.2. Individual Patterns Over Time

Note. GIAS = Groningen Illness Attitude Scale; BDI = Beck Depression Inventory; STAI = Spielberger State-Trait Anxiety Inventory; PAQ = Problem Area Questionnaire; week 0 = pre-treatment assessment; week 6 = post-treatment assessment; week 10 = one-month follow-up; week 36 = six-month follow-up.

Trait anxiety.

Table 3.1 shows a significant decrease in scores on the STAI between time of assessment 1 and 2 ($t = -4.4$, $p < 0.0001$). A significant difference in decrease between the two groups was found at assessment 2, ($t = 2.4$, $p = 0.01$), indicating that on average the complaints in the CB group significantly decreased more immediately after the course than those in the PS group. The between-individual variance (76.17) was larger than the measurement variance (40.91) and its standard deviation of more than 8 was larger than the mean improvement.

Number of problems experienced in daily life.

Table 3.1 shows that, between assessments 1 and 2, scores decreased slightly, but not significantly ($t = -1.3$, $p < 0.15$). However, they decreased significantly at time 3 ($t = -3.3$, $p < 0.002$), with reference to time 1. This decrease continued at time 4.

A significant difference between the groups was found at assessment 2 ($t = 2.4$, $p = 0.01$), indicating that the PS group participants on average experienced more problems in daily life right after the course than the CB group participants did.

The between-individual variance for this measure was quite large (268.6), whereas the measurement variance (64.2) was relatively small.

Interindividual differences

The between-individual variance, described above and shown in Table 3.1, reveals substantial differences between participants on all measurements. These differences are illustrated in Figure 3.2.

The inter-individual differences shown in Figure 3.2 are of such size that in spite of an average decrease over time on all measures, it is possible that an individual did not show an improvement at all or even showed an increase of complaints after following the course.

Effect sizes within groups

The differences within the groups (when contrasting pre-treatment with post-treatment, first follow-up and second follow-up), are further illustrated by showing their effect sizes (Cohen's d) in Table 3.2. All within CB group effect sizes, except for the PAQ, were medium to large, and consistently larger than the effect sizes within the PS group. Exceptions were the effect sizes for the BDI and STAI within the PS group at the second follow-up.

Table 3.2. Within-Group Effect Sizes (Cohen's d) of all Outcome Measures at the Different Times of Assessment.

	Post-Treatment vs. Pre-Treatment		One month Follow-Up vs. Pre-Treatment		6 months Follow-Up vs. Pre-Treatment	
	CB	PS	CB	PS	CB	PS
GIAS	1.01	0.54	1.05	0.73	1.21	1.09
BDI	0.78	0.29	0.67	0.58	0.74	0.81
STAI	0.90	0.29	0.83	0.55	0.55	0.84
PAQ	0.35	0.01	0.18	0.31	0.62	0.62

Note. GIAS = Groningen Illness Attitude Scales; BDI = Beck's Depression Inventory; STAI = the trait scale of the Spielberger's State-Trait Anxiety Inventory; PAQ = Problem Area Questionnaire; CB = the cognitive-behavioural course; PS = the problem-solving course.

Attendance and evaluation of the courses

Both programs were high in acceptability, were attended equally well, and were largely evaluated equally positive. The mean attendance rate was 90.8% (range 77-100%) for the CB group, and 88.6% (range 68.2-100%) for the PS group.

Immediately after the sessions, CB completers awarded the separate sessions a mean score of 8.3 out of 10 (range 8-10, *SD* = 0.58), and PS completers rated theirs with a mean of 7.8 (range 6-9, *SD* = 0.75), ranging from 1, meaning 'very bad', to 10 meaning 'excellent'. When analysed with a t-test, this is a small, but significant difference ($t = 2.4$, $p = 0.02$, $d = 0.58$, 95 % *CI* = .076 - .89).

When asked retrospectively, CB participants awarded the entire course a mean grade of 7.9 (*SD* = 0.99) out of 10, PS participants rated theirs on average a 7.2 (*SD* = 1.9) out of 10. A t-test shows that this difference is not significant ($t = 1.4$, $p = 0.16$, $d = 0.59$, 95 % *CI* = -.27 – 1.6).

Furthermore, the participants were asked after the first session to rate how much they expected to benefit from their particular course. On a scale ranging from 1 (= not at all) to 10 (= very much), the CB participants gave a mean score of 7.3 (*SD* = 1.4), and the PS participants gave a mean score of 7.5 (*SD* = 1.2). ($t = -0.50$, $p = 0.62$, $d = -0.18$, 95 % CI = -1.01 - .61).

Clinical significance analyses

The RCI (see Figure 3.1) was used in the present study to determine reliable change for participants in both conditions, with regard to the GIAS. Results were computed with the use of the Cronbach's alpha of the GIAS at pre-test within this group ($\alpha = 0.95$).

Results show that at post-assessment, 16 (72.7 %) participants of the CB group achieved reliable change, as have 6 (28.6 %) participants of the PS group. However, at follow-up at six months, 8 (57.1 %) of the 14 participants returning

this questionnaire of the CB group scored within the range of reliable change, whereas 12 (63.2 %) of the 19 participants who had returned this questionnaire of the PS group achieved reliable change at this point.

As a second way of determining clinical significance, mean scores of participants of both groups were compared to the mean scores of both a community sample norm group, and a patient norm group. CB group and PS group were taken together, because the groups did not differ significantly on any of the assessments.

The mean scores of the norm groups on the GIAS, as reported by Visser (2000), are: 30.5 (SD = 25.3) for the community sample, and 101.0 (SD = 25.8) for the patient norm group. Results show that at pre-assessment, the participants of our study differed significantly from both the community sample (t = 14.3, p < 0.00), and the patient norm group (t = -1.9, p < 0.05). This places them in between both norm groups, with more resemblance to the patient norm group. At 6 month follow-up, it was clear that the participants of this study did not score within the range of the community sample (t = 7.7, p < 0.00), but gradually over time, they started to differ more from the patient norm group (t = -8.3, p < 0.00).

In conclusion, it is clear that clinically significant improvement was achieved, in terms of reliable change for a substantial number of participants, but not in terms of the participants scoring within the range of a community sample. Furthermore, these results should be interpreted with caution because of the missing data.

Discussion

The two central hypotheses of this study were 1) that previously reported beneficial results of the psychoeducational paradigm would be replicated, and, 2) that the hypochondriasis specific CB course would lead to greater improvement than the more general PS course.

The results showed support for the first hypothesis. The beneficial effects of *both* courses on the GIAS (measuring hypochondriacal complaints), the BDI (measuring depression), and the STAI (measuring trait anxiety) were apparent at post-treatment assessment, and continued at both follow-up assessments. For the PAQ (measuring the number of problems participants experienced in daily life), the effect appeared at follow-up after one month and continued thereafter. The number of participants showing reliable change on the GIAS, both at post-assessment and at 6 months follow-up, also indicates that the courses can be considered effective.

In line with the general psychoeducational literature (Authier, 1977; Guerney et al., 1971; Lukens & McFarlane, 2004), these results suggest that general active ingredients of this type of approach are embedded in the *form* of treatment. People take responsibility for their own complaints and are free to learn what they interpret as useful. The increased understanding of complaints psychoeducation brings about, could be considered an explanation for the achieved effects. Furthermore, participants seem to benefit substantially from being presented with a model to which they can link their complaints, thereby putting their worries in a different context. This could mean that as long as

patients are presented with a credible model, embedded into a psychoeducational paradigm, they will benefit from the course. Another reason why this format may be beneficial is the fact that both courses were presented in groups. Even though this was not studied specifically, statements of participants (e.g. 'I was so glad to find out I was not the only one suffering from this') led us to believe once again that hypochondriasis is a disorder that can be tackled very well in a group setting.

The second hypothesis of this study was generally not supported. No significant difference in treatment effect was found between the two courses at follow-up assessments after one and six months. Two differential time effects, both in favour of the CB course, were found immediately after the course, notably for trait anxiety and for problems experienced in daily life. This effect of the CB course on trait anxiety had been found earlier by Bouman (2002). However, the initial superior effect of the CB course on the experience of problems in daily life is surprising. An explanation for this finding could be that the PS group participants, because of their focus on problems during the course, perceived more things in their life as being problematic than their CB group counterparts. Therefore, right after the course, they may have reported having more problems in daily life, being more aware of these problems. Differential treatment effects are only apparent at the post-treatment assessment, and have disappeared at one month- and at six months follow up. Therefore, it is concluded that the courses should ultimately be considered equally beneficial. A reason for this finding might be that in both courses the same factors could be responsible for the found therapeutic effect, in this context of education probably especially the so-called learning factors by Lambert and Ogles (2004). Examples of learning factors are advice, corrective emotional experiencing, feedback, insight, and rationale, all factors that implicitly might have played a role during the course. In future studies the contribution of these factors to the course's effect should be investigated.

Acceptability of the programs was high in both groups. This differs from the findings by Clark and colleagues (1998), who stated that: 'The originally planned comparison treatment was problem-solving, but pilot work revealed that it was not acceptable to patients' (p.224). According to the results found in the present study, the PS course proved to be as acceptable as the CB course to participants.

Although main effects in this study were beneficial, generalising these effects is difficult, because the group of patients participating in this study could be a subgroup of hypochondriacal patients. They are self-referred and are often well-functioning with respect to holding jobs and maintaining successful relationships. Furthermore, this group of patients did not need persuasion to adopt a psychological point of view according to their physical complaints, but recognised themselves as being hypochondriacal in advertisements or articles in local newspapers.

In addition, although beneficial mean effects were apparent in this study, that is exactly what they are, *mean* effects. The large differences between participants (illustrated in Figure 2) show that all participants, whether they were in the CB course or in the PS course, differed greatly in the way they benefited

from the courses. These large differences between participants might be explained by their variability in complaints, and the many different ways in which hypochondriacal complaints manifest themselves. General clinical implications of this study are also limited because in light of clinically significant change, many participants do achieve reliable change, but still differ considerably from the community sample after following the course.

Furthermore, several participants did not return their questionnaires, resulting in missing data. Substantial differences, though non-significant, were found between completers at pre-assessment who returned their questionnaires once, twice, three times, and four times. The participants who had returned their questionnaires twice (pre and post), seemed to be suffering less from hypochondriacal and depressive complaints at pre-assessment, and reported fewer problems in daily life. This might mean that the missing data might not be missing completely at random, and therefore, the results from the multilevel analyses should be considered with caution.

Some of the differences between individuals could have been a result of participating in different groups, and of having been taught by different facilitators. Some differences were seen between groups, but this could not be analyzed using multilevel techniques, because of the small number of groups. Although results show more differences between individuals than between groups, future research should further examine the influence of groups and facilitators. This would imply a larger number of groups, and consequently a larger number of participants, which would also provide more insight in the interindividual differences and differences between the courses.

The results of this study indicate that several aspects of the treatment of hypochondriasis are in need of investigation. Firstly, more specific research should be conducted with regard to the construct validity by studying mechanisms of change. Both the results from Clark and colleagues (1998) and the present study suggest that a structured approach with a clear message (be it behavioural stress management or problem solving) may be thought to increase self-efficacy and thus counteract hypochondriasis. If this is true, and what the mechanisms of action are, remains the domain of future investigations. Furthermore, external validity is another issue that needs more attention. Therefore, the effectiveness and efficacy of psychoeducational and other forms of treatment should be studied further in the context of regular (mental) health care.

In the challenging area of mitigating hypochondriacal complaints, the results of this study and its predecessors (Bouman, 2002; Bouman and Polman, submitted), are promising. In a cost-effective format, substantial and clinically relevant results can be achieved. The approach has proven to be acceptable to participants, to have a high attendance rate, and few drop outs. We therefore recommend including psychoeducation for health anxiety in the mental health care delivery system, preferably as one of the first conditions of a stepped care model.

Chapter 4

The Effect of a Psychoeducational Course on Hypochondriacal Metacognition

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Abstract

Recently, it has become apparent that a metacognitive perspective may contribute to the understanding and treatment of psychopathology.

In this study, the effect of a cognitive-behavioural psychoeducational group treatment for hypochondriasis on metacognitive aspects was examined. Furthermore, the effect of the course on hypochondriacal complaints and the mediative role of metacognitive aspects was studied. A total of 35 participants were randomised into either an immediate treatment group (n = 20), or a waiting list control group (n = 15). The participants in the waiting list control group were enrolled in the treatment after a period of six weeks.

Results showed that the course had an effect on all subscales of the questionnaire on Metacognition-Cognitions about Health Anxiety. Furthermore, in line with previous findings, the course proved to be effective in decreasing hypochondriacal complaints. The decrease of hypochondriacal complaints was partially mediated by metacognitive aspects.

It may be concluded that cognitive-behavioural psychoeducational treatment, in which a metacognitive level is implicitly addressed, shows beneficial effect on metacognitive aspects and hypochondriacal complaints.

Introduction

The central mechanism in people suffering from hypochondriasis is a relatively enduring tendency to misinterpret bodily symptoms, bodily variations, and other health-related information, as evidence of serious physical illness (Asmundson, Taylor, & Cox, 2001). According to the cognitive-behavioural hypothesis of health anxiety and hypochondriasis (Warwick, & Salkovskis, 1990), bodily signs and symptoms are perceived as more dangerous than they really are, and the chance of contracting a particular disease is believed to be more probable than it really is (Salkovskis, 1989; Salkovskis, & Warwick, 1986; Warwick, & Salkovskis, 1989). This cognitive hypothesis accounts for the development of hypochondriasis, in that knowledge and past experiences of disease lead to the formation of specific assumptions about symptoms, disease and health behaviours. These assumptions will often lead to a confirmatory bias in the patient's thinking once a critical incident has resulted in the misinterpretation of bodily symptoms as being indications of a serious disease. Mechanisms that are subsequently involved in the maintenance of hypochondriacal complaints are anxiety -resulting in physical arousal-, selective attention -such as the perception of normal bodily changes, and previously unnoticed bodily features-, and behaviour, designed to avoid, check for or exclude physical disease.

Metacognitive processes might explain how misinterpretation can play a continuing role in the maintenance of hypochondriasis. Metacognition is any knowledge or cognitive process that is involved in the appraisal, monitoring, or control of cognition (Flavell, 1979). A distinction has been made between two aspects of metacognition: metacognitive knowledge and metacognitive regulation (Wells, 2000). Metacognitive knowledge refers to the information that people have about their own cognition and about tasks or learning strategies that affect it. Metacognitive regulation pertains to a range of executive functions, such as monitoring, checking, allocation of attention, planning and detection of errors in performance. It was hypothesised that these cognitive processes operate on two different levels, which are inter-related: the meta-level and the object-level (Nelson, & Narens, 1990). Information flows to and from both levels, and is called *monitoring* when the object-level informs the meta-level of its state, and *control* when the meta-level informs the object-level what to do next. It is thought that the meta-level is controlled and modified by feedback about the effectiveness of particular cognitive and behavioural strategies in relation to activated goals (Wells, & Matthews, 1994), thereby providing information about future preferred actions and cognitions.

Unhelpful ways of using metacognition might bring about and exacerbate emotional disorders. It has been hypothesised that metacognition consists of several aspects: positive beliefs about worry, referring to the extent to which a person feels that worrying is helpful, negative beliefs about worry, concerning uncontrollability and danger, cognitive confidence, such as confidence in attention and memory, negative beliefs concerning the consequences of not controlling one's own thought, and cognitive self-consciousness, referring to the tendency to monitor one's own thoughts and focus attention inwards. These

aspects were captured in the Metacognition Questionnaire (MCQ; Cartwright-Hatton, & Wells, 1997).

In recent studies investigating metacognitive aspects, several disorders were found to be influenced by metacognition. A study of depression (Papageorgiou, & Wells, 2003) showed a relationship between metacognition, rumination and depression, and that positive beliefs about rumination could be associated with the activation of rumination. Furthermore, rumination appeared to lead to symptoms of depression, directly or indirectly, via negative metacognitive beliefs about the interpersonal and social consequences of ruminating.

Obsessive compulsive disorder (Wells, & Papageorgiou, 1998) was found to be influenced by metacognition. Positive beliefs about worry and negative beliefs about worry concerning themes of uncontrollability and danger were positively associated with proneness to pathological worry in obsessive compulsive disorder. All MCQ subscales were significantly and positively correlated with obsessional checking and obsessional thoughts.

A relationship between generalised anxiety disorder and metacognitive aspects was also shown by Wells and Carter (2001). Generalised anxiety disordered patients had higher meta-worry and negative metacognitive belief scores than social phobic patients, panic disordered patients, depressed patients and nonpatients.

A quite recent study showed a relationship between post-traumatic stress disorder and metacognitive aspects (Roussis, & Wells, 2006). In this study it was hypothesised that worry and specific positive and negative metacognitive beliefs are positively associated with stress symptoms. Indeed, results showed that thought control strategies of worry, and positive and negative metacognitions were positively associated with stress symptoms.

As yet, it has only been studied once whether the metacognitive approach was applicable to hypochondriacal complaints (Bouman, & Meijer,1999). The researchers adapted the MCQ for use with hypochondriacal patients, resulting in the Metacognition-Cognitions about Health Anxiety (MCHA). This scale measures beliefs and attitudes in connection with anxious thoughts about health, illness, and disease. Specific metacognitive areas are uncontrollability and interference, self-consciousness, and positive and negative consequences of thinking about illness. Results of the study showed that metacognition played a part in hypochondriasis: hypochondriacal patients specifically had many worrisome thoughts about their health. On a metacognitive level they were concerned about the lack of control, and the excess of interference they experienced in relation to their illness-worries. They proved highly aware of their own thoughts and worries, and content-specific meta-worry appeared to be the best predictor for hypochondriasis. Hypochondriacal patients did not score higher on positive beliefs and responsibility than healthy controls and psychology students.

Clinical experience also suggests that metacognitive aspects play a role in hypochondriasis. Metacognitive *appraisal* in this disorder is shown by hypochondriacal cognitions (such as ‘this lump means I have breast cancer’) being regarded as dangerous (‘if I think this, then it must be true’), and almost impossible to control. Furthermore, hypochondriacal patients tend to *monitor*

their cognitions, and seem to be very aware of their own catastrophic interpretations of, for example, a headache or stomachache. Selective attention is not only targeted at these bodily symptoms, but possibly also at one's hypochondriacal cognitions. Hypochondriacal patients have stated that they often try to stop thinking catastrophically, but that they are somehow not able to do so. This could be because the ways in which they attempt to *control* their cognitions are unhelpful. Firstly, possibly as a result of the idea one has about *negative consequences* of metacognition, they try to force themselves to stop thinking about disease, and not be confronted with disease. This might be an explanation for the fact that people suffering from hypochondriasis tend to avoid situations, or information, that are disease-related. Secondly, perhaps as a result from the *positive consequences* they believe thinking about disease has, hypochondriacal patients may allow themselves to ruminate about their health. This might result in patients checking their bodies obsessively, asking for reassurance, and seeking information about serious diseases and their symptoms, for example on the internet.

An important question is how those metacognitive aspects that maintain emotional disorders can be addressed in clinical practice. One way to do so is by developing metacognitive treatments, which explicitly focus on metacognition. This has been done by Wells (2000), at first for GAD, and later for post-traumatic stress disorder (Wells, & Sembi, 2004). In this metacognitive treatment, the emphasis lies on eliciting and modifying negative and positive beliefs about worrying. Furthermore, alternative non-worry-based strategies for appraising and dealing with threat are developed within this treatment. Participants are made aware specifically of their metacognitions and how to change them.

However, specific metacognitive interventions might not be necessary for every disorder in which metacognitive aspects play a role, because these aspects may also be influenced implicitly. Cognitive-behavioural psychoeducational treatment is one of the treatment forms in which this may be the case. During cognitive-behavioural psychoeducation, participants are taught that their cognitions and behaviours are not as uncontrollable and dangerous as they seem. This might lead to a change in metacognition, in terms of participants gaining control over their thoughts and actions without having discussed metacognitive aspects. Furthermore, during this treatment participants are taught how to monitor, appraise and control their thoughts and behaviour in a different and more adaptive way, possibly leading to different patterns of behaviour and a different perception on worrying about illness as well.

In recent years, short-term psychoeducational courses based on the cognitive-behavioural approach have shown to be effective in reducing hypochondriacal complaints (Avia, Olivares, Crespo, Guisado, Sánchez, & Varela, 1996; Barsky, Geringer, & Wool, 1988; Bouman, 2002; Buwalda, Bouman, & Van Duijn, 2006; Stern & Fernandez, 1991). The course studied in the Netherlands, called 'Coping with health anxiety' is used in the present study.

This study has two main aims: the first is to examine whether the 'Coping with health anxiety' course can produce a change in several aspects of metacognition and hypochondriacal complaints. The second is to examine

whether metacognitive aspects mediate the course's effects on hypochondriacal complaints. It is hypothesised that several aspects of metacognition indeed decrease after the course, having been implicitly addressed by the psychoeducational treatment. Furthermore, because Bouman and Meijer (1999) found earlier that metacognitive aspects seem to play a role in the maintenance of hypochondriasis, it is expected that metacognitive factors mediate the beneficial effects the course has on hypochondriacal complaints.

Method

Recruitment, screening and randomisation

Participants were recruited by notifying the local press, local radio networks, General Practitioners (GP's), and low threshold general health care facilities a few times over a period of four years (2002-2005). The course was open to self-referral, and was introduced as a way of learning how to handle health anxiety, and to gain insight into hypochondriacal complaints.

Potential participants were screened for psychopathology using a structured 30 minute telephone interview. This is a condensed version of the Anxiety Disorders Interview Schedule (Bouman, de Ruiter, & Hoogduin, 1997; DiNardio et al., 1985) in which only the main criteria for DSM-IV (APA, 1994) somatoform, anxiety and mood disorders were screened, with a specific emphasis on hypochondriacal complaints. Participants were also asked about previous psychological treatment. The interview led to an evaluation of the presence or absence of symptoms of any of the disorders mentioned above.

Inclusion criteria were: (1) the presence of a DSM-IV diagnosis of hypochondriasis, (2) being over 18 years old, (3) having active command of the Dutch language, and (4) being willing to participate actively in the course. Exclusion criteria were: (1) the presence of other DSM-IV Axis I disorders more prominent than hypochondriasis, (2) the presence of a serious somatic disease being the focus of the health anxiety, and (3) a previous or concurrent cognitive-behavioural treatment for hypochondriasis. The participants using psychotropic medication when entering the study (n = 13), were asked to keep their dosage constant for the sake of the study.

Informed consent was obtained at the end of the telephone interview, by first giving potential participants information about the nature of the study, and then informing them they were free to stop their participation in the research at any given time, without this interfering with their participation in the course. They then were asked if they agreed to these terms. None of the possible participants refused to participate in the study.

Participants were randomly assigned to either the immediate treatment condition, or the waiting list condition, by order of application: once six to eight participants had applied, and had been included, either an immediate treatment- or a waiting list group started. The waiting list period lasted six weeks, after which participants were enrolled in treatment. The randomisation was undertaken irrespective of patient characteristics, and was performed by the first author. The courses were taught at a Home Care organization, as well as at the department of Clinical Psychology of the University of Groningen, where the research was conducted.

Participants

Of the 57 people interested in the course, 35 participants were randomised to the course, implying that 22 aspiring participants declined to participate. Two of them preferred individual treatment, four of them were already treated elsewhere, one was unable to attend the course, three of them decided that their complaints were not severe enough to require treatment, three of them were suffering primarily from other complaints, another three could not be contacted, five candidates had lost their interest after the telephone interview, and one candidate's Dutch linguistic proficiency was not sufficient.

