Manuscript

Title

"Effect of recovery-based interventions on recovery knowledge and attitudes of mental health professionals regarding recovery-oriented practice: a quantitative narrative review"

Abstract

Mental health recovery is an enabling process encouraging consumers to live a productive life, notwithstanding the presence of debilitating symptoms of illness. The recovery model has been integrated into all areas of mental health. However, literature shows that mental health professionals are not equipped to provide recovery-oriented care to consumers. Researchers have recommended recovery-based interventions to develop knowledge, attitudes and skills to promote recovery-oriented practice in mental health, yet there is a paucity of research regarding the effect of recovery-oriented interventions on the knowledge and attitudes of mental health professionals to improve recovery-oriented practice. Therefore, the purpose of the current review is to understand the effectiveness of interventions on recovery knowledge and attitudes of mental health professionals regarding recovery-oriented practice. The papers were identified through the Population Intervention Comparison and Outcome strategy. The heterogeneity of the selected papers led to a narrative review instead of a systematic review with meta-analysis. The analysis suggested that recovery-based interventions are effective in enhancing the recovery knowledge and attitudes of mental health professionals. Recovery-based interventions have the potential to reduce the use of physical restraints and improve work satisfaction among mental health professionals. The limitations of the studies were the

heterogeneity of the selected populations and the absence of strong methodologies to assess the effect of the interventions. Therefore, future investigations should be focused on the effect of interventions on a homogeneous group using randomised controlled trials.

Keywords: mental health professionals, mental health nurses, practice, recovery knowledge and attitude, recovery-based interventions.

Introduction

Recovery is considered as an enabling process that can help people diagnosed with mental illness to lead satisfactory lives with or without symptoms of mental illness. Recovery-oriented practice is focused on the wellbeing of individuals diagnosed with mental illness so that consumers are encouraged to identify their wellbeing goals and to effectively manage their illness (Lim et al., 2019, 2020). Although the recovery movement is recognised internationally, research focused on mental health professionals' perception of recovery is limited (Nieminen & Kaunonen, 2017). In order to implement the recovery model of care, mental health professionals should have sufficient knowledge, skills and attitudes for the application of the recovery approach (Walsh et al., 2017). Health care professionals require support and education to develop recovery skills to promote recovery approaches to care, with the ultimate aim to improve outcomes for consumers (Del Vecchio, 2015) .

Roberts and Boardman (2014) state that the role of health care providers is to support people in their recovery. Education and training are effective strategies to improve recovery knowledge and attitudes of mental health professionals. However, overall there is a paucity of

research to enhance recovery knowledge and attitudes of mental health professionals. Nurses make up the largest proportion of workers in health care and are vital for the implementation of recovery-oriented practices in mental health (Australian Institute of Health and Welfare, 2021). Luigi et al. (2020) note that despite emphasis on recovery oriented practices in mental health, mental health workers including psychiatrists, psychologists and nurses, continue to hold pessimistic attitudes towards recovery of people with mental illness. Further, studies have found a lack of knowledge and poorer attitudes in recovery orientation among nurses more broadly (McKenna et al., 2014; McKenna et al., 2016). The aim of the current review is to identify and evaluate the effectiveness of recovery-oriented interventions on recovery knowledge and attitudes regarding recovery-oriented practice among mental health professionals.

Background

The concept of recovery began in the 1970s. Later, mental health researchers and policymakers introduced the application of the recovery model into all areas of mental health. Many English-speaking countries have integrated recovery-oriented care into mental health services (Glick et al., 2011; Shepherd et al., 2008). The conceptualisation of clinical recovery is focused on symptom management while service defined recovery is focused on meeting the demands of the organisation (Le Boutillier et al., 2015). Personal recovery, in contrast, has been defined as “a deeply personal, unique process of changing one’s attitude, values, feelings, goals, skills and /or roles” and “a way of living a satisfying, hopeful, and contributing life even within the limitation caused by illness” (Anthony, 1993, p. 16). The Australian National Mental

Health Policy (2008. p.31) defined recovery as involving the development of new meaning and purpose and a satisfying, hopeful and contributing life as the person grows beyond the effects of psychiatric disability. Individually identified essential services and resources must support the process of recovery".