The 35 participants were randomised into six groups: three immediate treatment groups (total $n = 20$), and three waiting list groups (total $n = 15$), of 5-8 participants. In the immediate treatment condition, 18 participants completed the course, against 13 participations in the waitlist condition. Four (11.4 %) participants dropped out of the course, after the first or following sessions (two in the immediate treatment group, and two in the waiting list group), of whom one participant stopped coming after the second session and could not be contacted thereafter, one could not attend because of obligations at work, one stopped because a benign cause of her bodily symptoms was found and she decided she did not need the course anymore, and one felt the course did not suit her problems.

Of the participants, 21 (60 %) were female, and the mean age of the group was 38.2 years ($SD = 10.6$). A total of 23 participants (65.7 %) were cohabitating or married. Eleven (31.4 %) of the participants had a high (academic or professional) educational level, 15 (42.9 %) of the participants had a medium (higher secondary) level of education, and 8 (22.9%) had a low (lower secondary) educational level. Mean duration of hypochondriacal complaints was 12.3 years ($SD = 10.3$, range 6 months – 41 years). Chi-square testing and *t*-tests show no significant differences between the conditions regarding either of these demographic variables.

Only participants who stated that their primary complaint was hypochondriasis were included in this study, and were informed that hypochondriacal complaints were the sole focus of the course. However, comorbid complaints were also evaluated shortly during the diagnostic telephone interview. A total of 17 participants suffered to some extent from panic attacks, and 12 from general anxiety complaints. Six participants had agoraphobic complaints. Furthermore, 13 participants had some form of specific phobic complaint, whereas 8 suffered from social phobic complaints. Three participants suffered from obsessive compulsive complaints, to a moderate extent. Regarding depressive episodes, a total of 27 participants had suffered from these, either at time of intake or in the past. Most participants stated that these depressive complaints were related to their hypochondriacal complaints. We have no information regarding comorbidity of three participants. A substantial number of participants suffered from symptoms of more than one anxiety- or depressive complaint. Between the participants of the immediate treatment- and the waiting list condition there were no significant differences with regard to the occurrence of comorbid complaints, as tested for independence with a chi-square test.

Procedure

The course 'Coping with health anxiety' was implemented as a six two-hour session format, each of those consisting of a mixture of mini-lectures, demonstrations, video illustrations, focused group discussions and brief exercises. The course's theory is based on the cognitive-behavioural model by Warwick and Salkovskis (1990), which describes several mechanisms that are subsequently involved in the maintenance of hypochondriacal complaints. These mechanisms are bodily symptoms, cognitions (about these symptoms), anxiety (resulting in physical arousal), selective attention (such as the perception of normal bodily changes, and previously unnoticed bodily features), and behaviour, designed to avoid, check for, or exclude, physical diasease. Every session of the course is based on one of these mechanisms, which is discussed in detail with the participants, and is the focus of exercises. In order to increase personal relevance and active mastery of the information provided, the facilitators try to elicit as many examples and responses as possible from the participants themselves. Sessions one to five are followed by brief, optional, homework assignments. A booster session is held four weeks after session six. The course is described in more detail in chapter 2 of this thesis.

Each course was coached by two facilitators. The group of facilitators consisted of one PhD-student, with 3 years of experience with both individual CBT for hypochondriasis, and the course 'Coping with health anxiety'(first author), and several graduate students of clinical psychology (all females, in their early twenties). All facilitators had some experience with individual cognitive-behavioural treatment for hypochondriasis; some had previous experience with coaching courses. A detailed session-by-session manual was provided and used by the facilitators, and the facilitators were trained in teaching the course during a 3-hour training, provided by the first author. During this training, the manual was discussed and facilitators were taught how to handle certain situations that may arise during the course, such as the participants not paying attention, or one participant seeking more attention and guidance by the facilitators than the others. The facilitators were supervised weekly by the first author, to discuss progress, specific content of the sessions, and to detect and solve possible problems. These supervision sessions also served as a way to qualitatively assess adherence to the manual. Having two facilitators teaching the course served as a safeguard for treatment fidelity, as did having them write down detailed session reports.

Measurements

Repeated measures were taken pre-treatment, post-treatment, at one month after the course had ended, and at 6 months after the ending of the course.

Primary outcome measures

Hypochondriacal complaints. The Groningen Illness Attitude Scale (GIAS; Bouman, 2002; Visser, 2000) is a 42-item self-report questionnaire that measures 4 aspects of hypochondriasis: 'disease conviction' (15 items; $\alpha = 0.92$), 'bodily symptoms and complaining' (12 items; $\alpha = 0.88$), 'health anxiety and thanatophobia' (8 items; $\alpha = 0.85$), and 'checking and avoidance behaviour' (7 items; $\alpha = 0.71$) (Bouman, 2002). The GIAS is based on the Illness Attitude Scales (Kellner, 1986) and the Whitely Index (Pilowsky, 1967). The applicability of each item during the seven days prior to assessment is scored on a 5-point scale (from 1 = 'never', to 5 = 'nearly always'). The questionnaire has satisfactory discriminative validity, and strong convergent validity (Visser, 2000). In this study, the analyses will be done using the total scale of the GIAS.

Metacognition. The Metacognition-Cognitions about Health Anxiety (MCHA; Bouman, & Meijer, 1999) is a questionnaire containing 27 items measuring several components of metacognition. Items are scored on a scale from 1 ('do not agree') to 4 ('agree very much'). The 5 scales are: a) Uncontrollability and interference of illness thoughts (12 items, e.g. 'I find it hard to ignore thoughts about serious diseases'; $\alpha = 0.93$), b) Cognitive self-consciousness (4 items, e.g. 'I am very aware of the way I think about illness'; $\alpha = 0.74$), c) Responsibility (3 items, e.g. 'I can protect myself from getting a serious illness by thinking about this a lot'; $\alpha = 0.70$), d) Negative consequences (5 items, e.g. 'I believe I can make myself sick by worrying about illness'; $\alpha = 0.70$), and e) Positive beliefs (3 items, e.g. 'Worrying about diseases helps me to cope with my fear of them'; $\alpha = 0.62$). The moderate internal consistencies of all but the first subscale are probably due to their moderate length.

Secondary outcome measures

Depressive complaints. Beck's Depression Inventory (Beck, Rush, Shaw, & Emery, 1979; Dutch version: Bouman, Luteijn, Albersnagel, & van der Ploeg, 1985) measures the severity of depressive symptoms and consists of 21 groups of 4 statements describing depressive symptoms, from which the patient chooses the most applicable. Cronbach's α's of this measure ranged from .73 to .92 within patient groups (Bouman et al., 1985).

Trait Anxiety. The trait scale of the Dutch authorised version of the State-Trait Anxiety Inventory (Dutch version: van der Ploeg, Defares, & Spielberger, 1980) was used. This scale consists of 20 items and measures inter-individual differences in anxiety. The trait-scale has a Cronbach's α ranging between .91 (for college students) and .93 (for a patiënt normgroup) (Van der Ploeg, Defares, & Spielberger, 1980).

Results

Analytic plan

Firstly, the occurrence of missing data in this study is discussed. Secondly, a description of the scores of all participants on the MCHA (measuring metacognitive aspects) and GIAS (measuring hypochondriacal complaints) is depicted in a graph.

Next, to investigate the effect of the treatment in terms of a reduction in metacognitive aspects over time multilevel analysis was performed. Because of the missing data occurring in this study, multilevel analysis was preferred over standard (ANOVA) methods for analysing longitudinal data because it uses all available observations instead of discarding incomplete cases. Models were estimated for the subscales of the MCHA and its total scale to investigate the effect of the course on metacognitive aspects over time. Additionally, multilevel analysis was used to determine differences between the immediate treatment condition and the waiting list condition. For the same purpose, models were estimated for the GIAS measuring hypochondriacal complaints, the BDI measuring depressive complaints, and for the STAI measuring trait anxiety.

The first step in the multilevel modelling process was to find an adequate representation of the variance structure of the repeated assessments, using dummy variables for the second through fifth assessment. The reference period is the second pre-assessment of the waiting list control group together with the pre-assessment of the immediate treatment group. Theoretically, a third level could have been included in the model, representing the variable 'group'. However, due to the small amount of groups in this study, this was not a feasible option. The statistical significance of so called fixed (regression) effects is tested by approximate *t*-tests (Snijders, & Bosker, 2000), of which two-sided *p*-values are reported. Furthermore, effect sizes of the post vs. pre assessment difference are reported, defined as the estimated difference between pre and post assessment, standardised using the estimated total standard deviation (Raudenbush, 1997).

Multilevel analysis was used to test whether the total scale of the MCHA, and one or more of its subscales in particular, mediated the effect of the treatment on the GIAS.

Missing data

Of the 31 course completers, 26 participants returned the post assessment (14 of the immediate treatment group, and 12 of the waiting list group). A total of 26 completers returned the one month follow-up (14 participants of the immediate treatment group, and 12 of the waiting list group), and 22 completers returned the 6 month follow-up (11 participants of the immediate treatment group, and 12 of the waiting list group). Participants were categorised according to drop-out and the number of returned questionnaires. After further inspection of the data, one subject was excluded from the analysis due to extremely high scores on the BDI and the MCHA.

To check whether those who returned all assessments differed from those who did not, and those who dropped out of the course, dummy variables were constructed for drop outs of the course, completers who returned one assessment, completers who returned three assessments, completers who returned a variable number of assessments in a random fashion (e.g. no pre-assessment, but follow-up one and two), with the completers who returned all assessments as the reference category. Because none of the completers returned two assessments, this option is not included as a dummy variable. When inserted into the models of all outcome measures (MCHA, GIAS, STAI, and BDI), only

the drop out indicator showed an effect on the GIAS and was therefore included in the model of this measure (see Table 4.2).

Scores of all participants

Figure 4.1 illustrates the scores of all participants at the five measurement occasions on the MCHA and the GIAS. Apart from the dropouts, no clear difference in pattern over time is observed for the subjects with some missing observations, nor for the treatment or waiting list groups. Apparent from Figure 4.1 is the large variation within subjects over time, which is confirmed by the multilevel analysis.

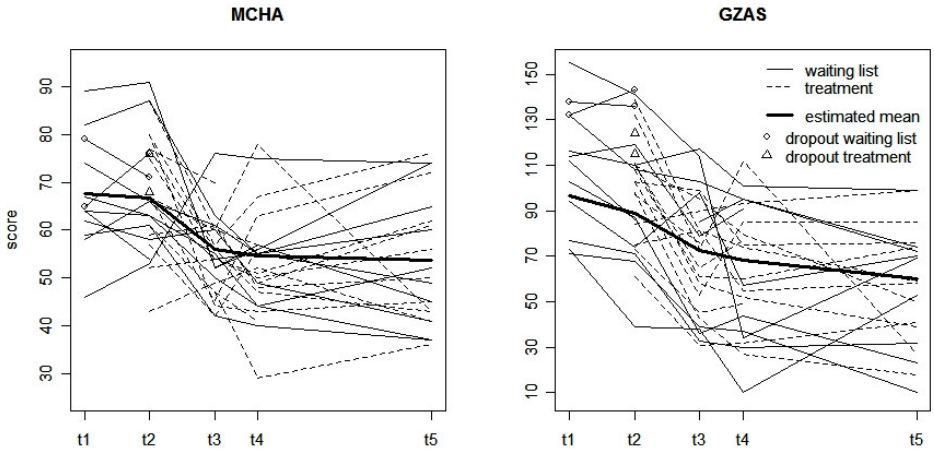

*Figure 4.1.*The Scores of All Participants on Metacognitive Aspects and Hypochondriacal Complaints.

Note. MCHA = Metacognition-Cognitions about Health Anxiety; GIAS = Groningen Illness Attitude Scales; t1 = first pre-treatment assessment of the waiting list group; t2 = second pre-treatment assessment (second pre-treatment assessment of the waiting list group and the pre-treatment assessment of the immediate treatment group); t3 = post-treatment assessment; t4 = follow-up at 1 month; t5 = follow-up at 6 months.

The course's effect on metacognition

The results of the multilevel analysis of the MCHA are described in Table 4.1, which shows that the between individual variance of all subscales was smaller than the measurement variance, meaning that scores of individuals differed less between subjects than within subjects. Only for subscales negative consequences and positive beliefs both types of variance did not differ substantially, indicating a resemblance in the pattern of fluctuation over time

Table 4.1: Results for the Multilevel Analysis of Metacognitive Aspects Over Time.

	MCHA			**Un**			**Cs**			**Res**		
Fixed effects	Est.	*S.E.*	*t*	Est.	*S.E.*	*t*	Est.	*S.E.*	*t*	Est.	*S.E.*	*t*
Intercept (mean score at t2)	67.7	2.0		35.6	1.2		11.8	0.5		4.1	0.2	
Mean difference at t1 (vs. t2)	-0.9	3.2	-0.3	0.4	1.9	0.2	-0.2	0.8	-0.3	-0.3	0.3	-1.0
Mean difference at t3 (vs. t2)	-11.8	2.6	-4.5***	-8.0	1.6	-5.0***	-1.3	0.6	-2.3*	-0.3	0.2	-1.5
Mean difference at t4 (vs. t2)	-13.3	2.6	-5.1***	-8.7	1.6	-5.4***	-1.2	0.6	-2*	-0.5	0.2	-2.5**
Mean difference at t5 (vs. t2)	-13.9	2.6	-5.3***	-9.5	1.6	-5.9***	-1.5	0.6	-2.5**	-0.2	0.2	-1
Between individual variance	37.8	16.2		13.2	5.7		2.3	0.9		0.8	0.2	
Measurement variance	89.5	13.5		32.7	4.9		5.0	0.8		0.7	0.1	
Effect sizes of treatment (t3 vs. t2).	1.0			1.2			0.5			0.2		

Note. t1 = pre-treatment assessment; t2 = second pre-treatment assessment (for the waiting list group) t3 = post-treatment assessment; t4 = follow-up at 1 month; t5 = follow-up at 6 months; *S.E.* = Standard Error; Un = Uncontrollability; Nc = Negative Consequences; Cs = Cognitive Self-consciousness; Total = the MCHA totalscale; * = $p < .05$; ** = $p < .01$; *** = $p < .001$

Table 4.1 continued

	Nc			**Pb**		
Fixed effects	Est.	*S.E.*	*t*	Est.	*S.E.*	*t*
Intercept (mean score at t2)	12.1	0.5		4.2	0.2	
Mean difference at t1 (vs. t2)	-0.6	0.8	-0.8	-0.5	0.3	-1.7
Mean difference at t3 (vs. t2)	-1.8	0.6	-3.0**	-0.4	0.2	-2.0*
Mean difference at t4 (vs. t2)	-2.4	0.6	-4.0***	-0.5	0.2	-2.5**
Mean difference at t5 (vs. t2)	-2.7	0.7	-3.9***	-0.6	0.2	-3.0***
Between individual variance	4.0	1.4		0.4	0.1	
Measurement variance	5.4	0.8		0.7	0.1	
Effect sizes of treatment (t3 vs. t2).	0.6			0.2		

Note. t1 = first pre-treatment assessment of the waiting list group; t2 = second pre-treatment assessment (second pre-treatment assessment of the waiting list group and the pre-treatment assessment of the immediate treatment group); t3 = post-treatment assessment; t4 = follow-up at 1 month; t5 = follow-up at 6 months; *S.E.* = Standard Error; Un = Uncontrollability; Nc = Negative Consequences; Cs = Cognitive Self-consciousness; Total = the MCHA total scale; * = $p < .05$; ** = $p < .01$; *** = $p < .001$

within individuals and between individuals. The scores on the MCHA of participants at any time of assessment in the immediate treatment group did not differ from those in the waiting list control group, therefore condition as a variable was removed from the models. Biographical variables age, gender, and level of education were also inserted, but did not have an effect and were therefore excluded.

Uncontrollability

The waiting list period did not influence the uncontrollability subscale significantly ($t = -0.3$, $p > 0.25$), but the course did: at post-assessment the mean score on uncontrollability decreased significantly ($t = -4.5$, $p < 0.00$). The mean scores decreased further at one month follow-up, and at six months follow-up. A large effect size between the second pre-assessment of the waiting list control group and the pre-assessment of the immediate treatment group, and post-assessment, was found.

Cognitive self-consciousness

The mean score on this subscale did not decrease significantly during the waiting period. The only significant result was found at post-assessment (t = -2.3, p < 0.02). Scores increased slightly at the one month follow-up, but decreased further at the six months follow-up assessments. The effect size of the treatment was medium for this subscale.

Responsibility

Mean scores on the responsibility subscales did not decrease significantly until the six months follow-up (t = -2.5, p < 0.01). The effect size of the treatment on this subscale was small.

Negative consequences

Table 4.1 shows that after the waiting list period, the mean score on this scale did not change. At post-assessment, it decreased significantly (t = -3.0, p < 0.00). At one month follow-up, the scores decreased further, to stabilise at six months follow-up. A medium effect size of the treatment was found.

Positive beliefs

After the waiting list period the mean score did not change significantly, but it did at post-assessment (t = -2.0, p < 0.05). Scores decreased further at the one month follow-up and the six months follow-up. Only a small effect size of the course was found.

The total scale of the MCHA (see Table 4.1 and Figure 4.1) changed over time in accordance with its subscales and will therefore not be discussed in detail.

The course's effect on hypochondriacal complaints and mediation of this effect by metacognitive aspects

The course 'Coping with health anxiety' was shown earlier to have a beneficial effect on hypochondriacal complaints (Bouman, 2002; Bouman, & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006). In the present study (see Table 4.2), multilevel analysis of the GIAS showed that during the waiting list period, no significant decrease in mean score occurred (t = 1.3, p > 0.15). At post-assessment, the mean score did decrease significantly (t = -4.7, p < 0.00), and scores decreased further at 1 month and six months follow-up. Participants in the waiting list group did not differ from those in the immediate treatment group with regard to their scores on the GIAS. The between individual variance is very large (417.8), implying a range of approximately 80 points. The measurement variance is also substantial, but smaller. Being a drop out had a positive effect on the results of the GIAS (t = 2.6, p < 0.01), implying a higher mean starting score and was therefore kept in the final model of this measure.

Table 4.2: Effect of the Course on Hypochondriacal Complaints and Mediation by Metacognitive Aspects.

	GIAS			GIAS + MCHA			GIAS + Subscales MCHA		
Fixed effects	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*
Intercept (mean score at t2)	96.6	4.8		96.4	3.9		96.5	4.0	
Mean difference at t1 (vs. t2)	7.9	6.2	1.3	5.3	6.2	0.9	8.8	4.9	1.8
Mean difference at t3 (vs. t2)	-24.0	5.1	-4.7***	-19.3	4.7	-4.1***	-18.6	4.1	-4.5***
Mean difference at t4 (vs. t2)	-28.1	5.0	-5.6***	-19.1	4.7	-4.1***	-20.2	4.1	-4.9***
Mean difference at t5 (vs. t2)	-36.4	5.2	-7***	-26.4	5.0	-5.3***	-24.8	4.3	-5.8***
Drop out	30.7	12.0	2.6**	30.0	10.3	2.9**	30.5	10.7	2.9**
Between individual variance	355.5	113.4		172.7	66.9		258.7	79.8	
Measurement variance	331.5	50.7		247.5	38.0		202.5	31.1	
Effect size pre-post	0.9			0.9			0.9		
MCHA total				1.4	0.1	9.6***			
Uncontrollability							2.7	0.3	9.0***

Note. GIAS = Groningen Illness Attitude Scale; MCHA = The Metacognition-Cognitions about Health Anxiety Questionnaire; t1 = the first pre-treatment assessment of the waiting list group; t2 = the second pre-treatment assessment of the waiting list group and the pre-treatment assessment of the immediate treatment group; t3 = post-treatment assessment; t4 = follow-up at 1 month; t5 = follow-up at 6 months; *S.E.* = Standard Error; * = $p < .05$; ** = $p < .01$; *** = $p < .00$

Mediation of the MCHA total scale and its subscales

To determine whether the effect of the course on the GIAS was mediated by the MCHA, the latter was included as an explanatory variable in the multilevel models for the GIAS. Results are reported in Table 4.2. A significant effect of the MCHA was found ($t = 9.6$, $p < 0.00$), whereas the direct effect of the course on the GIAS was smaller but still significant. To investigate the effect of metacognition more precisely, the subscales of the MCHA were inserted into the multilevel model of change of the GIAS.

The subscale uncontrollability seemed accountable for a large part of the mediation of the MCHA ($t = 9.0$, $p < 0.00$) at the post-assessment taken together as a variable with the follow-up measurements (see Table 4.2).

The course's effect on secondary outcome measures

Earlier studies showed that the course had an effect on depressive complaints and trait anxiety (Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006). These findings were replicated in the present study (not shown in a table).

Depressive complaints. Analysis of the BDI showed that the mean score remained stable during the waiting list period ($t = 0.8$, $p > 0.20$), but at post-assessment, it decreased significantly ($t = -5.4$, $p < 0.00$). The score decreased further at both follow-up assessments. Between individual variance (28.0 (*s.e.* = 8.0)) was larger than the measurement variance (13.6 (*s.e.* = 2.1)).

Trait anxiety. The STAI did not show a significant decrease after the waiting period ($t = 0.9$, $p > 0.15$). At post-assessment, trait anxiety decreased significantly ($t = 5.8$, $p < 0.00$). The decrease continued at the one and six month follow-ups. Between individual variance was larger (46.6 (*s.e.* = 13.9)) than the measurement variance (31.3 (*s.e.* = 4.8)).

Discussion

The present study aimed to a) examine whether the course 'Coping with health anxiety' could produce change in metacognitive aspects, and b), whether metacognitive aspects mediated the course's beneficial effects on hypochondriacal complaints.

Results with regard to the first question showed that all metacognitive factors decreased during the course and persisted during the follow-up period, and that the course outperformed the waiting list period. This change in metacognitive aspects during a short-term, cognitive-behavioural psychoeducational course has not been studied before.

The decrease in perceived uncontrollability indicates that participants seem to find it less difficult to stop worrying about illness after the course. They also seem to have changed their view on how abnormal it is to fear illness, for example by scoring lower on questions such as 'I often think there is something wrong with my way of thinking because I find it difficult to stop thinking about illness'. Through the course and its exercises, the participants have learned how to cope actively with their health anxiety and to gain more control over their hypochondriacal complaints. However, because the discussions during the course are specifically about cognition, in terms of automatic thoughts and

beliefs, but not about metacognitions, the alteration of metacogntion can be called implicit instead of explicit.

The decrease in cognitive self-consciousness indicates that people tend to focus less on their thoughts, and are less inclined to critically examine their thoughts about illness. This change might be due to a change in selective attention, because participants were given insight in how they focus their attention on their bodies and illness-related cues, and taught how they can learn to control and change this. Furthermore, when health anxiety has decreased, examining thoughts about disease is no longer required.

The change in responsibility six months after the course indicates that participants felt less responsible to protect themselves from contracting serious diseases, by avoiding disease-related information and thinking about disease. This change is probably due to participants having learned that it is not dangerous to think about disease and that when being confronted with disease-related information they will not necessarily contract it. However, because the effect occurred at the six months follow-up it is unclear whether it can be ascribed by the course.

The change in negative consequences indicates that people no longer worry as much about the consequences of not being able to stop thinking about illness (e.g. going crazy), or contracting a serious illness by thinking about it constantly. Because the participants have been able to discuss their beliefs with other participants, and with the course's facilitators, they were taught that having hypochondriacal metacognitions, and cognitions, is not necessarily a sign that they are going crazy. Furthermore, the issue of whether it is possible to contract a serious disease just by thinking about the disease (which is an example of what we call 'magical thinking') is being discussed specifically during the course.