Despite the growing focus on recovery oriented practice, research suggests that mental health professionals have limited knowledge of the recovery model of care (Cleary & Dowling, 2009; Cleary et al., 2013; McKenna et al., 2014). Negative attitudes and lack of recovery knowledge among mental health professionals prevent the development of a recovery-oriented culture in mental health (Byrne et al., 2013). The National Framework for Recovery-Oriented Mental Health Services emphasises that mental health professionals should have necessary knowledge, attitudes and skill to implement recovery-oriented care. However, it is suggested that there is a discrepancy between the national policies and recovery orientation in mental health services (Australian Mental Health Council, 2013).

Though there has been an ascendance in the recovery approach, there is no complementary change in the attitudes of mental health professionals (Gaffey et al., 2016) . For example, in acute inpatient units, professionals remain focused on symptoms management (Hornik-Lurie et al., 2018) and holistic and humanitarian models of care (McKenna et al., 2014). The lack of knowledge and negative attitudes towards recovery-oriented practice is not only present in acute inpatient settings but also apparent in community care (McKenna et al., 2016; Nieminen & Kaunonen, 2017).

The limited research that has been conducted regarding the recovery attitudes and knowledge of mental health professionals regarding recovery-oriented practice has suggested the importance of ongoing education and training for mental health professionals (Gale & Marshall-Lucette, 2012; McKenna et al., 2014). Mental Health Nurses [MHN] constitute the largest proportion of mental health professionals. MHN are tasked with implementing collaborative, holistic and recovery approaches in mental health to promote recovery oriented practice (Santangelo et al., 2018). MHN have a vital role in supporting consumers in all aspects of their care (Lim et al., 2017). However, evidence suggests that MHN are uncertain about the application of recovery oriented practice (Gale & Marshall-Lucette, 2012; Lim et al., 2020; McKenna et al., 2014). The purpose of this review is to identify and evaluate the effectiveness of recovery-oriented interventions on recovery knowledge and attitudes among mental health professionals related to recovery-oriented practice.

Method

A systematic review was conducted using The Joanna Briggs Institute [JBI] reviewers manual (The Joanna Briggs Institute, 2014). Searching databases were MEDLINE, CINHAL, Psych-info, PUBMED and Scopus. Google search engine and Google Scholar were also used to find related items. Population Intervention Comparison Outcome [PICO] strategies were used to identify and select the papers (Table 1) [Insert table (1) here]. The review focused on recovery knowledge and attitudes of mental health professionals and the effects of recovery-

oriented interventions while assessing the outcome of the interventions. The current systematic review included relevant quantitative studies with pre and post-test interventions (randomised, non-randomised and mixed-method with pre and post-test design). This systematic review uses a narrative synthesis format to understand the effectiveness of the intervention. Papers were restricted to the English language, published in peer-reviewed journals with full-text articles available and published between the years 2008 to 2020, January that followed PICO strategies. The timeframe was chosen to understand contemporary recovery knowledge and attitudes of mental health professionals. Specifically, around 2008 in Australia, Recovery Frameworks and policies were being initiated in mental health services and the timeframe for this review was selected to reflect the changing focus on recovery. There were limited papers specifically focused on the effect of recovery-oriented interventions on recovery knowledge and attitudes of mental health nurses regarding recovery-oriented practice. Therefore, we selected papers that included mental health nurses as participants along with other mental health professionals. However, the majority of the population in the selected papers were mental health nurses. Figure 1 shows the percentage of nurse participant. [Insert figure 1 here]

Inclusion criteria

Papers following PICO strategies, full text, English language, published in peer-reviewed journals within the years 2008 to 2020 January.