After the course, participants also experienced fewer positive beliefs of worrying about disease. This is possibly due to the fact that they gained more control over their thoughts and felt less need to worry about disease constantly in order to control their health anxiety.

Overall, the findings regarding the decrease of metacognitive factors over time are in line with results found in earlier, smaller, studies in which metacognition changed during treatment. Wells and Sembi (2004) found that, with a treatment focussing on metacognition, PTSD symptoms decreased. However, their treatment specifically targets metacognitive factors, with an emphasis on eliciting and modifying negative and positive beliefs about worrying, and the development of alternative non-worry-based strategies for appraising and dealing with threat.

The treatment used in the present study did not explicitly focus on specific metacognitions participants might have. Instead, it has a format in which hypochondriacal complaints are normalised and presented as controllable, thereby probably changing implicit negative metacognitions about hypochondriacal complaints and cognitions. The finding that metacognitive aspects, uncontrollability in particular, mediated the effect on hypochondriacal complaints supports this hypothesis. It implies that metacognitive aspects do not have to be discussed with participants to have a partial effect on the decrease of

hypochondriacal complaints. However, it is as yet unclear whether a treatment that specifically targets hypochondriacal metacognition could be even more beneficial. Therefore, it would be interesting to compare a metacognitive treatment for hypochondriasis to the treatment used in the present study.

The course also had a direct effect on hypochondriacal complaints. Furthermore, depressive complaints and state anxiety decreased over time. These findings were in line with earlier studies of the 'Coping with health anxiety' course (Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006).

The missing data, in terms of completers returning a variable amount of assessments, did not have an effect on outcome of the course. Drop out had an effect on the scores of the measure of hypochondriacal complaints, with the four drop outs scoring higher on average. Because several completers had a higher individual score on the GIAS than the drop outs however, it can not be concluded that the course 'Coping with health anxiety' is necessarily unsuitable for participants with high GIAS-scores at pre-assessment (for this finding, also see chapter 5 of the present thesis).

This study has several limitations. One is the generalisability of the findings, with regard to both the change in metacognitive aspects and hypochondriacal complaints. The participants of this study were a relatively small group of self-referred patients, and may have differed from patients found in general mental health care in terms of severity of complaints and general functioning.

Another limitation is the occurrence of missing data in this study. It is impossible to make statements about the participants who have not returned their questionnaires. Although we found that they did not differ from those who had returned all assessments it still should be investigated why participants decide not to return their measurements and how they can be motivated to return all assessments.

Additionally, there is is the lack of data on comorbidity of the participants. Due to the diagnostic instrument that was used in this study it was not possible to determine whether participants were eligible for concurrent diagnoses, as we only acquired information of depressive and anxiety symptomatology. Information of comorbidity should be assessed more thoroughly in future studies, Furthermore, at post-assessment and follow-ups it should be measured whether participants still fulfill the diagnostic criteria of hypochondriasis instead of only measuring a decrease of complaints.

In conclusion, this study has shown that a cognitive-behavioural psychoeducational group course can produce change in both hypochondriacal metacognition and hypochondriacal complaints. Additionally it was found that the effect of the course on hypochondriacal complaints was partially mediated by metacognitive factors.

Chapter 5

Predicting Treatment Effect of Psychoeducational Group Treatment for Hypochondriasis.

Femke M. Buwalda & Theo K. Bouman

This chapter is based on Buwalda, F.M., & Bouman, T.K. (submitted). Predicting treatment effect of psychoeducational group treatment for hypochondriasis.

Abstract

Both individual cognitive-behavioural therapy and short-term psychoeducational courses have shown to be effective in reducing hypochondriacal complaints. However, it is unknown which patients, suffering from DSM-IV hypochondriasis, benefit from treatment. The aim of the present study was to explore which variables are able to predict therapy outcome in a pooled group of 140 participants of the psychoeducational course 'Coping with health anxiety'. Predictor variables, measured at baseline, were demographic variables, variables pertaining to complaints and comorbidity, and variables concerning participant characteristics. The scores to be predicted were residual gain scores of hypochondriacal complaints, at three time points: a) between pre-treatment and post-treatment, b) between pre-treatment and follow-up at six months, and c) between post-treatment and follow-up after six months.

Results showed that higher scores regarding hypochondriacal complaints at pre- and post-test correlated significantly with higher scores regarding hypochondriacal complaints at post-test and follow-up after six months. Furthermore, higher trait anxiety and older age were able to predict less treatment gain in hypochondriacal complaints at post-test. More comorbid depression and longer duration of complaints were not predictive of therapy effect.

Since few variables were able to predict treatment outcome, and most people benefited from the course, it was concluded that there is no need to sharpen inclusion criteria of the course 'Coping with health anxiety'. However, more research is needed on which variables can predict treatment outcome.

Introduction

In recent years, individual cognitive and/or behavioural treatments have been shown to be effective in treating hypochondriasis (Barsky & Ahern, 2004; Bouman & Visser, 1998a; Clark, Salkovskis, Hackmann, Wells, Fennell, Lugate, Ahmad, Richards, & Geller, 1998; Visser & Bouman, 2001; Warwick, Clark, Cobb & Salkovskis, 1996; a review by Taylor & Asmundson, 2004). Cognitive-behavioural treatment has also been implemented in the form of short-term and cost-effective psychoeducational treatment, delivered in the format of a group course (Avia, Ruiz, Olivares, Crespo, Guisado, Sánchez, & Varela, 1996; Barsky, Geringer, & Wool, 1989; Bouman, 2002), which has shown to be effective as well.

In the Netherlands, this course, called 'Coping with health anxiety', has been investigated in several studies. In a pilot study, Bouman (2002) found that the course reduced hypochondriacal fears, depressive symptoms, trait anxiety, and medical services utilisation. In a second, waiting list controlled study, Bouman and Polman (submitted) replicated these results, and found additionally that the course outperformed mere passage of time. A third study aimed to investigate whether the course could outperform another approach (Buwalda, Bouman, & Van Duijn, 2006). Again, the course proved to be successful in reducing hypochondriacal and other complaints, but did not outperform a problem solving course. This study was described in chapter 3 of this thesis. A fourth study (Buwalda, Bouman, & Van Duijn, accepted pending revisions), showed that the course achieved beneficial results in decreasing both hypochondriacal complaints and metacognitive aspects of hypochondriasis, and was described in chapter 4 of this thesis.

However, little is known at this point about which patient, suffering from hypochondriacal complaints, does or does not benefit from treatment, making it difficult to define precise inclusion and/or exclusion criteria. Therefore, it is important to study which variables are able to predict who benefits most (and least) from intervention. Studies on prediction of treatment effect have been relatively scarce in the field of hypochondriasis and other somatoform disorders. Those studies that were found will be described below. The focus of these studies was usually on a few domains of predictor variables: a) demographic variables, b) disorder-related variables, and c) patient-related variables.

Demographic variables

Results with regard to demographic variables, usually age, gender, and level of education, studied with regard to treatment outcome for hypochondriasis and other somatoform disorders, are often contradictory.

In studies on the prediction of treatment effect for hypochondriasis, in a group of 39 hypochondriacal patients who received cognitive-behavioural treatment (Speckens, Spinhoven, Van Hemert, Bolk, & Hawton, 1997), neither gender nor age could predict therapy outcome one year later. Visser (2000) drew a similar conclusion: age did not show any predictive value, and neither did level of education. This was also the conclusion of Hiller and colleagues in their study on predictors of outcome in hypochondriasis after cognitive-behavioural treatment (Hiller, Leibbrand, Rief, & Fichter, 2002).

However, age was found to be predictive of treatment effect in a number of studies of other somatoform disorders. In a study predicting pain reduction in chronic back and neck pain (Michaelson, Sjölander, & Johansson, 2004), it was found that young age was predictive of treatment related pain reduction. In an earlier study on chronic pain, it was found that outcome was negatively correlated with age as well (Aronoff, & Evans, 1982). A study of irritable bowel syndrome showed that higher age was a significant predictor of less treatment effect (in terms of improvement in bowel regularity) after ten weekly group sessions of CBT (Blanchard, Lackner, Gusmano, Gudleski, Sanders, Keefer, & Krasner, 2006).

These results show age -the older, the less effect- as the only somewhat stable demographic predictor of therapy effect for various somatoform disorders, apart from hypochondriasis. No clear judgment can as yet be made about the predictive ability of gender or education.

Disorder-related variables

The disorder related variables studied in prediction studies are usually severity of complaints before treatment, duration of complaints, and comorbidity with several other disorders. A problem in summarising the results found for these variables, is that most of them have been operationalised and studied differently across studies.

Firstly, regarding hypochondriacal complaints, the only variable able to predict relatively poor treatment outcome in the prediction study by Speckens and colleagues (1997) was a high level of illness behaviour. The number of medically unexplained symptoms at pre-assessment did not predict outcome one year later. Hiller and others (2002) found that a higher degree of pre-treatment hypochondriasis predicted negative outcome, as did more somatisation symptoms, and more dysfunctional cognitions related to bodily functioning. They also found that comorbidity (major depression and panic disorder), and chronicity of complaints, did not predict outcome.

Visser (2000) found pre-treatment functioning, in terms of several hypochondriasis related complaints, such as somatisation and depression, to substantially influence the outcome variables at one-month post-assessment. Post-treatment functioning, consisting of the same variables, was a good predictor for seven months follow-up. Duration of complaints was not found to be predictive of treatment effect (Visser, 2000).

Results found for other somatoform disorders were not comparable to the studies described above. A study of pain (Michaelson et al., 2004), showed that high pain intensity was an important predictor of treatment related pain reduction. Comorbid depressive symptoms had no predictive value in this study, and neither did pain duration.

For irritable bowel syndrome, it was found that comorbidity (anxiety and mood disorder), predicted lower likelihood of improvement (Blanchard, Scharff, Payne, Schwarz, Suls, Malamood, 1992). This finding was replicated in a more recent study (Blanchard et al., 2006).

These results show that pre-treatment functioning seems to be a somewhat stable predictor of post-treatment functioning, for hypochondriasis and other

somatoform disorders, but that the role of other disorder related variables, such as duration of complaints, and comorbidity, is as yet unclear.

Patient-related variables

Patient characteristics usually examined in prediction studies are treatment expectancy, and several personality characteristics. For hypochondriacal complaints, Visser (2000) studied the predictive ability of dogmatism, and found that a higher score on this variable predicted worse therapy outcome for hypochondriacal patients at one-month post-treatment, and at follow-up after seven months, indicating that dogmatic patients rigidly hold on to their catastrophic interpretations. A higher score on extraversion appeared to be a stable predictor of general mental distress as well, both at one month and seven months follow-up.

In the field of pain (Michaelson et al., 2004), more optimistic attitudes of the patient on how pain interferes with daily life was predictive of treatment success. No other studies of somatoform disorders have focused on these patient-related variables. Therefore little is known about further predictive ability of these variables.

This study aims to identify which variables are able to predict therapy effect of the psychoeducational course 'Coping with health anxiety', with therapy effect being operationalised as a reduction of hypochondriacal complaints. Because of the contradictory findings in the literature for most variables, the present study is of an explorative nature. However, based on some more or less stable findings for somatoform disorders, and hypochondriasis in particular, it is expected that worse pre-treatment functioning in terms of hypochondriacal complaints will be predictive of worse functioning at post-treatment, and at six months follow-up. The following variables will be studied in a more exploratory manner: demographic variables (age, gender, and level of education), disorder-related variables (duration of hypochondriacal complaints, severity of depressive complaints, and severity of trait anxiety), and patient-related variables (level of rigidity and treatment expectation).

Method

Participants

Participants in this study have taken part in several previous studies of the 'Coping with health anxiety' course, between 1997 and 2005. They were recruited by notifying the local press, local radio networks, General Practitioners (GPs), and low threshold general health care facilities. The course was introduced as a way of learning how to cope with health anxiety and to gain insight into hypochondriacal complaints.

The aspiring participants were screened for psychopathology during a structured 30 minute telephone interview, which is a condensed version of the Anxiety Disorders Interview Schedule (Bouman, De Ruiter & Hoogduin, 1997; DiNardio, Brown, & Barlow, 1994). This instrument screens for DSM-IV (APA, 1994) somatoform, anxiety, and mood disorders. Participants were also asked about previous psychological treatment, and use of medication. The interview

led to an evaluation of the presence or absence of any of the disorders mentioned above.

Inclusion criteria were: (1) the presence of a DSM-IV diagnosis of hypochondriasis, (2) being over 18 years old, (3) being Dutch speaking, and (4) being willing to participate actively in the course. Exclusion criteria were: (1) the presence of other DSM-IV Axis I disorders more prominent than hypochondriasis, (2) the presence of a serious somatic disease being the focus of the hypochondriacal concern, and (3) a previous or concurrent cognitive-behavioural treatment for hypochondriasis.

A total of 234 people initially referred themselves to the course between 1997 en 2005. Of those, 94 were excluded from the study, or chose not to participate in the course, for several different reasons such as seeking more formal (individual) treatment, having been treated with CBT for hypochondriasis previously or currently, suffering primarily from other Axis I disorders, failing to come to the first session and/or being impossible to contact, not being able to reach the course because of traveling distance, considering their complaints not severe enough, and losing interest in the course after being included. A total of 140 participants have taken part in the course, of whom 123 (87.9%) completed the course. A total of 17 participants (12.1%) dropped out of the treatment.

Informed consent was obtained by first giving potential participants information about the nature of the study, and then informing them they were free to withdraw from the study at any given time, without this interfering with their participation in the course. All participants agreed to the terms stated above.

Before grouping these participants together for this study, we had to make sure that they were suitable for comparison with regard to all the variables used in this study. Results are shown in Table 5.1.

An ANOVA showed that the groups were similar on all variables, apart from trait anxiety. The participants in group one (the group studied in the pilot study, Bouman, 2002), scored significantly lower (F (3,134) = 3.1, p = 0.03) than the other three groups. However, when using a Bonferroni correction, this difference was no longer significant. Therefore, it was decided that all the participants would be grouped together for all subsequent analyses.

Treatment

The course ‘Coping with health anxiety’ is implemented as six two-hour sessions, each of those consisting of a mixture of mini-lectures, demonstrations, video illustrations, focused group discussions and brief exercises, coached by two facilitators. In order to increase personal relevance and active mastery of the information provided, the facilitators tried to elicit as many examples and responses as possible from the participants themselves. Sessions one to five were followed by brief, optional, homework assignments. A booster session was held four weeks after session six. For both the facilitators and the participants a detailed manual was provided in which the content of the sessions was specified. The exact content of the course was described in more detail in chapter 2.

Table 5.1: Scores on Predictor Variables of All Participants at Pre-Assessment.

	Pilot study *n* = 27	Waiting list study *n* = 53	Construct validity study *n* = 25	Metacognition study *n* = 35	Total *n* =140
Age *M* (*SD*)	43.3 (13.5)	38.8 (9.4)	40.5 (12.7)	38.2 (10.4)	39.8 (11.2)
Gender					
- male	9	10	7	14	40
- female	18	43	18	21	100
Educational level					
- high	9	9	4	11	33
- medium	7	20	12	15	54
- low	11	24	9	8	52
GIAS *M* (*SD*)	93.7 (12.9)	96.7 (17.7)	91.4 (28.0)	101.9 (27.8)	95.9 (21.6)
Duration of hypochondriacal complaints (in months)	141.6 (117.9)	136.5 (103.4)	109.6 (123.5)	147.1 (123.9)	135.3 (114.4)
STAI *M* (*SD*)	47.4 (5.9)	52.5 (8.2)	50.9 (10.0)	53.8 (9.4)	51.5 (8.7)
BDI *M* (*SD*)	12.9 (6.8)	14.7 (7.9)	14.4 (8.1)	14.5 (6.6)	14.3 (7.4)
Rigidity*	n.a.	34.7 (14.3)	n.a.	n.a.	34.7 (14.3)
Expectation**	n.a.	n.a.	7.3 (1.4)	7.8 (.96)	7.6 (1.1)

Note. GIAS = hypochondriacal complaints; BDI = depressive complaints; STAI = trait anxiety; Duration = duration of hypochondriacal complaints; * = Only assessed in the waiting list controlled study; ** = Only assessed in the study of the course's construct validity, and in the study of the course's effect on metacognition; *M* = mean; *SD* = standard deviation; n.a. = not available.

Measures

Severity of hypochondriacal complaints was measured at pre-treatment, at post-treatment, and at two follow-up assessments after one and six months, with the Groningen Illness Attitude Scales (GIAS; Visser, 2000). This is a 42-item self-report questionnaire that measures four aspects of hypochondriasis: 'disease conviction' (15 items, $\alpha = 0.92$), 'bodily symptoms and complaining' (12 items, $\alpha = 0.88$), 'health anxiety and thanatophobia' (8 items, $\alpha = 0.85$), and 'checking and avoidance behavior' (7 items, $\alpha = 0.71$). The GIAS is based on the Illness Attitude Scales (Kellner, 1986) and the Whitely Index (Pilowsky, 1967). The applicability of each item during the seven days prior to assessment is scored on a 5-point scale (from 1 = 'never', to 5 = 'nearly always'). The questionnaire has satisfactory discriminative validity, and strong convergent validity (Visser, 2000).

Baseline depression was assessed at pre-treatment, at post-treatment, and after one and six months, by using the Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979; Dutch version: Bouman, Luteijn, Albersnagel, & Van der Ploeg, 1985). It measures the severity of depressive symptoms and consists of 21 groups of 4 statements describing depressive symptoms, from which the patient chooses the most applicable.

Trait anxiety as possible predictor was measured at pre and post-treatment, and at both follow-ups, with the trait scale of the Dutch authorised version of the State-Trait Anxiety Inventory (Dutch version: Van der Ploeg, Defares & Spielberger, 1980). This scale consists of 20 items and measures inter-individual differences in anxiety.

The rigidity scale of the Dutch Personality Questionnaire (Luteijn, Starren & Van Dijk, 1985) was only used in the waiting list controlled study of the course (Bouman & Polman, submitted). Rigidity was used as a predictor variable in this study because it was expected that people with higher scores on this scale would be less open to the new ideas presented in the course, and were therefore expected to benefit less. Rigidity was measured pre- and post-treatment, and at follow-up after one and six months.

Duration of complaints was assessed during the diagnostic interview, and the demographic variables *age*, *gender*, *marital status*, and *level of education* were measured at pre-assessment, by use of a general information questionnaire.

Finally, *treatment expectancy* was assessed at the end of session one, with the question 'how much do you expect to benefit from this course'? The question was rated on a scale ranging from 1 (= not at all), to 10 (= very much). This question was only asked in later versions of the course, in the studies researching the differential effects and construct validity of the course (Buwalda, Bouman, & Van Duijn, 2006), and the study examining the influence of the course on metacognition (Buwalda, Bouman, & Van Duijn, accepted pending revisions).

Results

Analytic plan

Total scores of the GIAS, measuring hypochondriacal complaints, were used to construct residual gain scores. They were computed by converting raw scores

from two occasions into *Z*-scores. Change was then calculated by subtracting the time 1 score (multiplied by the correlation between scores at time 1 and time 2), from the time 2 score ($RG = Z_2 - Z_1 r_{12}$) (Steketee & Chambless, 1992). These scores were used as criterium variable. They were computed at three time periods: a) between pre- and post-assessment, b) between pre-assessment and the second follow-up assessment, and c) between post-assessment and the second follow-up assessment. Residual gain scores were used in this study because they controlled for both initial differences between participants and for measurement error inherent to the use of repeated measures on the same instrument. They rescaled an individual's score relative to typical gains made by others at the same initial level (Steketee & Chambless, 1992; Beutler & Hamblin, 1986).

Bivariate correlations were computed for all the predictor variables separately with the three residual gain scores. Those predictor variables showing a significant correlation ($p < 0.05$) with the residual gain scores were then implemented in a regression analysis. In these analyses, only the data of completers of the course were used.

Effect of the course

To be able to predict the effect of a certain treatment, it has to be established that the treatment produces effect. Table 5.2 shows the total scores on the GIAS at all four times of measurement of the pilot study (Bouman, 2002), the waiting list controlled study (Bouman & Polman, submitted), the study in which the course was compared to problem-solving psychoeducation (Buwalda, Bouman, & Van Duijn, 2006), and the study in which hypochondriacal metacognition was studied (Buwalda, Bouman, & Van Duijn, accepted pending revisions). The effect sizes (Cohen's d) between pre-and post-assessment, post- assessment and follow-up after six months, and pre-assessment and follow-up after six months, are shown as well. The information in Table 5.2 is based on the data of completers of the course.

In all four studies, large effect sizes (ranging from 1.03 to 1.82) were found between pre- and post-assessment, and between pre-assessment and follow-up after six months. Difference in scores between post-assessment and follow-up after six months was smaller (ranging from 0.12 to 0.70), indicating that scores remained relatively stable during the follow-up period.

Prediction with the GIAS (measure of hypochondriacal complaints)

As the residual gain scores used in this study consisted of GIAS scores, the raw GIAS score at baseline could not be used as predictor variable. Therefore, to examine whether higher hypochondriacal scores at pre-assessments were related to more severe hypochondriacal complaints at later assessments, three correlations were computed: one between pre-test and post-test, one between pre-test and the second follow-up, and one between post-test and the second follow-up. The results were: pre-post, $r = 0.53$ ($p = 0.000$), pre-fu2, $r = 0.35$ ($p = 0.003$), and post-fu2, $r = 0.60$ ($p = 0.000$), showing that hypochondriacal complaints were significantly positively correlated at all times.

Table 5.2: Scores on the GIAS at All Times of Measurement and Effect Sizes.

	Pre-assessment	Post-assessment	One month follow-up	Six months follow-up	*d* 1	*d* 2	*d* 3
Pilot study	*n* = 20	*n* = 18	*n* = 15	*n* = 17	1.11	0.14	1.27
GIAS: M (SD)	93.7 (12.9)	72.6 (23.7)	75.7 (23.1)	69.2 (24.0)			
Waiting list study	*n* = 49	*n* = 44	*n* = 46	*n* = 45	1.04	0.12	1.12
GIAS: M (SD)	96.7 (17.7)	75.6 (22.5)	73.0 (22.7)	72.9 (24.3)			
Construct validity study	*n* = 22	*n* = 22	*n* = 17	*n* = 15	0.84	0.34	1.08
GIAS: M (SD)	91.4 (28.0)	69.1 (25.1)	66.3 (28.3)	59.4 (31.3)			
Metacognition study	*n* = 31	*n* = 26	*n* = 26	*n* = 24	1.06	0.42	1.49
GIAS: M (SD)	101.9 (27.8)	73.2 (25.5)	68.8 (25.5)	62.6 (25.0)			

Note. *d* 1 = Cohen's *d* effect size at post-assessment; *d* 2 = Cohen's *d* effect size at six months follow-up (with regard to *post*-assessment); *d* 3 = Cohen's *d* effect size at six months follow-up (with regard to *pre*-assessment).

Predicting residual gain

Table 5.3 shows the bivariate correlations between the predictors and the three residual gain scores. The results showed that higher age at pre-assessment was related to less gain in hypochondriacal complaints at post-assessment. The same was true for higher trait anxiety at pre-assessment. These were the only two predictor variables with a significant correlation with the first residual gain score. None of the predictor variables were correlated significantly with the second and third residual gain score.

Furthermore, none of the predictor variables were significantly negatively correlated with the residual gain scores at any of the time points, indicating that worsening of hypochondriacal complaints was not predicted by any of the variables.

Table 5.3: Correlations Between the Predictors and Residual Gain Scores (Pre-Post Change and Pre-Follow-Up 2 Change in Hypochondriasis).

	Residual gain pre-post $n = 112$	Residual gain pre-6 months fu $n = 93$	Residual gain post-6 months fu $n = 90$
Depression	.16	.16	.12
Trait anxiety	.20*	.14	.07
Age	.23*	.18	.10
Level of education	.17	.11	.03
Duration of complaints	.09	.17	.18
Treatment expectancy	.07	-.11	-.11
Rigidity ($n = 44$)	-.18	-.03	-.04
Gender (t-test)	$t = -.16$	$t = -1.2$	$t = -1.0$

Note. * = $p < .05$; residual gain pre-post = the residual gain score between pre- and post-assessment; residual gain pre-6 months fu = the residual gain score between pre-assessment and follow-up at six months; residual gain post-6 months fu = residual gain score between post-assessment and follow-up at six months.

Regression analysis

A regression analysis was conducted, with the first residual gain score (pre-post) as target variable, and age and trait anxiety at pre-assessment entered in an enter fashion (with age inserted first). Results showed $\beta = 0.22$ ($p < 0.05$) for age, and $\beta = 0.19$ ($p < 0.05$) for trait anxiety. The total amount of variance predicted together was 9% ($R^2 = 0.09$).

Discussion

This study aimed to clarify which variables could predict treatment effect for participants suffering from hypochondriasis taking part in the 'Coping with health anxiety' course. It was expected that worse pre-treatment functioning in terms of hypochondriacal complaints would predict worse functioning at post-assessment at 6 months follow-up.

Results showed that severity of hypochondriacal complaints at pre-test was indeed related to severity of later hypochondriacal complaints, and that severity of hypochondriacal complaints at post-test was related to severity of hypochondriacal complaints at the six month follow-up. However, as depicted in Table 5.2, a general decrease in hypochondriacal complaints was found in all studies examining the course's effect on hypochondriacal complaints. Combining the positive correlation with a general decrease in hypochondriasis means that those who score highly on hypochondriacal complaints at pre-assessment will have higher scores at subsequent assessments, but that their scores have generally decreased. Scores of those participants who are low on hypochondriacal complaints at pre-assessment will also decrease, resulting in lower scores at subsequent assessments. This means that many sufferers from hypochondriasis can benefit from the course, and that severity of complaints need not be an exclusion criterion, as long as participants are informed about the realistic effect of the course, which tends to differ across individuals.

One should keep in mind that most of the participants in this study were self-referred, and could therefore be considered very motivated for treatment. Even though many participants scored highly on the GIAS at pre-assessment, the group of participants in this study may still be a subgroup of hypochondriacal patients, since they are ready to accept the psychological approach to hypochondriacal complaints, and recognise themselves as being hypochondriacal. Therefore, these results can not be generalised to hypochondriacal patients in general. More research is needed to study the effect of the course in a general mental health care setting.

Regarding the predictive power of several other variables, results revealed that higher age and higher trait anxiety were the only variables significantly predictive of less residual gain in hypochondriacal complaints at pre-test. None of the predictor variables could significantly predict residual gain at follow-up after six months.

In the present study, higher age was found to be predictive of less effect of the course. This finding resembles earlier findings of prediction studies conducted for other somatoform disorders, such as chronic pain and irritable bowel syndrome (Aronoff & Evans, 1982; Blanchard et al., 2006; Michaelson et al., 2004), but had not been found before for hypochondriacal complaints. An explanation for the finding could be that older people find it more difficult to incorporate newly learned skills into their daily lives, and that this is unrelated to duration of complaints. However, the predictive power of age was not very strong, and the people participating in this study were not very old, with only 22 out of 140 participants ranging from 50 to 70 years of age.

Higher trait anxiety was also found to be predictive of less treatment gain. This variable had not been studied in other studies of somatoform disorders, but

when studying post-traumatic stress disorder, Van Minnen and others (2002) found trait anxiety not to be predictive of treatment gain. Finding that trait anxiety is predictive does seem logical, because when people are high in trait anxiety, which is difficult to alter, this might influence the changeability of constructs related to trait anxiety, such as hypochondriacal complaints. Results should be interpreted with caution, because trait anxiety and age taken together explained a marginal amount of variance (less than 10 %), so therefore the finding might partly be due to the large group of participants in this study.

Most predictors were found not to be able to predict residual gain in this study. Concurring with findings by Hiller and colleagues (2002) and Visser (2000) duration of complaints was not predictive of residual gain, whereas age of the participants was.

Intuitively, it might seem that a depressed outlook on life should interfere with treatment gain, but this study did not show that correlation. This is also a finding similar to those reported by Hiller and colleagues (2002), and might be explained by the fact that depressive symptomatology also tends to decrease during the course (Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006; Buwalda, Bouman, & Van Duijn, accepted pending revisions).

Not being able to fully predict treatment effect is not necessarily disadvantageous, because it indicates that there is no direct need to sharpen in- and exclusion criteria. It seems safe to conclude that the short-term and focused course can be suitable for many people suffering from hypochondriasis, not only those whose hypochondriacal complaints are not very severe and who have not suffered for long. Furthermore, these results imply that comorbid depression is no reason to exclude people form the course. Most people taking part do seem to benefit from learning about the disorder and tend to value the course highly (Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006; Buwalda, Bouman, & Van Duijn, accepted pending revisions).

A limitation of this study is that several variables that might predict treatment effect were not included in this study, such as several other personality characteristics (e.g. neuroticism or perfectionism), other comorbid conditions (e.g. generalised anxiety disorder and panic disorder, two disorders that are often associated with hypochondriasis), idiosyncratic measures of hypochondriacal behaviour and cognitions, and the influence of the several facilitators used in teaching the courses. The predictive ability of these variables should be studied in the future. Furthermore, in line with Steketee and Chambless (1992), for future studies we would like to recommend that investigators examine predictors not only of treatment failure, but also of drop out, treatment refusal and of relapse. Finally, we feel it is important in prediction studies to examine factors underlying the treatments, such as non-specific factors of change (Lambert & Ogles, 2004), and metacognitive aspects (Buwalda, Bouman, & Van Duijn, accepted pending revisions; Wells, 2000).

In conclusion, we as yet see no need to adapt inclusion- or exclusion criteria of the course since most variables proved unpredictive of treatment outcome, and most people in the separate studies benefited from the course. We recommend the course to be studied further in regular mental health care.

Chapter 6

Cognitive-Behavioural Bibliotherapy for Hypochondriasis

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This chapter is based on Buwalda, F.M., & Bouman, T.K. (submitted). *Cognitive-behavioural bibliotherapy for hypochondriasis: A pilot study.*

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Abstract

The present study aims to determine whether cognitive behavioural minimal-contact bibliotherapy is acceptable to participants suffering from DSM-IV-TR hypochondriasis, and whether this intervention is able to reduce hypochondriacal complaints, as well as comorbid depressive complaints and trait anxiety.

Participants ($N = 40$, 7 of whom dropped out), were randomised into either an immediate treatment condition or a waiting list condition. The waiting list period consisted of six weeks, as did the experimental period. Participants were sent a book called 'Doctor, I hope it's nothing serious?', containing cognitive behavioural theory and exercises. Measures of hypochondriacal complaints, depressive complaints, and trait anxiety, were taken pre, post and at follow-up (after 3 months). Those in the waiting list group received a second pre-assessment after 6 weeks, and were then enrolled in the bibliotherapy.

Results showed that participants were accepting of the cognitive-behavioural theory described in the book, and found both the theory and exercises very useful, but generally performed the exercises only once. Furthermore, results showed beneficial effects of the intervention: all effect measures decreased significantly over time, with the largest effect at post-assessment.

It is concluded that bibliotherapy can be an efficient aid in reducing hypochondriacal and comorbid complaints, preferably as part of a stepped care programme.

Introduction

Hypochondriacal patients suffer from the fear or conviction of having a serious physical disease, based on the misinterpretation of bodily symptoms (APA, 2000). Recent studies suggest the effectiveness of individual cognitive-behavioural interventions for this disorder (Barsky & Ahern, 2004; Visser & Bouman, 2001; Warwick, Clark, Cobb, & Salkovskis, 1996), and also of short-term psychoeducational courses (Avia, Ruiz, Olivares, Crespo, Guisado, Sánchez, & Varela, 1996; Barsky, Geringer, & Wool, 1988; Bouman, 2002; Buwalda, Bouman, & Van Duijn, 2006).

It has been hypothesised (Gould, Clum, & Shapiro, 1993) that the didactic and self-directed treatment strategies used in psychoeducation, could also very well be imparted by bibliotherapy. This is an intervention in which patients are being supplied with written self-help material, which they can work through independently, with minimal or no contact with a therapist. Bibliotherapy has become popular as a part of a stepped-care treatment program, in which it might be used as a first level of treatment before initiating more costly therapy (Fritzler, Hecker, & Losee, 1997). Advantages of this form of treatment are ease of use, cost-effectiveness, and the potential to provide services to people who are unwilling or unable to be engaged in a more traditional form of therapy (Cuijpers, 1997; Scogin, Hamblin, & Beutler, 1987; Williams, 2001), while it still can contain those non-specific elements in therapies that are thought to cause therapeutic effect, such as providing a clear rationale, a structured approach and training of skills (Zeiss, Lewinsohn, & Muñoz, 1979).

Bibliotherapy can be administered in several ways: as a part of regular psychotherapy, as an independent form of intervention combined with a few sessions with a therapist, and as an independent intervention without therapy sessions. Many studies have centered on bibliotherapy as an independent treatment form, in which it has proven to be effective in the treatment of depression (Cuijpers, 1997; Floyd, Scogin, McKendree-Smith, Floyd, & Rokke, 2004; Gregory, Schwer Canning, Lee, & Wise, 2004; McKendree-Smith, Floyd, & Scogin, 2003; Scogin et al., 1987), sexual dysfunctioning (Van Lankveld, 1998), panic disorder and other anxiety disorders (Lidren, Watkins, Gould, Clum, Asterino, & Tulloch, 1994; Newman, Erickson, Przeworski, & Dzus, 2003; White, 1995; Wright, Clum, Roodman, & Febbraro, 2000), insomnia (Mimeault & Morin, 1999), and alcohol problems (Apodaca & Miller, 2003).

Several meta-analyses have been undertaken, showing favourable effect sizes: Cuijpers (1997) reported a mean effect size of 0.82 for six studies that compared cognitive bibliotherapy participants, suffering from depression, with waiting list control participants. Gregory and others (2004) found an effect size of 0.77 for 17 between groups studies into bibliotherapy for depression, and state that this effect size compares favourably with data from studies of individual therapies. In a meta analysis reviewing bibliotherapy for a large variety of problems, Marrs (1995) analyzed 70 samples and found a mean effect size of 0.56. He states that bibliotherapy appeared more effective for certain problem types, such as assertion training, anxiety, and sexual dysfunctioning, than for others, such as weight loss, impulse control, and studying problems.

Furthermore, he found that the extent of therapist contact during bibliotherapy did not seem to relate to effectiveness as a whole.

Favourable effects of bibliotherapy have not only been found at post-treatment: maintained effects were reported at 8 years follow-up for alcohol problems (Apodaca et al., 2003), at 3 years follow-up for depression (Smith, Floyd, Scogin, & Jamison, 1997), and at 3 and 6 months follow-up for panic disorder (Lidren et al., 1994). These beneficial effects are comparable to therapist delivered interventions (Cuijpers, 1997; Gould & Clum, 1993).

In their state-of-the-art review of treatments known to have been used for hypochondriasis, Taylor and Asmundson (2004) state that hypochondriasis, or health anxiety, has never been treated with bibliotherapy. However, to the best of our knowledge, one study investigated bibliotherapy for health anxiety (Jones, 2002). A total of 40 participants, suffering from health anxiety, as identified by their GPs, was randomised into two conditions: one receiving cognitive bibliotherapy and the other not. Results of this study showed a significant reduction in health anxiety after they had received bibliotherapy (Cohen's $d = 1.12$). This study did suffer from some methodological flaws. Firstly, half of the 40 participants described in this study suffered both from health anxiety, and from identifiable physical diseases, but it was not reported whether participants feared the disease they suffered from. Secondly, it was not stated clearly whether the participants could be diagnosed as suffering from hypochondriasis, they were only identified by their GPs as demonstrating a variety of symptoms of health anxiety. Furthermore, when viewing scores on the Health Anxiety Questionnaire, used in the study to measure health anxiety complaints, substantial differences emerged between the control group and the experimental group (the control group had a mean score of 56.3 at pre-assessment, whereas the experimental group had a mean score of 75.1). Nevertheless, the results provide us with a first indication that bibliotherapy might be beneficial for hypochondriacal complaints.

The first aim of the present study is to find out whether cognitive-behavioural bibliotherapy is an acceptable treatment for people suffering from DSM-IV-TR hypochondriasis. We expect this question to be answered affirmatively, because the psychoeducational approach, be it in group format, has earlier shown to be acceptable to hypochondriacal participants, who were willing to see themselves as students rather than patients.

A second aim is to find out whether cognitive-behavioural bibliotherapy is an effective treatment for hypochondriasis. This question is also expected to be answered affirmatively, because in the recent past, treatments that employed instruction and self-directed practice of coping strategies (i.e. several cognitive-behavioural approaches) seemed most efficacious in the treatment of several disorders (Gould et al., 1993).

Method

Recruitment, screening, and randomisation

By notifying the Dutch national press, acquisition of participants took place over a period of 3 years (2003-2005). Participants were they who expressed their interest in taking part in a psychoeducational course for hypochondriasis

(Bouman, 2002), but who lived too far away from the northern part of the Netherlands, where the course was being taught. They were offered bibliotherapy instead, by means of receiving a book called 'Doctor, I hope it's nothing serious'? (Bouman & Visser, 1993). The intervention was introduced as being similar in theory to the psychoeducational course. Participants were informed that the experimental period would last for six weeks, during which a therapist (the first author) would be available to answer questions the participants might have about the book and/or the exercises. This type of intervention is considered minimal-contact bibliotherapy. Interestingly, none of the participants made use of the possibility to ask questions. Participants were charged 10 euros for the book.

By using a condensed version of the Anxiety Disorders Interview Schedule (ADIS: DiNardio, Brown, & Barlow, 1994), 49 self-referred aspiring participants were screened by telephone for DSM-IV-TR (APA, 2000) somatoform, anxiety, and mood disorders, and asked about previous psychological treatment and somatic illness. The interview led to an evaluation of the presence of any of the disorders mentioned above. During the 30-minute interview, participants were informed about the bibliotherapeutic procedure, and were asked for their informed consent to participate in the study. None of the aspiring participants declined to participate in the study.

Inclusion criteria were: (1) the presence of a DSM-IV-TR diagnosis of hypochondriasis, (2) being over 18 years old, (3) being Dutch speaking, and (4) being willing to participate actively in the course. Exclusion criteria were: (1) the presence of other DSM-IV-TR Axis I disorders more prominent than hypochondriasis, (2) the presence of a serious somatic disease being the focus of the hypochondriacal concern, and (3) a previous or concurrent cognitive-behavioural treatment for hypochondriasis.

After the telephone intake interview, a total of 40 participants were randomly assigned to either the immediate treatment group, or the waiting list control group. The other nine people did not participate for the following reasons: three of them had already been treated elsewhere with cognitive-behavioural treatment, one felt that her complaints were not severe enough to require help, three of them suffered primarily from other disorders (two from panic disorder and one from depression), one candidate was impossible to contact, and one candidate lost interest.

Because the authors were not sure how many participants could finally be included in the study, the first 21 participants started in the immediate treatment condition. When more people aspired to take part in the study, they were assigned to the waiting list control group, ultimately resulting in a group of 19 participants. They waited for six weeks, and then started with six weeks of bibliotherapy.

A total of 8 participants in the immediate treatment group used various types of psychotropic medication (antidepressants, tranquillizers and sleep medication), and 6 participants in the waiting list group did so. They were asked to keep their dosage constant for the sake of the study.

Participants

Two participants in the immediate treatment condition dropped out of the treatment, as did five participants in the waiting list control condition. Reasons for drop-out in the immediate treatment condition were a) changing the dosage of medication, and b) a worsening of hypochondriacal problems, causing the participant to stop the bibliotherapy and seek formal treatment. Reasons for dropout in the waiting list condition were a) already having read the book, b) changing the dosage of medication during the experimental period (reason for dropout of two participants), c) finding the book and assessments too confronting, and d) seeking more formal treatment. ANOVAs showed that dropouts and completers did not differ significantly on any of the variables measured at the first assessment.

Of the participants, 31 (78.1%) were female, and the mean age was 43.8 (*SD* = 13.4). A total of 32 participants (79.7%) were cohabitating or married. Seventeen (42.7%) of the participants had a high educational level, 14 (34.9%) of the participants had a medium level of education, and 7 (17.9%) had a low educational level. Mean duration of hypochondriacal complaints was 14.2 years (*SD* = 15.9). *T*-tests showed that no significant differences were found between the immediate treatment group and the waiting list controlled group regarding these demographic variables.

With regard to comorbidity, a total of 16 participants in both groups reported suffering to some extent from comorbid panic attacks, and 10 from comorbid generalised anxiety complaints. Ten participants had agoraphobic complaints. Furthermore, 20 participants had some form of specific phobic complaint, whereas 10 suffered from social phobic complaints (in varying degrees). One participant suffered from obsessive compulsive complaints. A total of 26 participants had suffered from depressive complaints, either at time of intake or previously. A substantial number of participants suffered from more than one anxiety or depressive complaint. As all of these participants stated that their primary complaint was hypochondriasis, they were included in this study after being informed that hypochondriacal complaints would be the sole focus of the bibliotherapy. There was one significant difference in social phobic comorbid complaints ($p < 0.05$) between the immediate treatment and the waiting list condition. However, after correcting this value by use of the Bonferroni correction, this difference is no longer significant.

Procedure

After returning the first pre-assessment (the immediate treatment group), or the second pre-assessment (the waiting list group) participants were sent a book called: 'Doctor, I hope it's nothing serious?' (Bouman & Visser, 1993). This book is based on cognitive-behavioural theory of hypochondriasis with accompanying exercises. It consists of 100 pages and has been available in bookstores over the last 13 years.

The first chapter of the book, *'Sickness and health'*, is concerned with health and disease, and provides some examples of patients who have hypochondriasis. Furthermore, illness worries are discussed. Chapter 2, *'What are people afraid of?'*, is concerned with different subjects one can be afraid of, such as physical sensations, and medical situations. Chapter 3, *'The origin and consequences of*

health anxiety', discusses how health anxiety can begin and touches on the consequences of being afraid of disease, with also a focus on comorbidity between health anxiety and depression. Chapter 4, *'Why do you remain afraid of illness?'*, discusses negative automatic thoughts and their effect on anxiety, attention to physical symptoms, and behaviour (checking and avoidance), all in terms of the vicious cognitive circle of hypochondriasis (Bouman & Visser, 1998b; Warwick & Salkovskis, 1990). Chapter 5, *'Health anxiety and the environment'*, discusses how one's environment, such as partners, general practitioners and the media can influence and possibly maintain hypochondriacal complaints. Finally, in chapter 6, *'How to help yourself'*, a summary of the previous chapters is provided to the reader, with practical tips derived from the exercises described at the end of each chapter.

Measurements

Evaluation

To determine whether participants found the bibliotherapy acceptable, an evaluation questionnaire was administered at post-assessment. Questions were asked about each chapter of the book: a) how attentively they had read the theoretical part of the chapter (the answering categories being: very attentively / casually / not at all), and b) how useful they thought the chapter was (on a scale from 1 = useless, to 7 = extremely useful). Furthermore, questions were asked about the exercises people were asked to do: a) how many times they had performed the exercises (the answering categories being more than once / once / partly / not at all), and b) how useful they thought the exercises were (on a scale from 1 = useless, to 7 = extremely useful).

To answer the question of effect of the treatment, repeated measures of several complaints were taken at pre-treatment, at post-treatment and at 3 months follow-up.

Primary outcome measures

To answer the question of effect of the bibliotherapy, repeated measures of several complaints were taken at pre-treatment, at post-treatment and at 3 months follow-up.

Hypochondriasis. The Groningen Illness Attitude Scale (GIAS; Visser, 2000) is a self-report instrument consisting of 42 statements, measuring 4 aspects of hypochondriasis. The questionnaire is based on the Illness Attitude Scales (Kellner, 1986) and the Whitely Index (Pilowsky, 1967). Applicability of items is scored on a 5-point scale (ranging from 'never' to 'always'), with a reference period of 7 days. The GIAS consists of four subscales: a) Disease conviction (15 items, e.g. 'I have the symptoms of a serious disease'; $\alpha = 0.92$), b) Bodily symptoms and complaining (12 items, e.g. 'When I feel something in my body, I worry about it'; $\alpha = 0.88$), c) Health anxiety (8 items, e.g. 'I am more afraid of diseases than others'; $\alpha = 0.85$), and d) Checking and avoidance behaviour (7 items, e.g. 'I avoid eating unhealthy foods'; $\alpha = 0.71$). Psychometric evaluation (Visser, 2000) has shown that this questionnaire has satisfactory construct validity and can discriminate between hypochondriacal patients and members of the community.

Trait anxiety. The Dutch authorised version of the trait scale of Spielberger's State Trait Anxiety Questionnaire (STAI) (Van der Ploeg, Defares, & Spielberger, 1980) measures inter-individual differences in anxiety and consists of 20 items.

Depressive complaints. Beck's Depression Inventory (BDI) (Beck, Rush, Shaw, & Emery, 1979; Bouman, Luteijn, Albersnagel, & Van der Ploeg, 1985) measures the severity of depressive symptoms and consists of 21 items.

Results

Analytic plan

Firstly, to address the question of acceptability of the treatment, means and standard deviations of the evaluation questionnaire were computed, and *t*-tests were performed.

Secondly, to establish effect of treatment on hypochondriasis, depressive complaints, and trait anxiety, multilevel analysis was used. Multilevel models were estimated for the three outcome measures. The first step in the modelling process was to find an adequate representation of the variance structure of the repeated assessments, using dummy variables for the first assessment (which is the first pre-test filled out by the participants in the waiting list group), second assessment (the second pre-test for the waiting list group, and the pre-test for the immediate treatment group), the third assessment (post-test), and fourth assessment (follow-up at 3 months). Point of reference in the multilevel model is the second pre-assessment.

In multilevel analysis, the statistical significance of single fixed effects is tested by approximate *t*-tests (Snijders & Bosker, 2000), of which two-sided *p*-values are reported. The significance of multiple fixed effects and of random effects is tested using a likelihood ratio test, based on the deviance, defined as –2 times the log likelihood value. The difference in deviance of two nested models (i.e. models that only differ with respect to the variable(s) to be tested) follows a chi-square distribution, with as many degrees of freedom as the number of parameters to be tested.

Clinical significance was computed by means of reliable change scores, by making use of the formula shown in Figure 6.1, through which a reliable change score (> 1.96) would be unlikely to occur ($p < 0.05$) without actual change (Jacobson & Truax, 1991).

$$RC = (x_2 - x_{1)} / S_{diff.}$$
$$S_{diff.} = \sqrt{2(S_E)^2}$$

Figure 6.1. The Reliable Change Index.
Note. RC = reliable change; x_1 = a participant's pre-test score; x_2 = the same participant's post-test score; $S_{diff.}$ = the spread of the distribution of change scores that would be expected if no actual change had occurred; S_E = the standard error of measurement.

Furthermore, because of the twofold criterion for clinically significant change (Jacobson, Roberts, Berns, & McGlinchey, 1999), it was determined whether participants after the bibliotherapy ended up in a range that renders them indistinguishable from well-functioning people. For that purpose, GIAS-scores of participants in this study were compared to GIAS-scores of an unselected group from the community (Visser, 2000), by means of *t*-tests.