Exclusion criteria

Abstracts, protocols, pilot studies, qualitative studies, literature review, narrative reviews, recovery related opinion pieces and articles published in non-peer reviewed sources, grey literature, papers without full text.

Search Outcomes

A total of sixty-two papers were found using the database search. Thorough screening and assessment were conducted on the identified papers. Papers that did not meet the selection criteria were excluded from the review. Finally, nine papers were selected for the review. The PRISMA flow chart depicts the selection process (Figure 2) [Insert figure 2 here].

Quality appraisal

Selected quantitative papers were assessed using the Joanna Briggs Institutes [JBI]-critical appraisal tool (Tufanaru et al., 2020). Three evaluators appraised the selected papers independently. After that, the reviewers discussed their reasons for selecting the papers. Unanimously selected papers were included for the narrative review (n=9). However, as each paper used different methods and interventions, a meta-analysis was not possible due to the heterogeneity of the papers, which has led to a narrative review of the selected papers to assess the effectiveness of recovery-oriented interventions on recovery knowledge and attitudes of mental health professionals regarding recovery-oriented practice.

Synthesis and extraction

One review author extracted data from the studies, with support via discussion among the review team to resolve any concerns regarding data extraction. A descriptive approach was used to synthesise the data, which involved textual narrative summaries and tabulation of data (Evans, 2002). The purpose of the narrative synthesis was to organise the findings of the selected studies and evaluate the effect of the interventions (Aromataris & Munn, 2020 ; Tufanaru et al., 2020). Table 2 [insert table 2 here] shows the methods used for each study and how training was used in each study. Studies included consumer involvement in the education and training of mental health professionals.

Results

Evaluation of study design

Three longitudinal studies, two mixed method pre and post-test studies, four quasi-experimental studies were included in this narrative review (Tufanaru et al., 2020). The study populations were heterogeneous mental health professionals, including mental health nurses, doctors, psychologists, social workers, occupational therapist and administrative officers. Two studies included mental health consumers as participants (Doughty et al., 2008; Higgins et al., 2012). Meanwhile, Repique et al. (2016) focused on recovery attitudes of mental health nurses specifically. Whilst the selected studies used heterogeneous populations, nurses represented the majority of the sample size.

One study focused on the recovery knowledge and attitudes of participants working in the community mental health setting (Tsai et al., 2011). Another study identified the recovery

knowledge and attitudes of mental health professionals working in a rehabilitation unit (Wilrycx et al., 2012). Repique et al. (2016) and Rabenschlag et al. (2014) were concerned with the recovery knowledge and recovery attitudes of staff in acute inpatient units. Tsai et al. (2010) explored recovery knowledge and attitudes of staff working in state hospitals. The remaining studies examined recovery knowledge and attitudes of mental health professionals irrespective of specific areas of practice (Walsh et al.,2017; Higgins et al.,2012; Salgado et al., 2010; Doughty et al.,2008).

All of the identified studies were all from high-income countries (Doughty et al., 2008; Higgins et al., 2012; Rabenschlag et al., 2014; Repique et al., 2016; Salgado et al., 2010; Tsai et al., 2010; Tsai et al., 2011; Walsh et al., 2017; Wilrycx et al., 2012).

Interventions used in the selected papers

The review identified several education interventions that targeted recovery knowledge and attitudes of mental health professionals' perceptions regarding recovery-oriented practice. The content of the education included the concept of recovery and recovery-oriented care, crisis prevention and management, the testimony of people with lived experiences and the effective implementation of the recovery model in mental health settings (Doughty et al., 2008; Higgins et al., 2012; Rabenschlag et al., 2014; Repique et al., 2016; Salgado et al., 2010; Tsai et al., 2010; Tsai et al., 2011; Walsh et al., 2017; Wilrycx et al., 2012)

Doughty et al. (2008) examined the effect off the Wellness Recovery Action Plan [WRAP] on recovery attitudes using a quasi-experimental design. Higgins et al. (2012) assessed the effectiveness of the Wellness Recovery Action Plan on mental health professionals' recovery knowledge, skill and attitudes using a mixed-method pre-post design.