Missing data

A substantial number of measurements was not returned by the participants. Of the 33 completers, 14 in the immediate treatment group and 9 in the waiting list group returned the post-assessments, and 11 completers of the immediate treatment group and 8 completers of the waiting list group returned their 3 month follow-up assessments. This is one of the reasons the data were analysed with multilevel analyses. This analysis deals with missing data in the sense that it makes use of all observations, not just complete cases. However, all results described in this section should be viewed with caution.

Acceptability

On the evaluation form, when asked how useful the book was as a whole, the participants rated it with a mean score of 6.1 (SD = 0.7, range = 5-7) on a scale of 1 = useless, to 7 = extremely useful. Furthermore, participants were asked to rate the usefulness of both the theoretical part and the exercises of all individual chapters, on the same scale.

The answers regarding usefulness of the theoretical parts of the different chapters ranged from 5.4 to 6.1 (M = 5.6, SD = 1.0), and the answers regarding usefulness of the exercises ranged from 4.3 to 5.6 (M = 4.7, SD = 1.5), indicating that participants regarded the theory as significantly (t = 2.6, p = 0.02) more useful than the exercises. When asked how attentively (the answering possibilities being very attentively, casually, or not at all) participants had read the chapters, almost all participants indicated they had read all chapters very attentively. When asked how many times they had done the exercises (the answering possibilities being more than once, once, partly, or not at all) about half of the participants had done the exercises once, and about a third had done them partly. This varied slightly across chapters, with the exercises accompanying later chapters being performed less often than those accompanying earlier chapters. Analyses by means of *t*-tests showed no differences between the immediate treatment- and the waiting list condition on any of the questions on the evaluation questionnaire.

Effect of the bibliotherapy: multilevel analysis

Results of the multilevel analyses are shown in Table 6.1. Condition was inserted in the model at first, but was taken out of it because the immediate treatment condition and the waiting list condition did not differ significantly at any of the times of assessment.

Hypochondriacal complaints

With regard to the waiting list period, Table 1 shows that scores did not decrease significantly ($t = 0.2$). At post-assessment, a decrease in hypochondriacal complaints was apparent ($t = -4.3$, $p < 0.00$). At the follow-up after 3 months, scores remained stable.

The between-individual variance of the random effects (488.7, *S.E.* = 154.3) demonstrated the differences in mean scores between all participants, which was substantial. The measurement variance (indicating differences over time within participants) was smaller (301.5, *S.E.* = 56.8), but also considerable.

Depressive complaints

Table 1 indicates that the scores on the BDI did not decrease at all during the waiting list period ($t = 0.0$). Between pre- and post-assessment, the mean score of the BDI did decrease significantly ($t = -2.3$, $p < 0.02$). At 3 months follow-up the scores remained stable.

Again, the between-individual variance was larger (39.0, *S.E.* = 11.4) than the measurement variance (14.9, *S.E.* = 2.9).

Trait anxiety

Scores did not show a significant decrease after the waiting list period ($t = 0.3$) but did so at post-test ($t = -2.4$, $p < 0.02$) for trait anxiety. Scores remained stable at follow-up. Also for this questionnaire, the between-individual variance was larger (69.0, *S.E.* = 21.2) than the measurement variance (36.3, *S.E.* = 6.9).

Effect sizes

At post-test, the effect size was large for the GIAS: 0.86. The effect size found for both the BDI (0.42), and the STAI (0.51) were medium.

Table 1: Multilevel Models of the GIAS, the BDI, and the STAI over Time.

	GIAS			**BDI**			**STAI**		
Fixed effects	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*	Estimate	*S.E.*	*t*
Intercept (mean score at t2)	94.4	5.0		12.7	1.3		49.9	1.8	
Mean difference at t1 (vs. t2)	1.0	5.8	0.2	0.0	1.3	0.0	0.7	2.1	0.3
Mean difference at t3 (vs. t2)	-21.3	5.0	-4.3***	-2.5	1.1	-2.3**	-4.4	1.8	-2.4*
Mean difference at t4 (vs. t2)	-24.3	5.3	-4.6***	-3.9	1.2	-3.3***	-6.9	1.8	-3.8**
Between individual variance	488.7	154.3		39.0	11.4		69.0	21.2	
Measurement variance	301.5	56.8		14.9	2.9		36.3	6.9	

Note. t1 = pre-measurement 1(waiting list group); t2 = pre-measurement 2 (pre-assessment 2 of the waiting list group, pre-assessment of the immediate treatment group); t3 = post-measurement (after six weeks of bibliotherapy); t4 = follow-up measurement (after 3 months). GIAS = Groningen Illness Attitude Scale; BDI = Beck's Depression Inventory; STAI = The Trait Scale of the Spielberger's State Trait Anxiety Inventory. * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.00$.

Clinical significance analyses

Reliable change was computed using the formula described in Figure 6.1. The total scale of the GIAS was used ($\alpha = 0.96$). Results showed that at post-assessment (with regard to the second pre-assessment), 3 of the 10 (30 %) participants who returned their post-assessment of the waiting list control group, achieved reliable change, and in the immediate treatment group, 7 out of 16 (43.8 %) of the participants achieved reliable change. At the 3 month follow-up, 4 out of 8 (50 %) participants of the waiting list group showed reliable change, with regard to the second pre-assessment. At the 3 month follow-up, 4 out of 8 (50 %) participants of the waiting list group who returned this assessment showed reliable change with regard to the pre-assessment filled out immediately after the waiting list period. At follow-up, 8 out of 11 (72.7 %) participants of the immediate treatment group who returned this assessment showed reliable change. Because of the substantial amount of missing data, these results should be viewed with caution.

By means of *t*-tests, it was determined whether participants ended up in a range that rendered them indistinguishable from an unselected group after the bibliotherapy. For this purpose, GIAS-scores of all the participants in this study at all times of measurement were compared to those of an unselected group in the community, derived by Visser (2000). For this calculation, both immediate treatment participants and waiting list participants were taken together. At pre-assessment, the participants' mean score was 97.3 ($SD = 28.1$), at post-assessment their mean score was 73.2 ($SD = 23.5$), and at 3 month follow-up their mean score was 70.0 ($SD = 22.7$). When these scores were compared to the mean score on the GIAS for the unselected group ($M = 30.5$ ($SD = 25.3$)) by means of *t*-tests, results showed that at pre-assessment, the *t*-value was 13.0 ($p < 0.00$), at post-assessment, the *t*- value was 8.6 ($p < 0.00$), and at follow-up, the *t*-value was 7.3 ($p < 0.00$). This means that at the 3 months follow-up, participants were more similar to the unselected group than at pre-assessment, but the differences between groups were still significant.

Discussion

The first aim of the present study was to determine whether cognitive-behavioural bibliotherapy could be an acceptable intervent treatment for people suffering from hypochondriasis. A second aim was to find out whether cognitive-behavioural bibliotherapy was an effective treatment for hypochondriasis.

With regard to the first aim, it was found that the participants did value the book largely, by rating it and its separate chapters as highly useful. Participants appreciated the theoretical part of the intervention more than the exercises. Many participants carried out the exercises only once or partly, and the exercises described in the later chapters were carried out less often than those described in the first chapters. Still, when rating the exercises, participants did find them useful: overall they received a mean of 4.7 out of 7 ($SD = 1.5$).

With regard to the second aim of this study, bibliotherapy proved to be effective in reducing hypochondriacal complaints, depressive complaints, and trait anxiety. All outcome measures showed on average a significant decrease,

for both hypochondriasis and trait anxiety at post-assessment, and for depressive symptomatology at follow-up. Mean scores on hypochondriasis- and trait anxiety measurements had decreased further at follow-up after 3 months, although not significantly so. These beneficial results show that hypochondriasis can be tackled by an unintrusive type of intervention in which no contact with a therapist is involved. This was shown earlier by Jones (2002), who found a reduction in health worry, fear of illness, reassurance-seeking, and trait anxiety after bibliotherapy as well.

The results of the present study are also in line with findings for bibliotherapy for other disorders. In a meta-analysis into bibliotherapy for depression, Gregory and others (2004) found a mean effect size of 0.77, and Marrs (1995), analyzing bibliotherapy for several disorders, found a mean effect size of 0.56. Cuijpers (1997) reported an effect size of 0.82 for bibliotherapy with depression.The effect size found in the present study for the primary outcome measure of hypochondriasis at post-test (0.86) is comparable.

Despite some authors stating that bibliotherapy could be as effective as therapist delivered interventions (Cuijpers, 1997; Gould & Clum, 1993), when comparing the effect size found for bibliotherapy in the present study, it is not as large as those found for individual CBT for hypochondriasis, reported in a meta-analysis by Looper and Kirmayer (2002). These effect sizes ranged from 1.31 to 1.98. This difference might be due to individual CBT taking longer to complete than the bibliotherapy studied here.

With regard to clinical significance, several participants showed reliable change, both at post-assessment and at the 3 month follow-up. However, participants' scores at post-assessment and at follow-up did not fall within the range of an unselected group, indicating that bibliotherapy did not lead to 'normality'. Furthermore, we have no data on clinical significance of those participants who did not return all measurements, which makes interpretation difficult.

There are several limitations to this study. Firstly, there were many participants who did not return their questionnaires, so that nothing conclusive can be said about them. In future research, it should be studied whether missing patterns influence outcome.

Secondly, generalising the beneficial effects found in this study is difficult, because the patients participating in this study could be a subgroup of hypochondriacal patients. They were self-referred and often well-functioning with respect to holding jobs and maintaining successful relationships.

Furthermore, this group of patients identified themselves as being hypochondriacal in articles in local newspapers or advertisements, and were ready to adopt a psychological point of view according to their physical complaints. This may not be the case for hypochondriacal patients who dwell in general mental health care, and therefore it would be interesting to study usefulness and effectiveness of cognitive-behavioural bibliotherapy for hypochondriasis in this setting.

In addition, although beneficial mean effects were apparent in this study, they should still be considered *mean* effects. The large differences between participants, illustrated in the between participant variance in the multilevel

analyses (see Table 6.1), show that participants differed greatly in the way they benefited from the intervention. There is still little information about which therapy is suitable for which patient, and future research should focus on predicting treatment effect. Also, it might be helpful to study acceptability of bibliotherapy in a qualitative fashion, to learn more about the participants' individual opinion about the treatment offered.

Finally, none of the participants made use of the possibility to contact the researchers and ask questions about the book's theory or exercises. We are not sure whether this was because the book was easy to read, and everything was clear to the participants, or whether participants were not interested in the treatment. This should be assessed more thoroughly in the future, as long as it is done within the boundaries of minimal contact bibliotherapy.

In line with Fritzler, Hecker and Losee (1997) we would like to conclude that cognitive-behavioural bibliotherapy can be a useful and effective tool as a first step in a stepped care program for hypochondriacal patients. The intervention could be helpful in decreasing the length of waiting lists currently preventing patients from being treated promptly in general mental health care. Through bibliotherapy, participants can gain insight in their complaints in a short period of time, and show a decrease in complaints, without the involvement of a therapist.

Chapter 7

General Discussion and Summary

Femke M. Buwalda

Introduction

The main aim of this thesis was to examine various forms of validity of the psychoeducational approach for hypochondriasis. Internal validity in terms of effect and acceptability of the psychoeducational approach was established both for the course 'Coping with health anxiety' and bibliotherapy. Also the construct validity was examined in terms of whether the cognitive-behavioural course 'Coping with health anxiety' outperformed a problem-solving course, and whether metacognitive aspects were related to hypochondriasis and 'Coping with health anxiety'. Furthermore, external validity in terms of predicting who benefits from psychoeducational treatment for hypochondriasis was studied. In this general discussion, the primary findings of this thesis, and their practical implications, were summarised and elaborated on. Additionally, participants of our studies were compared to participants of other treatment effect studies.

Methodological implications of this thesis

Internal validity of the psychoeducational approach

A treatment is called internally valid if the intervention itself, rather than extraneous influences, is considered to account for the results (Kazdin, 1998). In this section, the internal validity will be discussed of the psychoeducational approach, in the forms of both the 'Coping with health anxiety' course and bibliotherapy.

Earlíer findings

In recent years it has become clear that hypochondriasis can effectively be treated both through individual cognitive-behavioural therapy (CBT) (Barsky & Ahern, 2004; Visser & Bouman, 2001; Warwick, Clark, Cobb & Salkovskis, 1996; Taylor & Asmundson, 2004), and a psychoeducational derivative of CBT (Avia, Olivares, Crespo, Guisado, Sánchez & Varela, 1996; Bouman, 2002; Bouman & Polman, submitted; Stern & Fernandez, 1991).

A cognitive-behavioural psychoeducational course ('Coping with health anxiety') has been designed for use in the Netherlands. The findings with regard to outcome, in terms of decreasing hypochondriacal complaints, depressive complaints and trait anxiety, have been very positive (Bouman, 2002; Bouman & Polman, submitted). Furthermore, results were maintained at six months follow-up, and the course outperformed a waiting list period.

Effect of the course 'Coping with health anxiety' as studied in this thesis

In chapter 3, the cognitive-behavioural psychoeducational course 'Coping with health anxiety' was compared to a psychoeducational problem-solving course, which was similar in format, but different in terms of content. The results of this study showed that both courses were very effective in reducing hypochondriacal complaints, depression, and trait anxiety, and that results were maintained at six months follow-up. These findings have led us to conclude that the psychoeducational format as a whole, and not just the specific cognitive-behavioural course, can be considered an effective treatment for hypochondriacal complaints.

In chapter 4, the cognitive-behavioural version of the course was studied in relation to metacognitive aspects. The course proved again to be effective in reducing hypochondriasis, depressive complaints, and trait anxiety. In this study, a waiting list control group was included. As expected none of the scores on the outcome measures decreased significantly during this waiting list period, whereas they did during the experimental period. The scores remained stable at follow-up of one month and six months.

These findings, coupled with the earlier results found by Bouman (2002), and Bouman and Polman (submitted), showed that the psychoeducational group format was effective in treating hypochondriacal complaints, as well as certain comorbid complaints.

However, in future research into psychoeducational treatment for hypochondriasis, longer follow-up periods are needed. In this thesis, the last follow-up assessment was undertaken after six months, which is not long enough to make solid statements about the course's long term effect on hypochondriacal complaints.

Effect of cognitive-behavioural bibliotherapy

The acceptability and effect of bibliotherapy, another form of psychoeducational treatment for DSM-IV-TR hypochondriasis, the application of which was studied in this thesis for the first time, was examined in chapter 6. In this study, participants were randomised into an immediate treatment group and a waiting list control group. The immediate treatment group received the book 'Doctor, I hope it's nothing serious?' (Bouman & Visser, 1993), its content being several chapters of cognitive-behavioural theory, with accompanying exercises at the end of each chapter. The participants were given a period of six weeks to work through this book independently, without the guidance of a therapist. Participants in the waiting list group waited for six weeks and were then sent the book. Hypochondriacal complaints, depressive complaints and trait anxiety were measured at pre-treatment, post-treatment, and at follow-up after 3 months.

Results showed that bibliotherapy was effective in reducing hypochondriacal complaints, depressive complaints, and trait anxiety, at post-assessment. Effects were maintained at 3 months follow-up. Another important finding of this study was that participants were accepting of receiving guidance in this treatment form, and indicated that they found the cognitive-behavioural theory offered in the book very interesting and useful. However, they did not find the exercises as useful, and usually performed them only once or partly, and future studies should address the question why participants preferred the theoretical part of the book, and how participants can be motivated to do the exercises.

Effect sizes

The effect sizes found in the bibliotherapy study were comparable to the effect sizes found for the course 'Coping with health anxiety'. Effect size found for the bibliotherapy, with regard to hypochondriacal complaints measured with the GIAS, was 0.86 at post-assessment. Effect sizes for the psychoeducational course, calculated for all the studies in which effect of the course was examined

(Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman & Van Duijn, in press; Buwalda, Bouman, & Van Duijn, accepted pending revisions) ranged from 0.84 to 1.11 at post-assessment, and from 1.08 to 1.49 at six months follow-up, with regard to the GIAS. These figures show that both psychoeducational treatments can be called highly effective.

In comparison, effect sizes for individual cognitive and/or behavioural interventions, reported in a meta-analysis by Looper and Kirmayer (2002), ranged from 1.31 to 1.98. This slight difference in effect between the psychoeducational treatments and individual cognitive-behavioural therapy is not surprising, because of several important differences. During cognitive-behavioural bibliotherapy as studied here, there was no therapist contact, and during the psychoeducational group course, participants had brief contact (once a week during six weeks) with two facilitators. Individual cognitive and/or behavioural therapy usually lasts for several months and includes a rather intensive one-to-one contact. Although the psychoeducational interventions studied in this thesis are not as intensive, and not therapist-delivered, effect sizes for both the 'Coping with health anxiety' course and the bibliotherapy can be called large. This indicates that both psychoeducational interventions can be a feasible option for hypochondriacal patients, and that teaching hypochondriacal participants more about their complaints and how to handle them can be effective in itself. However, it is surprising that both psychoeducational interventions have similar effect sizes, while the course does incorporate guidance by course facilitators, and the bibliotherapy does not. It is as yet unclear why this is the case, and the mechanisms of change of both psychoeducational treatments should be studied further.

Clinical significance

With regard to clinical significance, as defined by the reliable change index (Jacobson & Truax, 1991), results show that several participants achieved reliable change after following one of the psychoeducational treatments. More specifically, reliable change was observed in 16 participants (75 %) of participants of the bibiliotherapy (waiting list group and immediate treatment group taken together) at post-assessment, and in 12 participants (61. 4 %) at the 3 month follow-up. When comparing these figures to those found in the first study into the 'Coping with health anxiety' course of this thesis (chapter 3), they are largely similar: at post-assessment, 16 participants (72.7 %) achieved reliable change, and at the six months follow-up, 8 participants (57.1 %) achieved reliable change. These findings indicate that clinical significant change was effected for a substantial number of participants.

However, clinical significance has a two-fold criterium, the second being that participants can only be called 'changed' when they are undistinguishable from a well-functioning people (Jacobson, Roberts, Berns, & McGlinchey, 1999). Because of this criterium, in both chapter 3 and 6, participants were compared to an unselected group of people with regard to their scores on the GIAS (Visser, 2000). Results indicated that after psychoeducational treatment, participants were still distinguishable from the unselected group, and had not reached clinically significant change in this respect. However, in chapter 3 it was shown

that the participants could also be distinguished from the patient norm group (Visser, 2000), whereas they scored within the range of these patients at baseline. These findings indicate that after psychoeducational treatment, the complaints of many of our participants have changed in a clinically significant way, but that they have not achieved 'normality'. I will return to this issue later on in this discussion.

Possible threats to internal validity

There are several known threats to internal validity (Kazdin, 1998). Firstly, history, referring to any event occurring in or outside the experiment which may account for the results other than the intervention, can play a part in threatening internal validity of a given intervention.

When reviewing our studies it seems unlikely that the results are due to history. In chapter 4, in which participants who were immediately enrolled in 'Coping with health anxiety' were compared to a waiting list control group, it was found that scores on none of the measures had decreased significantly during this waiting period. This lack of effect during the waiting list period was also found in the waiting list controlled study of the course by Bouman and Polman (submitted), and for the waiting list period of the bibliotherapy. These findings indicate that the constructs measured (hypochondriacal complaints, depressive complaints, and trait anxiety) were relatively stable during the waiting period.

Another threat to internal validity is selection bias, which refers to the use of different methods for selecting subjects for experimental conditions. This threat can also largely be ruled out with regard to the studies described, because all the participants were screened with the same instrument. This was a semi-structured interview, based on the Anxiety Disorders Interview Schedule (Bouman, De Ruiter & Hoogduin, 1997; DiNardio et al., 1994) set up around the inclusion- and exclusion criteria of the respective studies. Therefore, inclusion of participants was largely standardised.

Furthermore, randomisation into the group course or the bibliotherapy took place irrespective of participant characteristics. Recruiting participants took place in largely the same fashion over time, by use of several media, and we feel it is unlikely that different groups of hypochondriacal participants were reached over time.

In the separate studies it was examined whether groups (such as the problem-solving group versus the cognitive-behavioural group in chapter 3, and the waiting list control groups versus the immediate treatment groups in chapter 4 and 6) differed with regard to demographic variables and the constructs studied at baseline, which they did not. All this makes selection bias playing a role in these studies unlikely.

A third threat to internal validity is attrition, which refers to drop out out of a study over time. In our separate studies, few participants dropped out of the 'Coping with health anxiety' course. More participants dropped out of the bibliotherapy, possibly because of the lack of contact with a therapist or course facilitator.

However, attrition in the form of missing data did occur in our separate studies. Therefore, multilevel analysis was used as the analytic method of choice, because this method includes separate assessments of all participants in its model, even if cases are not complete. In chapter 4, those participants with missing data showed not to differ from those who returned all assessments. However, in future studies, ways to reduce missing data should be implemented, for example by asking participants to complete their questionnaires while attending the course. Furthermore, it should be studied which variables play a role in data-attrition.

Concluding, it seems that the course 'Coping with health anxiety' has sufficient internal validity. The internal validity of bibliotherapy for hypochondriasis should be studied further.

Construct validity of the 'Coping with health anxiety' course

Construct validity refers to interpreting the basis of the causal relation demonstrated within an experiment, and with which mechanisms within a given intervention can be held responsible for a found effect (Kazdin, 1998).

In this section, the construct validity of the psychoeducational approach will be discussed. With regard to construct validity it was studied whether one course could outperform another (chapter 3), and whether metacognitive aspects mediated the effect of the course on hypochondriacal complaints, and whether metacognitive aspects decreased during treatment (chapter 4). Construct validity of the bibliotherapy will also be discussed.

Cognitive-behavioural psychoeducation versus problem-solving psychoeducation

Both psychoeducational group courses, studied in chapter 3, were similar in format and based on a clear theoretical model, so that only their specific content would differ. It was hypothesised that the cognitive-behavioural course, focusing particularly on hypochondriacal complaints and its separate components, such as cognitions, attention, and behaviour, would yield a larger effect than the problem-solving course would. Results indeed showed that the cognitive-behavioural course performed significantly better at post-assessment in reducing trait anxiety and problems experienced in daily life. Furthermore, scores on the measures of hypochondriasis and depression also indicated a slightly larger benefit for the cognitive-behavioural group at post-assessment. However, these differences between conditions disappeared at both follow-up measurements, leading us to conclude that one course did not outperform the other. Therefore, it seems plausible that the effect found can be explained by fact that psychoeducation is offered, which is designed around a credible model (either the cognitive-behavioural model or the problem-solving flow-chart). The specificity of the model might not make a difference in terms of effect.

The cognitive-behavioural course was based on the cognitive model of hypochondriasis (Bouman & Visser, 1998b; Warwick & Salkovskis, 1990). Although several of the mechanisms described in the model were studied, such as beliefs (Barsky & Wyshak, 1989; Haenen et al., 1997; Rief et al., 1998) and attention (Kellner et al., 1987; Haenen et al., 1996; Schmidt et al., 1994;

Vervaeke et al., 1999), and found to be playing a part in the maintenance of hypochondriasis, these were not targeted specifically during the problem-solving course. Therefore, it is clear that the cognitive model of hypochondriasis is not the only model that can dominate treatment for hypochondriasis, or can give a clear conceptualisation of the mechanims that sustain hypochondriacal complaints. Future research should examine the role of lack of problem-solving skills in the maintenance of hypochondriacal complaints.

Hypochondriasis, metacognition and the 'Coping with health anxiety' course.

Wells (2000) proposed the role of metacognition in the etiology and maintenance of several emotional disorders. Bouman and Meijer (1999) were the first to study metacognitive aspects in relation to hypochondriacal complaints, and found some evidence that metacognitive aspects were related to hypochondriacal complaints. In chapter 4 of this thesis, the course's effect was examined on metacognitive aspects, such as uncontrollability of thoughts surrounding disease, cognitive self-consciousness, responsibility (to protect oneself from getting a serious disease), negative consequences of worrying, and positive consequences of disease cognitions.

It was expected that 'Coping with health anxiety', which does not explicitly target metacognitive aspects, would be able to influence metacognition and could therefore be considered a metacognitive intervention. This was hypothesised because during psychoeducational treatment, participants are taught implicitly that their hypochondriacal cognitions and behaviours are not as uncontrollable and dangerous as they seem. Furthermore, participants are taught how to monitor, appraise and control their thoughts and behaviour in a different and more adaptive way.

The most important findings of this study were that, firstly, aspects of metacognition (uncontrollability of cognition, cognitive self-consciousness, negative consequences, responsibility, and positive beliefs) decreased during the course, and remained stable at follow-up after 6 months. Furthermore, several aspects of metacognition (uncontrollability and negative consequences) partly mediated the course's effect on hypochondriacal complaints.

These findings lead us to conclude that psychoeducational treatment in the form of a group course might be called a metacognitive intervention. Psychoeducational treatment might trigger changes in metacognitive aspect because the treatment is introduced as a course, in which the patient becomes participant whose independence is thereby empowered (Authier, 1977). This could bring about a reduction in negative metacognitive beliefs about the patient role some of the participants had adopted.

Furthermore, being in a psychoeducational group with other hypochondriacal patients will probably strengthen this shift in metacognition. Barsky, Geringer and Wool (1988), who were the first to develop a psychoeducational approach for hypochondriasis, state that group cohesion is reported to form readily and rapidly, meeting the patient's need for social support and a sense of acceptance by others. Our clinical experience in teaching the course is very similar. In metacognitive terms, the sense of acceptance by other participants experiencing the same, but also by the facilitators encouraging disclosure, may be of special

importance. This could lead to a reduction of negative beliefs about the complaints and the controllability of disease related thoughts. Group practice models set the stage for within-group dialogue, social learning, expansion of support and cooperation, the potential for group reinforcement of positive change, and network building (Lukens & McFarlane, 2004). They reduce isolation and serve as a forum for both recognising and normalising experience and response patterns among participants. Targeting these aspects seemed to mediate the course's effect on hypochondriacal complaints.

However, it was not studied whether metacognitive aspects cause and maintain hypochondriacal complaints. This should be studied further in the future. Additionally, the findings have implications in terms of preferred treatment for hypochondriasis. In light of metacognitive aspects decreasing with psychoeducational treatment, coupled with the results found in chapter 3, in which both cognitive-behavioural psychoeducation and problem-solving psychoeducation performed equally well, it seems that treatments that are metacognitive in nature are able to reduce complaints, without targeting specific metacognitive aspects of the disorder. It would therefore be interesting to compare a specific metacognitive treatment (such as described by Wells, 2000, for generalised anxiety disorder) to a psychoeducational treatment.

Cognitive-behavioural bibliotherapy

The findings with regard to effect of the bibliotherapeutic intervention (studied in chapter 6 of this thesis) also have implications in terms of construct validity. Although the bibliotherapy has not been compared directly to the psychoeducational course, by outperforming a waiting list period, it is likely that it was the bibliotherapeutic intervention that produced the effect found on hypochondriacal complaints, depressive complaints, and trait anxiety. This indicates that psychoeducation as a treatment form can be effective in reducing complaints, and does not necessarily have to be therapist-delivered. It might be hypothesised that those mechanisms that are employed in psychoeducational treatment, such as teaching rather than curing, can be responsible for the observed effects. However, the specific mechanisms underlying psychoeducational treatment were not specifically studied, and should be examined in the future. Furthermore, since this was the first time that bibliotherapy for hypochondriasis was studied, future studies should further examine the construct validity of this form of treatment.

Possible threats to construct validity

One of the possible threats to construct validity of a given intervention is 'single operations and narrow stimulus sampling' (Kazdin, 1998), meaning that for example, only therapists skilled in a certain intervention delivered it in a certain study. In chapter 3, in which cognitive-behavioural psychoeducation is compared to problem-solving psychoeducation, this threat is unlikely to play a part, because none of the course's facilitators could be considered an expert in either of the interventions. Several facilitators delivered both interventions, and a total of 8 facilitators taught the courses. However, because of the small

number of groups that was studied, it could not be examined whether there was a facilitator effect in that one facilitator outperformed other facilitators.

Furthermore, it is unlikely that effect of the intervention was found only because of an experimental or academic environment in which the course was delivered. The courses were held at many different locations over the years, and usually in homecare institutions in which many other courses were held.

Bibliotherapy and the cognitive-behavioural version of 'Coping with health anxiety', offering similar information in different formats, are roughly equally effective. This leads us to conclude that psychoeducational treatments may have sufficient construct validity. However, several aspects of construct validity of both forms of psychoeducation for hypochondriasis should be studied further.

External validity of the psychoeducational approach

External validity refers to the extent to which the results of an experiment can be generalised beyond the conditions of the experiment to other populations, settings and conditions (Kazdin, 1998). In this section, external validity of the 'Coping with health anxiety'course will be discussed.

Prediction of treatment effect of the 'Coping with health anxiety course'

Clinicians who know who fail in treatment, and why, are better able to modify their treatment regimes effectively and to delineate critical variables for matching clients to the most suitable treatment program (Steketee & Chambless, 1992). Therefore, in this thesis it was examined which variables were able to predict therapy outcome for the course. Furthermore, this study was conducted to examine whether findings could be generalised across hypochondriacal patients. A pooled group (N = 140) of participants of the cognitive-behavioural version of the 'Coping with health anxiety' course were studied. They were the participants who had taken part in the pilot study (Bouman, 2002), the waiting list controlled study (Bouman & Polman, submitted), the study comparing the cognitive-behavioural course to the problem-solving course (chapter 3 of this thesis), and the study in which metacognitive aspects were studied (chapter 4 of this thesis).

Few prediction studies of treatment outcome have been conducted in the field of hypochondriasis and other somatoform disorders. When studied, prediction variables were usually demographic variables, variables pertaining to complaints and comorbidity, and variables pertaining to participant characteristics. The observed results were usually contradictory, with the only significant predictor for less treatment effect usually being higher age, for other somatoform disorders (Aronoff & Evans, 1982; Blanchard, Lackner, Gusmano, Gudleski, Sanders, Keefer, & Krasner, 2006; Michaelson, Sjölander, & Johansson, 2004), but not for hypochondriasis (Hiller, Leibbrand, Rief, & Fichter, 2002; Speckens, Spinhoven, Van Hemert, Bolk, & Hawton, 1997; Visser, 2000). More severe hypochondriacal complaints at baseline did predict more severe hypochondriacal complaints after treatment in these studies (Hiller et al., 2002; Speckens et al., 1997; Visser, 2000). Therefore, in the prediction study described in chapter 5 of this thesis, only one clear hypothesis could be formulated, namely that those participants suffering more at pre-assessment

from hypochondriacal complaints, would still suffer more at subsequent assessments. Apart from this hypothesis, the study had an explorative nature.

Results showed that, indeed, higher scores on the measurement of hypochondriasis at pre-assessment were significantly correlated with higher scores with regard to hypochondriacal complaints at post-assessment, and at the six months follow-up. Furthermore, higher scores on the GIAS at post-assessment were significantly correlated with higher scores at the six month follow-up. However, the general pattern over time revealed a decrease in hypochondriacal complaints.

The only two variables predictive of residual gain (constructed out of the GIAS, measuring hypochondriacal complaints) at post-assessment and follow-up were higher age at baseline and higher trait anxiety. Age was earlier found to be connected to treatment outcome for other somatoform disorders (Aronoff & Evans, 1982; Blanchard et al., 2006; Michaelson et al., 2004), but not for hypochondriasis. Trait anxiety predicting worse outcome had been found earlier in a prediction study of PTSD (Van Minnen, Arntz, & Keijsers, 2002), but this is the first time that trait anxiety was also predictitive of negative treatment outcome for hypochondriasis.

Several participants stated to suffer from depressive complaints during the telephone diagnostic interview held at baseline, and the mean duration of complaints in the group of participants under study was 11.3 years. However, depressive complaints or duration of hypochondriacal complaints were not predictive of treatment outcome.

We concluded that not being able to fully predict treatment effect is not necessarily disadvantageous, because it indicates that there is no direct need to sharpen in- and exclusion criteria. It seems safe to conclude that the short-term and focused course can be suitable for a variety of people suffering from hypochondriasis, and not only those who have not suffered for very long, or whose hypochondriacal complaints are not very severe. However, the expectations of this course, only held once a week during a total of six weeks, should be realistic, and participants who score very high on the GIAS at baseline should not expect to have recovered fully from their hypochondriacal complaints when the course is over.

Furthermore, participants who have taken part so far were all self-referred, and were open to a psychological interpretation of their physical complaints. It is possible that they are a subgroup of hypochondriacal patients. Therefore, we would like to recommend the course to be studied in a general mental health care setting. These hypochondriacal patients are hypothesised to suffer more from hypochondriacal complaints, are not as open to psychological interpretation of their complaints, and are expected to suffer more from comorbid complaints.

Possible threats to external validity

A possible threat to the external validity of 'Coping with health anxiety' is sample characteristics, meaning that the results of an investigation are only demonstrated within a particular sample (Kazdin, 1998). The prediction study summarised above, and described in chapter 5 of this thesis, showed that few

variables could predict (lack of) treatment effect for the psychoeducational course. This might mean that the course is suitable for a variety of sufferers from hypochondriasis. However, the course, as well as the bibliotherapy, should be studied in general mental health care before anything conclusive can be said about their external validity.

Moreover, it would be interesting to study the course with those hypochondriacal patients who suffer from more disease conviction than the participants studied in this thesis.

Another possible threat to external validity are stimulus characteristics and settings, including setting, facilitators, and other factors related to the experimental arrangement (Kazdin, 1998). This threat is very similar to the 'single operations' threat to construct validity. In our opinion it is unlikely that this threat influenced the course's external validity, since the course was taught by several facilitators at several different locations.

Comparison of the participants with other hypochondriacal patients.

Participants

In this thesis, participants receiving two different psychoeducational treatment forms (a group course, and bibliotherapy) were studied. They had referred themselves to the treatments, which were delivered in the community. This section focuses on the characteristics of these participants (in terms of demographic variables, degree and duration of hypochondriacal complaints, and comorbidity), and how well they can be compared to patients suffering from hypochondriasis as discussed in epidemiology studies, and hypochondriacal patients who have been treated in other treatment studies, who are usually not self-referred.

Gender and age

Hypochondriasis has been termed an equal opportunity diagnosis, apparently unrelated to any given demographic factor (Escobar et al., 1998). With regard to gender, few differences were found for people suffering from hypochondriasis in epidemiology studies (Barsky, Wyshak, Klerman & Latham, 1990; Creed & Barsky, 2004; Gureje, Üstün, & Simon, 1997; Speckens, Van Hemert, Spinhoven, & Bolk, 1996). However, the patients who seek help for hypochondriacal complaints, or are referred to psychotherapy by physicians, seem to differ.

Generally, more females than males take part in studies on treatment for hypochondriasis. In the studies on psychoeducational treatment as reported in this thesis, in chapter 3, 72.7 % of the completers of the cognitive-behavioural condition were female, as were 77.2 % of the completers of the problem-solving condition. In chapter 4, 67.7 % of the completers of 'Coping with health anxiety' were female, and in chapter 6, 77.5 % of the initial participants taking part in the bibliotherapy study were female.

These numbers are comparable to those found in the broader literature examining cognitive-behavioural treatment for hypochondriasis. In a recent large treatment study, 74.5 % of the 102 participants were female (Barsky & Ahern, 2004), and in another recent study (Martínez & Botella, 2005), 66.6 % of

the 12 participants were female. In other studies of cognitive-behavioural treatment for hypochondriasis also more females took part (Clark et al., 1998; Fava, 2000; Greeven et al., in press; Hiller et al., 2002; Wattar et al., 2005). The only recent small scale treatment study reporting as many females as men taking part was the study by Visser and Bouman (1998a).

These findings seem to reflect that more women than men are willing to seek counseling, or be referred to therapy, for their hypochondriacal complaints. However, it remains to be studied whether more women than men are treated in general mental health care. If this is the case, it should be studied why these gender differences exist, and how more men can be enrolled in treatment.

With regard to age, it has been reported that people of all ages can develop hypochondriacal complaints. However, in the studies described in this thesis, the average age of those taking part in the psychoeducational course was 39.6, and of those participants taking part in the bibliotherapy, mean age was 43.8. Other treatment studies of hypochondriasis reported roughly the same mean ages of participants, ranging from 31.7 to 47 (Barsky & Ahern, 2004; Clark et al., 1998; Fava, 2000; Greeven et al., in press; Hiller et al., 2002; Martínez & Botella, 2005; Wattar et al., 2005).

Duration of hypochondriacal complaints

The mean duration of hypochondriacal complaints of the participants studied in this thesis was 8.3 years, for those described in chapter 3, 12.3 for those described in chapter 4, and 14.2 years for those taking part in the bibliotherapy study, as described in chapter 6.

Other studies have also reported on the duration of complaints of the participants, which varied substantially over these studies. Fava and colleagues (2000) reported a relatively short mean duration of complaints of 2.6 years. Participants studied by Clark and colleagues (1998) suffered from their complaints for four years, participants studied by Barsky and others (2004) reported a mean duration of 10.1 years, and Hiller and others (2002) reported a mean duration of 10 years.

In chapter 5, it was found that the duration of hypochondriacal complaints did not predict therapy effect. However, in the future it should be examined further whether duration of complaints does not influence outcome. Also, it seems necessary that more patients learn about possible treatment for their hypochondriacal complaints, so that they can be offered help sooner, avoiding unnecessarily large costs both in life satisfaction and health care utilisation. A low threshold approach such as psychoeducation, which does not have psychotherapeutic connotations and is easily accessible for participants is a useful tool in this respect.

Comorbidity

Several epidemiology studies showed strong positive correlations between depressive, anxiety, and somatic symptoms and hypochondriacal concerns among medical inpatients (Barsky et al., 1986; Creed & Barsky, 2004; Faravelli, 1997; Noyes et al., 1993).

During the diagnostic phase of the studies described in this thesis, participants were asked about comorbid complaints. Complaints were diagnosed through a structured 30-minute telephone interview, which is a condensed version of the Anxiety Disorders Interview Schedule (Bouman, De Ruiter & Hoogduin, 1997; DiNardio et al., 1994). This instrument screens for DSM-IV (APA, 1994) somatoform, anxiety, and mood disorders. All the participants described in the studies fulfilled the diagnostic critera for hypochondriasis. Whether they fulfilled specific diagnostic criteria for other disorders is not clear from the data obtained in this study. However, it became clear that many sufferers from hypochondriasis studied in this thesis also suffered from depressive complaints (participants usually indicated that these were related to the hypochondriacal complaints), and anxiety symptoms, such as generalised anxiety, panic, agoraphobic complaints and obsessive compulsive complaints.

High comorbidity was also found by others who studied treatment for hypochondriasis. When examining an inpatient treatment programme for hypochondriasis, Hiller and others (2002) reported that as many as 84.1% of the patients also suffered from major depression. Furthermore, many people suffered from anxiety complaints such as social phobia, panic, agoraphobia and substance abuse. These rates were not only found in inpatient treatment centers, Visser and Bouman (2001) also reported that a substantial number of patients included in their study suffered from panic, general anxiety symptoms, obsessive compulsive complaints, and other somatoform disorders. Remarkably, only 5.1% of their sample suffered from depressive complaints.

It seems clear that comorbidity is present in many people seeking help for their hypochondriacal complaints. Therefore, comorbidity should be assessed carefully at baseline, and future studies should examine if and how comorbid complaints might influence treatment for hypochondriasis.

Health anxiety and disease conviction

There are several dimensions to hypochondriacal complaints, such as health anxiety, and disease conviction. Both of them might perpetuate other components important in the maintenance of hypochondriacal complaints, such as selective attention, and behavioural components.

It seems that the participants of the psychoeducational treatments studied in this thesis, who referred themselves usually because of their anxiety, suffered mostly from the health anxiety component of hypochondriasis, and possibly less from disease conviction. It might be hypothesised that those suffering predominantly from disease conviction dwell in general health care, and are less willing to adopt a psychological perspective of their physical complaints than those who suffer predominantly from health anxiety. It remains to be studied whether those hypochondriacal patients suffering primarily from strong disease conviction could benefit as much from psychoeducational treatments as those who suffer primarily from health anxiety.

Drop out

Participants of the different studied described in this thesis were those who identified themselves as being hypochondriacal in articles about the course in

newspapers, or when they heard about the course on the radio or on television. This already made the participants of the study a preselected group of people, who were ready to adopt a psychological explanantion for their physical complaints and anxiety. The people who took part in the 'Coping with health anxiety' course over the years were usually very enthusiastic about the course, resulting in high scores on the post-treatment evaluation, and a low drop out rate. Out of 140 participants of the course (as described in chapter 5), 17 participants did not complete the course, which is a drop out rate of 12.1 %. Those who dropped out usually stated that they dropped out for reasons other than not being content with the course.

Drop out rates of other studies examining cognitive-behavioural treatment for hypochondriasis are variable, left unreported, or the drop out definition is unclear. The highest drop out rate was found in a study by Visser and Bouman (2001), who compared cognitive and behavioural treatment conducted in a university clinic and several mental health institutions. They reported a drop out rate of 28.2% (22 participants out of 78 dropped out). The lowest drop out rate was reported by Clark and colleagues (1998), who compared cognitive-behavioural treatment to behavioural stress management. The rate they reported was 4.16% (two out of 48 participants dropped out of treatment). Taylor and Asmundson (2004) provided an overview of drop out from studies into cognitive-behavioural treatments (including psychoeducation, explanatory therapy, and behavioural stress management), ranging from 4 % to 22 %. This variability in drop out rates indicates that little is as yet known about who drops out and who stays in treatment.

An early identification of possible treatment dropouts enables the therapist to adjust treatment delivery and planning (Van Minnen et al., 2002). A goal for the future of clinical practice would be to match the patients with the most suitable treatment, resulting in less drop out. However, this cannot be realised without more knowledge about who drops out and who remains in treatment.

Little research into predicting drop out has been undertaken in the area of hypochondriasis. Visser (2000) studied drop out of an individual cognitive-behavioural treatment for hypochondriasis, and found that the patient who was not severely suffering from his hypochondriacal complaints, was more likely to drop out of treatment. It seemed that the drop outs in this study had made their own cost-benefit analysis, and expected to benefit too little from the treatment in relation to the costs. In the same study, Visser (2000) did not find demographic variables (age, gender, marital status, educational level, medication and occupation), to be predictive of dropout.

In the future, an effort should be made to examine who drops out and who stays in treatment, to be able to tailor treatments better to the need of the individual patient.

Practical implications of the findings

Low-threshold and easy to deliver treatments are needed

Finding that treatments such as the psychoeducational course, and bibliotherapy, are acceptable and effective is important for several reasons. Firstly, many people who need treatment are not receiving it (Bebbington,

Brugha, Meltzer, Jenkins, Ceresa, Farrell, & Lewis, 2000). Research has shown that, in a sample of 10.000 people suffering from psychiatric symptoms in Great Britain, less than 14 % of them were receiving treatment for their complaints. Within the previous year, a third of these people had made contact with their GP, and less than 30 % had received treatment. Overall, 9 % of the people studied were given medication, and 8 % counselling or psychotherapy. Our experience with the 'Coping with health anxiety course' and the cognitive-behavioural bibliotherapy teaches us that these treatment forms are perceived as low threshold. More people could be treated if bibliotherapy and/or other forms of psychoeducational treatment were offered in general mental health care, and if enough publicity was given to the availability of these methods. We have done this by informing the (local) media, resulting in many people assigning themselves to one of the treatments studied.

A second reason why the findings with regard to the effect of psychoeducational treatment are important is that there seems to be a shortage of therapists, and that the levels of service delivery are merely scratching the surface of the population's need for CBT (Lovell & Richards, 2000). Although the problem described by these authors was observed in Great Britain, the same problems seem to occur in the Netherlands, as can be seen by lengthy waiting periods that are common in general mental health care. Lovell and Richards (2000) stated that one way to solve this is by making entry levels to CBT more flexible, and not so much rooted in traditional services characterised by 9-5 working, hourly appointments, and face-to-face therapy. This could be done by offering short-term, psychoeducational, treatments that do not necessarily have to be delivered by trained therapists, and by offering people bibliotherapy without therapist guidance during the time they are placed on a waiting list.

Psychoeducational treatment reduces costs

Another reason the findings described in this thesis can be considered important, is because psychoeducational treatment forms can reduce costs associated with hypochondriacal complaints. For one, effects have shown that not only hypochondriacal complaints have been reduced after psychoeducation, but also trait anxiety and depressive complaints. Clinical experience from the booster sessions, held one month after the course, showed that after the course, many participants' life satisfaction, for example in terms of relationship- and work satisfaction, has increased. Furthermore, costs in terms of medical services utilisation have probably also been reduced considerably after the course. Bouman (2002), when examining the 'Coping with health anxiety' course in a pilot study, found that it also reduced medical services utilisation, in terms of visits to GPs, visits to medical specialists, and the usage of prescribed and unprescribed medication. This has not been studied in the present thesis, but should be examined further in future studies.

Psychoeducational treatments also reduce costs because they are more cost-effective than traditional forms of therapy. They do not last as long, and do not have to be administered by costly therapists. The form of cognitive-behavioural bibliotherapy studied in this thesis does not require therapist guidance.

Stepped care possibilities for hypochondriasis

In the separate chapters of this thesis, it was found that both the course 'Coping with health anxiety' and cognitive behavioural bibliotherapy are acceptable and effective. However, effect sizes for both the psychoeducational course 'Coping with health anxiety' and cognitive-behavioural bibliotherapy were not as large as those found for individual cognitive-behavioural therapy. This is not surprising, considering that both psychoeducational treatments are short-term. However, none of the participants reached 'normality' after having been treated with one of those treatment forms, indicating that they might need additional treatment. Furthermore, results of the prediction study, described in chapter 5 of this thesis, showed that higher scores on a hypochondriasis measure predicted higher hypochondriasis scores at pre-test and follow-up. This also indicates that people who suffer more from hypochondriasis at pre-assessment might need additional treatment after having received psychoeducational treatment.

A way in which treatments might be implemented for hypochondriasis, having found that treatment forms of different intensities are a feasible option for this disorder, is through stepped care treatment. This is a more flexible approach to treatment than traditional service models. Stepped care, according to Bower and Gilbody (2005), makes use of several treatments of differing intensity. It has two main features: a) the recommended treatment in a stepped care model should be the least intense and time-consuming of those available, but still likely to provide significant health gain, and b) it is a model that is self-correcting, meaning that the results of treatments, and decisions about treatment provision, are monitored systematically. Going on to the next step in the model is done when current treatment is not achieving significant health gain.

Stepped care intervention relies on three assumptions (Bower & Gilbody, 2005). Firstly, minimal interventions used in stepped care can provide significant health gain, equivalent to that of traditional psychological therapies, at least for a proportion of patients. Secondly, using minimal interventions will allow current health care resources to be used more efficiently. Thirdly, minimal interventions and the stepped care approach are acceptable to both patients and professionals. Both psychoeducational treatments studied in this thesis comply with these three assumptions.

We would like to recommend research of the possibilities of stepped care for hypochondriasis, with preferrably the implementation of bibliotherapy as a first step, the psychoeducational course as a second step, and individual cognitive-behavioural treatment (perhaps differing in intensity) as a third step. Other treatment options are system therapy and medication.

Conclusion

In the separate chapters of this thesis, short-term psychoeducational treatments, in the form of a course and bibliotherapy, have shown to be effective in reducing hypochondriacal complaints, but also in reducing depressive complaints and trait anxiety. Metacognitive aspects have shown to mediate the effect of the course on hypochondriacal complaints, and were reduced during the cognitive-behavioural version of 'Coping with health anxiety'. Only higher trait

anxiety and age were able to predict less treatment effect, indicating that the course is suitable for many different hypochondriacal participants, in spite of them having suffered from their complaints for a long time, or having high depression scores. Problem-solving psychoeducation was as effective as the cognitive-behavioural version of the psychoeducational course, indicating that treatment does not necessarily have to be dictated by a cognitive-behavioural model.

The psychoeducational approach, delivered in different ways, can be considered an important asset for general mental health care, but its practical implications and usefulness for general mental health care should be studied further.

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Samenvatting

Femke M. Buwalda

Inleiding

In deze Nederlandse samenvatting wordt besproken wat in elk hoofdstuk afzonderlijk is onderzocht en wat de belangrijkste resultaten zijn. Verder wordt besproken wat de methodologische en praktische implicaties van het onderzoek zijn en worden aanbevelingen voor vervolgonderzoek gedaan.

Hoofdstuk 1: algemene inleiding en achtergrond

Hypochondrie is de angst of overtuiging een ernstige lichamelijke ziekte te hebben. De stoornis is een van de somatoforme stoornissen, zoals geclassificeerd in het Diagnostisch en Statistisch Handboek van Psychische Klachten (APA, 2000). Somatoforme stoornissen behoren tot een groep stoornissen die gekarakteriseerd wordt door lichamelijke verschijnselen die een lichamelijke aandoening suggereren.

Ongeveer 1 tot 5 procent van de mensen in de populatie heeft last van hypochondrie. Het komt vaak samen voor met andere stoornissen (zoals depressieve klachten, paniek en obsessief-compulsieve stoornis), maar kan beschouwd worden als op zichzelf staand klachtenpatroon. Onderzoeken laten wisselende resultaten zien, maar in het algemeen kan gesteld worden dat hypochondrie ongeveer even vaak voorkomt bij mannen als bij vrouwen en dat de stoornis zich kan openbaren op verschillende leeftijden. Andere demografische factoren zijn nauwelijks onderzocht in relatie met het ontstaan van hypochondrie.

De kosten van hypochondrie zijn groot. Ten eerste beïnvloedt de stoornis de tevredenheid met het dagelijks leven van patiënten nadelig. Mensen voelen zich regelmatig erg angstig, en besteden per dag vaak veel tijd aan het controleren van hun lichaam en piekeren over ziekte. Doordat hypochondere patiënten geneigd zijn vaak geruststelling te vragen kunnen hun persoonlijke relaties onder druk komen te staan. Verder kunnen hypochondere klachten ertoe leiden dat mensen minder goed functioneren in hun werk.

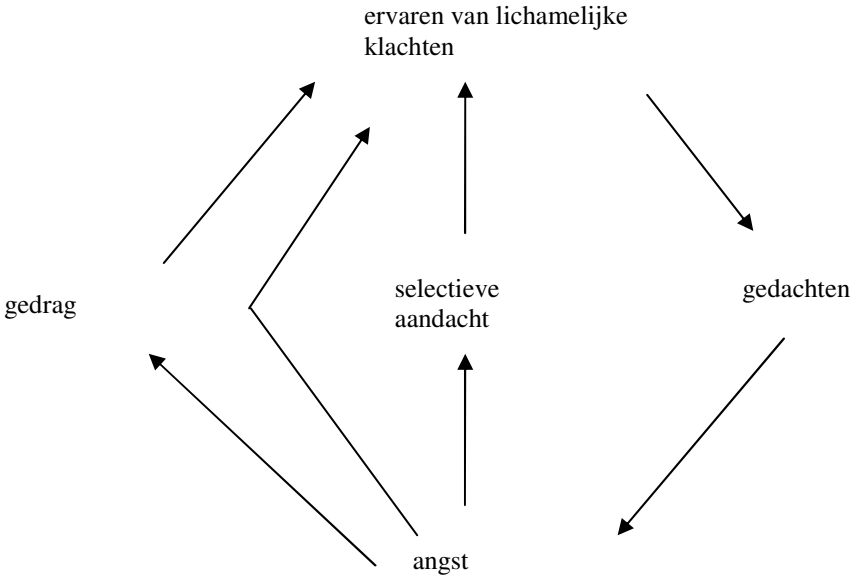
Ten tweede is de stoornis erg duur met betrekking tot medische kosten, omdat mensen geneigd zijn geruststelling te vragen aan hun huisarts, of medisch specialisten. De patiënten die deelnamen aan de onderzoeken die zijn beschreven in dit proefschrift hadden gemiddeld langer dan 10 jaar last van hypochondere klachten, en bezochten doorgaans vaak huisartsen en specialisten.

Een derde reden waarom hypochondrie een kostbaar probleem vormt is omdat het, als het onbehandeld blijft, een slechte prognose kent: mensen blijven er vaak gedurende lange tijd last van houden, en de kans is groot dat de klachten steeds ernstiger worden.

Theoretische aspecten

Het cognitieve model van hypochondere klachten beschrijft hoe de klachten in stand gehouden worden (Bouman, & Visser, 1998b; Warwick, & Salkovskis, 1990). Het model wordt hieronder beschreven en gaat er vanuit dat mensen die lijden aan hypochondrie angstige gedachten ervaren naar aanleiding van lichamelijke verschijnselen. Deze gedachten veroorzaken vervolgens angst. Doordat men angstig wordt, gaat men meer letten op wat er in hun lichaam gebeurt (selectieve aandacht), waardoor de lichamelijke verschijnselen als het

ware uitvergroot worden. Ook zal de angst ervoor zorgen dat men bepaald gedrag gaat vertonen, zoals controleren en vermijden. Al deze onderdelen bij elkaar vormen een vicieuze cirkel, die na verloop van tijd steeds meer geautomatiseerd verloopt.



Figuur 1: Het Cognitieve Model van Bouman en Visser (1998b), Gebaseerd op Warwick en Salkovskis (1990).

De verschillende componenten van het model zijn onderzocht middels experimenteel onderzoek (Williams, 2004). Hieruit bleek dat hypochondere patiënten waarschijnlijk overspoeld worden door lichamelijke verschijnselen, die zij moeilijk kunnen negeren. Verder kunnen hypochondere patiënten beschouwd worden als overmatig gevoelig voor deze lichamelijke verschijnselen (Barsky, 2001).

Verder bleek uit experimenteel onderzoek dat hypochondere patiënten lichamelijke verschijnselen inderdaad verkeerd interpreteren (Barsky, & Wyshak, 1989; Haenen, Schmidt, Schoenmakers, & Van den Hout, 1997; Rief, Hiller, & Margraf, 1998) en dat ze ervan uit gaan dat ze een grotere kans hebben om een ernstige ziekte te krijgen (Barsky et al., 2001; Haenen, De Jong, Schmidt, Stevens, & Visser, 2000).

Ook aandacht speelt een rol bij hypochondere klachten. Patiënten die lijden aan hypochondrie besteden veel aandacht aan hun lichaam en vergroten daardoor de kans om lichamelijke verschijnselen op te merken (Kellner, Abbott, Winslow, & Pathak, 1987). Ook rapporteren zij meer lichamelijke verschijnselen dan niet-hypochonderen wanneer zij gevraagd worden gedurende een bepaalde periode op hun lichaam te letten (Haenen, Schmidt, Kroeze, & Van

den Hout, 1996; Schmidt, Wolfs-Takens, Oosterlaan, & Van den Hout, 1994; Vervaeke, Bouman, & Valmaggia, 1999).

Hypochondere patiënten hebben de neiging zowel vermijdings- als controlerend gedrag te vertonen. Er wordt verwacht dat beide vormen van gedrag ook een grote rol spelen in het voortbestaan van hypochondere klachten, maar hier is vooralsnog weinig onderzoek naar gedaan. Wel is gebleken dat geruststelling vragen, bijvoorbeeld aan de huisarts of partner, nauwelijks werkt (Salkovskis, & Warwick, 1986).

Een mogelijke instandhoudende factor van hypochondrie die niet in het cognitieve model wordt genoemd is metacognitie, het denken over hypochondere gedachten. Naar het verband tussen hypochondrie en metacognitie is ook nog weinig onderzoek gedaan, maar uit een eerste studie (Bouman, & Meijer, 1999) bleek dat hypochondere patiënten zich meer zorgen maakten over hun gezondheid, het gebrek aan controle over hun gedachten welke zij ervoeren op een metacognitief niveau en de grote mate van angstige gedachten over ziektes die zij hadden. Verder waren hypochondere patiënten zich erg bewust van de gedachten die zij hadden en de zorgen die zij zich hierover maakten.

Psychologische behandeling van hypochondrie

In het verleden stond hypochondrie bekend als moeilijk psychologisch behandelbaar, maar tegenwoordig wordt hier minder pessimistisch over gedacht. In de laatste jaren is namelijk gebleken dat met cognitieve gedragstherapie goede behandelresultaten behaald kunnen worden (Barsky, & Ahern, 2004; Visser, & Bouman, 2001; Warwick, Clark, Cobb, & Salkovskis, 1996; voor een overzicht zie Asmundson, & Taylor, 2004). Cognitieve gedragstherapie gaat uit van het idee dat iemands gevoel en gedrag grotendeels veroorzaakt worden door de manier waarop iemand de wereld ziet en interpreteert (Beck, Rush, Shaw, & Emery, 1979). Iemands gedachten (of cognities) zijn gebaseerd op bepaalde aannames of schema's die iemand heeft ontwikkeld naar aanleiding van eerdere ervaringen (bijvoorbeeld: iemand die haar moeder aan borstkanker heeft verloren en een knobbeltje voelt, denkt 'dit knobbeltje betekent dat ik kanker heb'). Dit soort gedachten worden tijdens de therapie opgespoord, en een cliënt wordt geleerd om de connectie tussen dit soort gedachten, emoties en gedrag te herkennen. Vervolgens wordt de cliënt geleerd de gedachten uit te dagen en te vervangen door meer reële gedachten (bijvoorbeeld 'dit knobbeltje zou kunnen betekenen dat ik kanker heb, maar het zou ook een goedaardig knobbeltje kunnen zijn').

Tijdens een behandeling met cognitieve gedragstherapie wordt er niet alleen aandacht besteed aan gedachten, maar ook aan het daaropvolgend gedrag. In het geval van hypochondrie gaat het zowel om controleren (moedervlekken bestuderen, veelvuldig in de medische encyclopedie kijken, naar de huisarts gaan zodra men iets in het lichaam voelt), als om vermijding (gesprekken over kanker vermijden, juist niet naar de huisarts gaan uit angst voor bevestiging dat men inderdaad een ernstige ziekte heeft). Gedragspatronen worden tijdens de behandeling ook onder de loep genomen en uitgedaagd aan de hand van

gedragsexperimenten (bijvoorbeeld een week geen geruststelling vragen aan de partner en nagaan wat daarvan de invloed is op de angst).

Uit de literatuur is gebleken dat deze vorm van behandeling zeer effectief is. Echter, de behandeling moet door getrainde therapeuten gegeven worden, waarvan er niet genoeg beschikbaar zijn. Dit kan een oorzaak zijn van lange wachtlijsten in de geestelijke gezondheidszorg, waardoor veel mensen niet de zorg krijgen die zij nodig hebben. Ook is de behandeling duur doordat de meeste behandelingen een aantal maanden in beslag nemen.

Een alternatief voor deze vorm van therapie is daarom nodig, en een goede kandidaat hiervoor is psychoeducatieve behandeling.

Psychoeducatie voor hypochondrie

Psychoeducatie is het aanleren van persoonlijke en interpersoonlijke vaardigheden en technieken en wordt veel in groepsverband aangeboden sinds zijn opkomst in de jaren ‘50. Patiënten worden tijdens deze vorm van behandeling gezien als deelnemers of studenten, en therapeuten zijn docent of trainer. De nadruk bij psychoeducatie ligt op het aanleren van bepaalde vaardigheden en de manier van behandelen beoogt mensen zelf te laten kiezen wat zij willen leren. Verscheidene onderzoeken hebben aangetoond dat psychoeducatie effect had op depressieve klachten (Cuijpers, 1995, 1996; Lewinsohn, & Brown, 1984), paniekklachten (Baillie, & Rapee, 2004) en hypochondrie (Avia, Ruiz, Olivares, Crespo, Guisado, Sánchez, & Varela, 1996; Bouman, 2002; Stern, & Fernandez, 1991). Barsky, Geringer en Wool (1988) waren de eersten die een psychoeducatieve groepscursus voor hypochondere klachten ontwikkelden. Hun voorbeeld werd onder andere gevolgd door Bouman en Van den Broek (1997), die de cursus aanpasten en vertaalden voor Nederlands gebruik.

Psychoeducatie kan ook toegepast worden in de vorm van bibliotherapie, het aanbieden van een boekje met daarin een bepaalde theorie, doorgaans met bijbehorende oefeningen. Bibliotherapie kan als onderdeel van een psychologische behandeling aangeboden worden of als zelfstandige behandelmethode. Cognitief-gedragsmatige bibliotherapie is in het verleden toegepast en effectief gebleken bij depressieve klachten (Cuijpers, 1995, 1997; Scogin, Hamblin, & Beutler, 1987; McKendree-Smith, Floyd, & Scogin, 2003; Floyd, Scogin, McKendree-Smith, Floyd, & Rokke, 2004), seksuele dysfuncties (Van Lankveld, 1998), paniek- en andere angstklachten (Lidren, Watkins, Gould, Clum, Asterino, & Tulloch, 1994; White, 1995; Wright, Clum, Roodman, & Febbraro, 2000; Newman, Erickson, Przeworski, & Dzus, 2003) en alcoholproblematiek (Apodaca & Miller, 2003). Het is een keer eerder bij ziekteangst toegepast (Jones, 2002). Uit dit onderzoek bleek dat bibliotherapie als zelfstandige behandelvorm effect kan hebben op ziekteangst, maar methodologische problemen maakten de resultaten moeilijk interpreteerbaar.

Dit proefschrift

In dit proefschrift hebben verschillende hoofdstukken zich gericht op deze cursus ‘Omgaan met ziektevrees’. In hoofdstuk 2 werd de achtergrond, inhoud en toepassing van de cursus omschreven. Hoofdstuk 3 beschreef een studie

waarin de cursus werd vergeleken met een andere psychoeducatieve cursus, waarin probleem oplossen centraal stond. Er werd onderzocht of de op cognitieve gedragstheorie gebaseerde cursus meer effect had dan de probeemoplos cursus, en of het effect dat werd gevonden in eerdere studies naar de cursus 'Omgaan met ziektevrees' gerepliceerd kon worden.

In hoofdstuk 4 werd gekeken naar metacognitieve aspecten van hypochondrie, en of deze veranderd konden worden met behulp van de cursus. Hoofdstuk 5 richtte zich vervolgens op het voorspellen van het effect van de cursus aan de hand van verschillende variabelen, zoals demografische variabelen (leeftijd, sekse en opleidingsniveau), patiëntgerelateerde variabelen (rigiditeit en verwachting van de cursus) en klachtgerelateerde variabelen (ernst van de hypochondere klachten, duur van de hypochondere klachten, depressieve klachten en algemene angst).

In hoofdstuk 6 werd een tweede vorm van psychoeducatie, cognitief-gedragsmatige bibliotherapie onderzocht. De acceptatie van deze behandelvorm en zijn effect op hypochondere klachten werd nagegaan. In hoofdstuk 7, de algemene discussie, werd de nadruk gelegd op de methodologische implicaties van dit onderzoek, in termen van verschillende vormen van validiteit. Ook werden praktische implicaties besproken, in termen van de bruikbaarheid van de bevindingen in de praktijk van de geestelijke gezondheidszorg. Het resterende gedeelte van deze Nederlandse samenvatting zal de studies en hun belangrijkste bevindingen per hoofdstuk samenvatten.

Hoofdstuk 2: De cursus 'Omgaan met ziektevrees'.

In hoofdstuk 2 van dit proefschrift werd een gedetailleerde beschrijving gegeven van de cursus 'Omgaan met ziektevrees'. De cursus bestaat uit zes sessies, die eens per week gedurende 2 uur plaatsvinden. Aan de cursus kunnen 6 tot 8 personen per keer deelnemen, en de cursus wordt gegeven door twee cursusleiders.

De cursus is gebaseerd op cognitieve gedragstheorie, volgens het hierboven getoonde model. Het doel van de cursus is niet om mensen te behandelen, maar meer om ze inzicht te geven in de mechanismen die hypochondrie in stand houden en ze te leren hoe ze zelf beter met hun angst voor ziekten om kunnen gaan. Tijdens elke van de eerste vijf bijeenkomsten van de cursus staat een van de componenten die beschreven zijn in het cognitieve model (zie Figuur 1) centraal, en tijdens de zesde bijeenkomst worden de cursisten uitgenodigd hun eigen vicieuze cirkel uit te tekenen. De eerste bijeenkomst richt zich op het introduceren van de cursus en er wordt een begin gemaakt met het uitleggen van de rol van gedachten. Tijdens de tweede bijeenkomst wordt hierop verder gegaan en wordt aan de deelnemers uitgelegd hoe zij angstige gedachten kunnen leren herkennen en uitdagen. Tijdens de derde bijeenkomst wordt selectieve aandacht besproken, en tijdens de vierde bijeenkomst ligt de focus op gedrag, zoals vermijden, controleren en geruststelling vragen. De vijfde bijeenkomst richt zich op spanning en stress (zowel acuut als chronisch) en hun samenhang met lichamelijke verschijnselen.

De structuur van elke bijeenkomst is hetzelfde. Eerst wordt de bijeenkomst geopend met de presentatie van een algemeen motto (bijvoorbeeld 'vermijden

doet lijden', aan het begin van de bijeenkomst die over gedrag gaat). Vervolgens wordt heel kort het huiswerk besproken dat de deelnemers in de voorafgaande week gemaakt hebben. Bij dit huiswerk wordt niet lang stil gestaan, omdat het de deelnemers vrij staat het huiswerk wel of niet te maken. Na deze korte bespreking volgt het theoretische gedeelte van de bijeenkomst, tijdens welke de cursusleiders eerst het hele model bij langs lopen, en vervolgens een bepaalde component uit het model toelichten. Per component (bijvoorbeeld selectieve aandacht) zijn steeds 3 dingen belangrijk: 1) wat is het en hoe werkt het?, 2) wat heeft het te maken met ziektevrees en hoe houdt het dit in stand?, en 3) wat kun je eraan doen? Na deze theoretische presentatie gaan de deelnemers zelf aan de slag met oefeningen die uitgelegd zijn, soms in tweetallen en soms plenair.

In de discussie van hoofdstuk 2 werd besproken welke de eventuele werkzame ingrediënten zijn van de cursus. In eerste instantie is daar bekrachtiging van gezonde reacties. Hier wordt mee bedoeld dat deelnemers worden uitgenodigd om hun verhaal te vertellen, maar dat zij ook uitgedaagd worden om tegelijkertijd, door de verhalen in termen van het cognitieve model te structureren, op een constructieve manier met hun klachten om te gaan.

Andere werkzame ingrediënten kunnen zijn dat deelnemers worden blootgesteld aan hun angsten, en ook dat zij zich uiten in een groep van lotgenoten. Verder leren zij hun cognitieve stijl te verbreden, en wordt hen impliciet geleerd op een metacognitief niveau te denken.

Hoofdstuk 3: de cursus 'Omgaan met ziektevrees' versus een cursus probleem oplossen.

Uit eerder onderzoek (Bouman, 2002; Bouman & Polman, ingediend) is gebleken dat de cursus acceptabel was voor deelnemers. Ook werd middels de cursus positief effect behaald op hypochondere klachten, en ook depressieve klachten en algemene angst werden verlaagd. Deze effecten waren een half jaar na de cursus nog steeds aanwezig. Het was echter onduidelijk of de cursus beter zou werken dan een cursus die gebaseerd is op een heel andere theorie.

In hoofdstuk 3 van dit proefschrift staat een onderzoek beschreven naar de vergelijking tussen de cognitief-gedragsmatige cursus en een cursus probleem oplossen. Voor de vergelijking met probleem oplossen is gekozen omdat deze benadering zich niet specifiek richt op hypochondere klachten, maar er vanuit gaat dat klachten in het algemeen veroorzaakt worden door een gebrek aan probleemoplossend vermogen. Volgens deze theorie zullen klachten dus verminderen als men geleerd wordt hoe algemene problemen op te lossen.

De cursus probleem oplossen, speciaal ontwikkeld voor dit onderzoek, was opgebouwd aan de hand van een stroomdiagram, zodat elke bijeenkomst van de cursus ook 1 onderdeel van een model behandelde. Onderwerpen van bijeenkomsten waren probleemomschrijving en het bepalen van doelen, het nagaan van inzetbare hulpmiddelen bij het oplossen van een probleem, het genereren van mogelijke oplossingen, het kiezen en toepassen van een oplossing, en het beschrijven van een eigen probleemoplossingsmodel per deelnemer. Beide cursussen verschilden alleen wat betreft hun specifieke inhoud, verder kwamen zij overeen.

Beide varianten van de cursus werden afgemaakt door 22 personen. In totaal stopten 4 deelnemers met de cursus, waarvan 1 met de cursus probleem oplossen en 3 met de cognitief-gedragstherapeutische versie van de cursus. Metingen werden verricht voor aanvang van de cursus, na afloop van de cursus, een maand na afloop en een half jaar na afloop. Meetinstrumenten waren de GZAS, die hypochondere klachten meet, de BDI, die depressieve klachten meet, de ZBV, die algemene angst meet, en een probleemvragenlijst, die meet hoeveel problemen iemand in het dagelijks leven heeft, zoals bijvoorbeeld financiële problemen en problemen op het werk.

Uit de resultaten van het onderzoek bleek dat beide cursussen de klachten effectief verminderden en dat de effecten na een half jaar behouden waren. Verder bleek dat beide cursussen op de lange termijn evenveel effect hadden op hypochondere-, depressieve-, en algemene angstklachten. Hierdoor concludeerden wij dat het effect mogelijkerwijs veroorzaakt wordt door de psychoeducatieve manier van behandelen, en dat de resultaten niet zozeer toegeschreven kunnen worden aan het aanbieden van een bepaalde theorie.

Het cognitieve model, welke ook veel tijdens individuele cognitieve gedragstherapie wordt gebruikt, is dus niet het enige model aan de hand waarvan effectieve behandelingen voorgeschreven kunnen worden. In de toekomst zal meer onderzoek gedaan moeten worden naar onderliggende werkzame mechanismen van beide cursussen. Ook moet de mogelijke rol die een gebrek aan probleemoplossingsvaardigheden in de instandhouding van hypochondrie speelt nader onderzocht worden.

Hoofdstuk 4: de invloed van de cursus 'Omgaan met ziektevrees' op metacognitie.

Verschillende processen zouden een rol kunnen spelen bij het ontstaan en voortbestaan van verschillende psychische stoornissen, waaronder hypochondrie. Verschillende van deze processen worden beschreven in het cognitieve model (Bouman & Visser, 1998b; Warwick & Salkovskis,1990), maar metacognitie zou ook invloed kunnen hebben op het ontstaan en/of voortbestaan van hypochondere klachten.

Metacognitie is een cognitief proces die een rol speelt bij het beoordelen, controleren en monitoren van cognitie. Het speelt zich af op 2 verschillende niveaus: op meta-niveau, en op object-niveau (Nelson, & Narens, 1990; zie ook figuur 2 in de algemene inleiding van dit proefschrift). Informatie stroomt van het ene niveau naar het andere, waarbij het object-niveau het meta-nivau informeert over zijn staat (hetgeen monitoren genoemd wordt) en het meta-niveau vervolgens aangeeft wat er op object-niveau moet gebeuren (hetgeen controle genoemd wordt). Specifieke voorbeelden hiervan, bij een stoornis als hypochondrie, zijn bijvoorbeeld dat patiënten zich overmatig bewust zijn van hun gedachten (monitoren), en dat het meta-niveau ervoor zorgt dat de persoon voortdurend aandacht besteedt aan lichamelijke verschijnselen (controle).

Wells (2000) stelde dat een verkeerde manier van het gebruik van metacognitie zou kunnen leiden tot psychische klachten, bijvoorbeeld doordat mensen zichzelf verkeerde manieren aanleren om te gaan met angst

(bijvoorbeeld door het onderdrukken van beangstigende gedachten), of door hun lichaam overmatig te controleren.

In een eerste onderzoek naar metacognitieve aspecten en hypochondrie (Bouman & Meijer, 1999) werd een aantal metacognitieve componenten onderscheiden: a) het hebben van positieve gedachten over piekeren (bijvoorbeeld 'piekeren is goed, omdat het me alert houdt en me kan voorbereiden op wanneer ik de ziekte daadwerkelijk heb'), 2) oncontroleerbaarheid en interferentie van ziektegedachten ('het feit dat ik zoveel pieker over ziekte betekent vast dat ik gek word'), 3) cognitief zelfbewustzijn (je heel erg bewust zijn van je gedachten), 4) verantwoordelijkheid ('ik kan mezelf beschermen tegen een ernstige ziekte als ik er maar over blijf nadenken'), en 5) negatieve consequenties van piekeren ('ik kan mezelf ziek maken door zoveel over ziekte na te denken').

In dit eerste onderzoek werd gevonden dat metacognitieve aspecten inderdaad een rol speelden bij hypochondere klachten. Hypochondere patiënten maakten zich meer zorgen over ziekte dan niet-patiënten, maakten zich zorgen over een gebrek aan controle over deze zorgen en de mate waarop deze hun gedachten beïnvloedden, en waren zich zeer bewust van hun gedachten over ziekte. Verder bleek meta-piekeren over ziekte de beste voorspeller te zijn van hypochondere klachten (Bouman & Meijer, 1999).

In hoofdstuk 4 van dit proefschrift werd onderzocht of de psychoeducatieve cursus 'Omgaan met ziektevrees' effect had op metacognitieve aspecten van hypochondrie. Ook werd onderzocht of metacognitieve aspecten het effect van de cursus op hypochondere klachten medieerde. Er werd verwacht dat de cursus invloed zou hebben op metacognitieve aspecten, zonder expliciet op metacognitieve aspecten van deelnemers in te gaan. In plaats daarvan zou psychoeducatie meer impliciet metacognitief van aard kunnen zijn, want het heeft een vorm waarin hypochondere klachten en gedachten worden gepresenteerd als controleerbaar en veranderbaar. Verder wordt de deelnemers impliciet duidelijk gemaakt, enkel door ze uit te nodigen over hun klachten te praten, dat het niet raar is om last te hebben van hypochondere gedachten, en dat veel praten over of denken aan een bepaalde ziekte niet betekent dat je het ook krijgt.

Een wachtlijstgecontroleerd onderzoek werd uitgevoerd, met een wachtlijstperiode van 6 weken. Hierna kreeg de wachtlijstgroep ook de cursus aangeboden. In totaal werden 35 deelnemers gerandomiseerd, waarvan er 20 meteen aan de cursus begonnen en 15 eerst 6 weken wachtten. Hypochondere klachten, depressieve klachten, algemene angst en metacognitieve aspecten werden voor de cursus, na de cursus, een maand na afloop en 6 maanden na afloop gemeten.

De resultaten wezen uit dat, ten eerste, zowel hypochondere klachten als metacognitieve aspecten verminderden tijdens de cursus, terwijl ze stabiel bleven tijdens de wachtlijstperiode. Specifieke aspecten van metacognitie waar de cursus invloed op had waren negatieve consequenties van het piekeren over ziekte, oncontroleerbaarheid van gedachten over ziekte, verantwoordelijkheid, positieve gevolgen van piekeren over ziekte en cognitief zelf-bewustzijn. Verder

bleek dat het effect van de cursus op hypochondere klachten gedeeltelijk gemedieerd werd door metacognitieve aspecten.

Dit zou kunnen betekenen dat metacognitieve aspecten inderdaad hypochondere klachten in stand houden. Aangezien het onderzoek echter correlationeel van aard was kunnen hier vooralsnog geen duidelijke uitspraken over gedaan worden.

Concluderend kunnen we stellen dat deze studie heeft laten zien dat een psychoeducatieve groepscursus invloed kan uitoefenen op zowel metacognitieve aspecten van hypochondrie als op hypochondere klachten.

Hoofdstuk 5: het voorspellen van behandeleffect van de cursus 'Omgaan met ziektevrees'.

Al worden er goede resultaten gehaald met behulp van behandelingen die zijn gebaseerd op cognitieve gedragstheorie, toch heeft niet elke cliënt er baat bij. Een manier om erachter te komen waar dit aan ligt is door proberen te voorspellen welke variabelen ertoe bijdragen dat een cursus of behandeling effect heeft. In hoofdstuk 5 van dit proefschrift staat een onderzoek beschreven waarin wij geprobeerd hebben het effect van de cursus 'Omgaan met ziektevrees' te voorspellen aan de hand van een aantal variabelen: demografische variabelen (leeftijd, geslacht en opleidingsniveau), stoornisgerelateerde variabelen (duur van de hypochondere klachten, mate van hypochondere klachten, mate van depressieve klachten en mate van algemene angstklachten) en patiëntgerelateerde variabelen (verwachting van de behandeling en mate van rigiditeit).

Er bestaat weinig literatuur waarin het effect van een bepaalde behandeling op somatoforme stoornissen voorspeld werd. Wel is gebleken dat een jongere leeftijd een beter effect van behandeling voorspelde bij pijn (Aronoff, & Evans, 1982; Michaelson, Sjölander, & Johansson, 2004) en prikkelbare darm syndroom (Blanchard, Lackner, Gusmano, Gudleski, Sanders, Keefer, & Krasner, 2006), maar niet bij hypochondrie. Bij hypochondrie en andere somatoforme stoornissen waren meer klachten voor de behandeling voorspellend voor meer klachten na de behandeling. Weinig studies hebben zich tot nu toe bezig gehouden met patiëntgerelateerde variabelen. Uit de literatuur konden hierdoor weinig specifieke verwachtingen afgeleid worden, behalve dat een hogere mate van klachten voor de behandeling voorspellend zou zijn voor hogere klachten na de behandeling.

De proefpersonen in dit onderzoek waren alle deelnemers aan de cursus tussen 1997 en 2005, beschreven in Bouman (2002), Bouman en Polman (ingediend) en hoofdstukken 3 en 4 van dit proefschrift.

Uit de resultaten van dit onderzoek bleek dat, volgens verwachting, mensen die meer last hadden van hypochondrie bij aanvang, na afloop van de cursus en een half jaar later nog steeds hoger scoorden op de hypochondriemaat die werd meegenomen in het onderzoek. Wij concludeerden dat dit niet hoefde te betekenen dat deze mensen niet aan de cursus mee zouden moeten doen, want een gemiddelde afname van klachten was heel duidelijk te zien. Mensen die hoger scoren op voormeting moet wel duidelijk verteld worden dat het niet reëel

is om te denken dat hun klachten volledig verdwenen zullen zijn na het volgen van de cursus.

Uit de overige resultaten bleek dat zowel een hogere leeftijd, maar ook een hogere mate van algemene angst voorspellend waren voor minder behandelresultaat. Dit effect was echter niet heel sterk en zou gerepliceerd moeten worden in vervolgonderzoek.

Een andere bevinding was dat een langere duur van de hypochondere klachten, en een hogere mate van depressie, voor aanvang van de cursus, niet voorspellend waren voor een slechter behandelresultaat. De cursus lijkt dus ook geschikt te zijn voor deelnemers met comorbide klachten en een langere klachtenduur. Vervolgonderzoek blijft echter nodig, en het zou interessant zijn om daarin ook andere variabelen mee te nemen, zoals bijvoorbeeld meer persoonlijkheidskenmerken als neuroticisme, en andere mogelijke comorbide factoren, als gegeneraliseerde angst en obsessief compulsieve stoornis.

Hoofdstuk 6: cognitief-gedragsmatige bibliotherapie bij hypochondrie.

Behalve de groepscursus 'Omgaan met ziektevrees' heeft psychoeducatie meer toepassingsmogelijkheden. Een tweede mogelijke manier om mensen te leren hoe ze beter met hun klachten om kunnen gaan is door middel van cognitief-gedragsmatige bibliotherapie. Deze behandelmethode wordt toegepast door mensen met klachten een boekje toe te sturen met daarin een bepaalde theorie, met bijbehorende oefeningen. Hier kunnen mensen zelf mee aan de slag gaan, zonder of met minimale begeleiding van een therapeut.

In het verleden is gebleken dat deze behandelvorm effectief was voor verschillende stoornissen, zoals depressie (Cuijpers, 1997; Floyd, Scogin, McKendree-Smith, Floyd, & Rokke, 2004; Gregory, Schwer Canning, Lee, & Wise, 2004; McKendree-Smith, Floyd, & Scogin, 2003; Scogin et al., 1987), seksuele dysfunctie (Van Lankveld, 1998), paniekstoornis en andere angstklachten (Lidren, Watkins, Gould, Clum, Asterino, & Tulloch, 1994; Newman, Erickson, Przeworski, & Dzus, 2003; White, 1995; Wright, Clum, Roodman, & Febbraro, 2000), slaapproblematiek (Mimeault, & Morin, 1999), en alcoholmisbruik (Apodaca, & Miller, 2003). Vaak was de behandeling niet alleen effectief vlak na afloop, maar werden effecten langere tijd behouden.

Er is 1 keer eerder een onderzoek gedaan naar het effect van bibliotherapie op hypochondere klachten, door Jones (2002). Dit onderzoek had echter nogal te lijden onder een aantal methodologische problemen, zoals een onduidelijke definiëring van de klachten waar de deelnemers last van hadden, verschillen tussen de proefgroepen op voormeting en het feit dat veel van de deelnemers zowel last hadden van lichamelijke ziektes en hypochondrie, zonder dat duidelijk werd of de deelnemers angstig waren over de ziekte waar ze daadwerkelijk aan leden. Uit de resultaten van het onderzoek bleek wel dat bibliotherapie een succesvolle behandeling kon zijn voor hypochondere klachten.

De vraagstellingen van ons onderzoek naar bibliotherapie bij hypochondere klachten, beschreven in hoofdstuk 6 van dit proefschrift, waren tweeledig: a) is bibliotherapie, zonder therapeutisch contact, een acceptabele behandelmethode voor de deelnemers?, en b) is bibliotherapie effectief in het reduceren van

hypochondere klachten? Deelnemers aan het onderzoek (N = 40, waarvan 33 de behandeling afmaakten) leden allemaal aan DSM-IV hypochondrie, en kregen gedurende 6 weken de mogelijkheid om het boekje 'Dokter, het is toch niets ernstigs?' (Bouman & Visser, 1993) te lezen, en de bijbehorende oefeningen uit te voeren. Het boekje bestaat uit 6 hoofdstukken met daarin ongeveer dezelfde theorie als die tijdens de cursus 'Omgaan met ziektevrees' wordt aangeboden. De deelnemers werd verteld dat zij op een bepaalde tijd gedurende de week voor vragen terecht konden bij de eerste auteur van hoofdstuk 6. Niemand maakte echter gebruik van deze mogelijkheid. Voor de behandeling, na de behandeling en 3 maanden na afloop van de behandeling werd de hoogte van hypochondere klachten, depressieve klachten en algemene angst gemeten.

Uit de resultaten van het onderzoek bleek dat beide onderzoeksvragen bevestigend beantwoord konden worden. Ten eerste vonden de deelnemers de (cognitief-gedragstherapeutische) theorie die in het boekje beschreven werd erg nuttig en lazen zij de hoofdstukken doorgaans erg aandachtig. Ook vonden zij de oefeningen die aan het eind van elk hoofdstuk stonden nuttig, maar voerden zij deze niet vaak uit. De meeste mensen deden de oefeningen (bijvoorbeeld het uitdagen van irreële gedachten over ziektes) een keer helemaal, en een groot aantal deelnemers deed de oefeningen slechts gedeeltelijk. Verder bleek de behandelmethode effectief te zijn in het verlagen van hypochondere klachten, depressieve klachten en algemene angstklachten tijdens de experimentele periode, terwijl de klachten stabiel bleven tijdens de wachtlijstperiode. Resultaten lieten zien dat dit effect 3 maanden na de behandeling nog steeds behouden was.

Wij concluderen dan ook dat bibliotherapie een effectieve behandelmethode kan zijn bij de behandeling van hypochondrie. Gecombineerd met de positieve bevindingen betreffende de cursus 'Omgaan met ziektevrees' stellen we voor dat in de toekomst de stepped care behandeling van hypochondrie onderzocht wordt. Stepped care behandeling houdt in dat een patiënt een volledige behandeling in verschillende stappen aangeboden krijgt waarbij er wordt begonnen met de lichtste vorm van behandeling (bijvoorbeeld bibliotherapie) die hen in eerste instantie leert hoe zij zelf beter met hun klachten om kunnen gaan. Na deze en elke volgende stap wordt geëvalueerd of er verdere behandeling nodig is. Indien dit het geval is wordt de volgende stap (bijvoorbeeld de cursus 'Omgaan met ziektevrees') aangeboden. Voor diegenen die na deze cursus meer behandeling nodig hebben is er als derde mogelijke stap individuele cognitieve gedragstherapie, waarbij patiënten samen met een therapeut nog intensiever met hun klachten aan de slag kunnen. Andere mogelijkheden voor stappen in de stepped care behandeling zijn bijvoorbeeld interpersoonlijke therapie, systeemtherapie en farmacologische behandeling.

Hoofdstuk 7: algemene discussie

In de algemene discussie van dit proefschrift werden de belangrijkste bevindingen herhaald en werd de nadruk gelegd op de methodologische implicaties van het proefschrift (in termen van verschillende vormen van validiteit) en op de praktische implicaties.

Interne validiteit

Interne validiteit van een behandeling is hoog wanneer vastgesteld kan worden dat de interventie verantwoordelijk is voor het gevonden effect, in plaats van externe factoren (Kazdin, 1998). De interne validiteit van de psychoeducatieve behandelmethoden die zijn onderzocht in dit proefschrift (de cursus 'Omgaan met ziektevrees' en cognitief-gedragsmatige bibliotherapie) leek hoog te zijn. Dit werd geconcludeerd aan de hand van de onderzoeksresultaten uit hoofdstukken 3, 4 en 6, waaruit bleek dat beide vormen van psychoeducatie zeer effectief waren in het behandelen van hypochondere klachten. Depressieve klachten en algemene angstklachten waren ook verlaagd na het volgen van de cursus of de bibliotherapie. In hoofdstukken 4 en 6 werd een deelnemersgroep zonder wachttijd vergeleken met een wachtlijstcontrolegroep en bleek dat de hypochondere klachten stabiel bleven tijdens de wachtlijstperiode.

Er zijn verschillende bedreigingen voor interne validiteit bekend, waaronder history (waarmee een gebeurtenis bedoeld wordt, die niet met de interventie te maken heeft, maar die de resultaten van een bepaalde interventie kan verklaren), en selectie bias (waarmee bedoeld wordt dat er verschillende methoden gebruikt zijn om de deelnemers te selecteren). Aangezien de klachten stabiel blijven tijdens wachtlijstperiodes, en alle deelnemers aan de hand van dezelfde screeningsmaat geselecteerd zijn, wordt aangenomen dat deze bedreigingen in dit onderzoek geen rol gespeeld hebben.

Construct validiteit

Een tweede vorm van validiteit is construct validiteit. Dit heeft te maken met hoe je de basis van een causale relatie kunt interpreteren binnen een experiment. Dit methodologische aspect werd ook onderzocht in hoofdstuk 3, 4 en 6. In hoofdstuk 3 werd onderzocht of de cursus die gebaseerd was op cognitieve gedragstheorie beter werkte dan een cursus probleem oplossen (dezelfde behandelvorm maar een andere inhoud) en in hoofdstuk 6 werd onderzocht of psychoeducatie middels bibliotherapie ook effectief was (dezelfde inhoud maar een andere behandelvorm). In hoofdstuk 4 werd onderzocht of de cursus effect had op een mogelijke kwetsbaarheidsfactor van hypochondrie, namelijk metacognitie.

Zowel de cognitief-gedragstherapeutische cursus en de cursus probleem oplossen waren effectief in het reduceren van hypochondere klachten. Verder had bibliotherapie, als andere vorm van psychoeducatie effect op de klachten. Ook was de cursus effectief in het veranderen van verschillende aspecten van hypochondere metacognitie. Verschillende bedreigingen voor construct validiteit, bijvoorbeeld het gevaar dat resultaten behaald worden omdat de behandeling wordt toegepast in een academische setting, leken in onze studies geen rol te spelen. Hierdoor concludeerden wij dat psychoeducatie als behandelmethode een goede construct validiteit zou kunnen hebben. Andere aspecten van construct validiteit moeten echter nader onderzocht worden.

Externe validiteit

Externe validiteit heeft te maken met de generaliseerbaarheid van de resultaten die behaald zijn met een bepaalde interventie. Uit de predictie-studie (hoofdstuk 5 van dit proefschrift) bleek dat er weinig variabelen waren die konden voorspellen of iemand verbeterde na de behandeling. Hieruit concludeerden wij dat, als mensen maar een realistisch beeld krijgen van wat de cursus voor hen kan betekenen, de cursus geschikt kan zijn voor veel verschillende patiënten, met uiteenlopende klachtenpatronen. Dit zou betekenen dat de cursus een hoge externe validiteit heeft, maar dit moet nader onderzocht worden door de cursus en de bibliotherapie daadwerkelijk toe te passen bij andere groepen patiënten met hypochondrie.

Kenmerken van deelnemers

In de discussie van dit proefschrift heb ik kenmerken van onze deelnemers (die zichzelf hebben aangemeld voor de cursus of bibliotherapie) vergeleken met de kenmerken van deelnemers aan andere onderzoeken naar behandeling voor hypochondrie (die meestal doorverwezen zijn door huisartsen of medisch specialisten), en met deelnemers aan prevalentie-studies. Onze deelnemers kwamen grotendeels overeen met deelnemers aan andere behandelstudies, wat betreft leeftijd en geslacht. Ook komen in alle groepen van hypochondere patiënten comorbide klachten veel voor. Dit zou kunnen betekenen dat de cursus en bibliotherapie ook voor andere groepen hypochondere patiënten geschikt zouden kunnen zijn, zoals bijvoorbeeld de patiënten die naar de praktijk van de geestelijke gezondheidszorg worden doorverwezen.

Praktische implicaties

Wat betreft de praktische implicaties van de in dit proefschrift beschreven studies is duidelijk geworden dat psychoeducatie een veelbelovende, makkelijk te implementeren en kosten-effectieve manier van behandelen lijkt. Weinig mensen (17 van de 140 deelnemers) zijn in de afgelopen jaren vroegtijdig met het volgen van de cursus ‘Omgaan met ziektevrees’ gestopt en de meeste deelnemers gaven aan de cursus of de bibiotherapie acceptabel en nuttig te vinden. Aangezien de wachtlijsten in de geestelijke gezondheidszorg lang zijn, en de vraag dus het aanbod lijkt te overstemmen, zouden psychoeducatieve behandelvormen zeer behulpzaam kunnen zijn, mits hun bredere toepasbaarheid zorgvuldig wordt onderzocht.

Conclusies

De belangrijkste bevinding uit het onderzoek beschreven in dit proefschrift is dat kortdurende, psychoeducatieve, behandelmethoden zeer behulpzaam kunnen zijn bij de behandeling van hypochondere klachten, zowel in een groepscursus als door middel van bibliotherapie. Beide vormen zijn kosteneffectief, makkelijk implementeerbaar zonder dat dure therapeuten nodig zijn en acceptabel voor deelnemers. Wij zouden willen aanraden om beide methoden in een stepped care programma binnen de geestelijke gezondheidszorg te implementeren en daar verder de interne, construct en externe validiteit te onderzoeken.

Een andere belangrijke bevinding is dat ook aan de hand van een ander model, namelijk dat van probleem oplossen, een effectieve psychoeducatieve

behandeling voor hypochondrie ontwikkeld kon worden. Dit houdt in dat hypochondere klachten zich lenen voor meerdere manieren van behandeling. Er zou echter nader onderzocht moeten worden welke rol een gebrek aan probleemoplosvaardigheden spelen in het voortbestaan van hypochondere klachten.

Verder is gebleken dat de cursus invloed heeft op metacognitieve aspecten van hypochondrie, en dat een vermindering van hypochondere klachten samenhangt met een vermindering van metacognitieve aspecten. Uit deze bevinding blijkt dat metacognitie een kwetsbaarheidsfactor voor hypochondere klachten kan zijn. Causaliteit kan echter nog niet vastgesteld worden op basis van deze resultaten, en zou nader onderzocht moeten worden. Verder blijkt uit onze resultaten dat psychoeducatie een metacognitieve behandelmethode zou kunnen zijn. Het zou interessant zijn om een specifieke metacognitieve behandeling (Wells, 2000) te vergelijken met psychoeducatie voor hypochondrie.

Een laatste belangrijke bevinding van ons onderzoek is dat vooralsnog niet voorspeld kan worden wie er precies verbeterd na de cursus ‘Omgaan met ziektevrees’, maar dat depressieve klachten en een lange duur van de klachten geen contra indicatie zijn voor deelname. Concluderend wil ik stellen dat de psychoeducatieve behandelmethoden die zijn onderzocht in dit proefschrift een waardevolle aanwinst zouden kunnen zijn voor de praktijk van de geestelijke gezondheidszorg.

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Curriculum Vitae

Femke Marrit Buwalda werd op 12 januari 1976 geboren in Drachten, als dochter van Jan en Gelly Buwalda, en zusje van Alyt. In 1993 rondde zij de HAVO in Leek af. Vervolgens ging zij voor een half jaar naar highschool in West-Virginia in de Verenigde Staten. Tussen 1994 en 1996 volgde zij de Lerarenopleiding Engels in Leeuwarden, waarna zij in 1996 Psychologie ging studeren aan de Rijksuniversiteit in Groningen.

In september 2001 studeerde zij af in de Klinische Psychologie. Bij de afdeling Klinische Psychologie werd zij vervolgens promovendus en onderzocht psychoeducatieve behandelingen bij hypochondrie. Hiernaast volgde zij de basiscursus gedragstherapie bij de Vereniging voor Gedragstherapie en Cognitieve Therapie. Ook was zij lid van de onderzoeksschool Experimental Psychopathology.

Momenteel werkt zij aan de afdeling Klinische- en Ontwikkelingspsychologie van de Rijksuniversiteit Groningen als docente en onderzoeksmedewerkster.