By using a quasi-experimental design, Rabenschlag et al. (2014) applied implementation of Recovery-Orientation in an admission ward to assess the effectiveness of recovery concept among mental health professionals and their attitudes towards recovery, coercion and work satisfaction in the acute inpatient unit. Rabenschlag et al. (2014) also explored the efficacy of recovery-focused didactic training using a mixed-method. Repique et al. (2016) used an evidence-based didactic online webinar to train the mental health nurses and to understand their recovery knowledge and attitudes as well as the impact on the use of physical restraints in the acute inpatient unit. Salgado et al. (2010) used a two-day Collaborative Recovery Training Program [CRTP] to understand the relationship between dispositional hope and recovery attitudes using a quasi-experimental design. Tsai et al. (2010) examined the effectiveness of general/inspirational and specific/practical training using a pre and post-test design. Tsai et al. (2011) evaluated the efficacy of a two-day Illness Management and Recovery training [IMR] and one-day Illness Management Recovery case consultation workshop using a quasi-experimental design. Walsh et al. (2017) examined the effectiveness of Advanced Recovery in Ireland [ARI], delivered as recovery-based training using a quasi-experimental design. Wilrycx et al. (2012) assessed the effectiveness of two different interventions, using a modified stepped wedge design, with recovery-oriented care for one group and recovery-oriented competency for another group.

Follow up studies

Among the selected studies, seven analysed the immediate effect of the interventions (Doughty et al., 2008; Higgins et al., 2012; Rabenschlag et al., 2014; Repique et al., 2016; Salgado et al., 2010; Tsai et al., 2010; Tsai et al., 2011). Two studies evaluated the long-term effect of the intervention (Walsh et al., 2017; Wilrycx et al., 2012).

Peer participation in the training

Peer support workers were involved in most of the studies for recovery oriented-training (Doughty et al., 2008; Higgins et al., 2012; Rabenschlag et al.,2014; Salgado et al.,2010; Walsh et al.,2017; Wilrycx et al.,2012). However, Repique et al. (2016) suggested that specific recovery-based education may be more effective in enhancing attitudes of mental health nurses to improve the recovery-oriented practice.

Effect of the interventions

All studies reported that recovery-related training is important and relevant for enhancing recovery knowledge and attitudes among mental health professionals, regarding recovery-oriented practice. Table 3 shows the synthesis of the interventions [Insert table 3 here].

Two studies focusing on the Wellness Recovery Action Plan reported positive results regarding improvements in recovery attitudes and knowledge of both mental health professionals and consumers (Doughty et al., 2008; Higgins et al., 2012). Doughty et al (2008) highlighted the importance of training mental health professionals given that both consumers and mental health professionals had similar attitudes towards recovery prior to the intervention, with the workshop resulting in a significant change in total attitude and knowledge about recovery ($n=133$, $t=12.136$, $df=132$, $p<0.001$, $d=0.82$) (Doughty et al., 2008). Likewise, Higgins et al. (2012) found a statistically significant improvement in recovery knowledge ($n=190$, $t=-4.59$, $df=189$, $p<0.0001$) and recovery attitudes ($n=173$, $t= - 3.27$, $df=173$, $p=<0.001$) after the Wellness Recovery Action Plan program. While Doughty et al. (2008)

reported that 92% of their participants agreed that they had developed knowledge and skills to develop a Wellness Recovery Action Plan, Higgins et al. (2012) found that mental health professionals and consumers developed the confidence to apply recovery and Wellness Recovery Action Plan skills (n=162, t=-11.65, df=161, p=<0.0001). Participants who attended the five-day training program felt that they had developed facilitation and teaching skills based on recovery and the Wellness Recovery Action Plan (Higgins et al., 2012).

Two studies utilised both the Recovery Knowledge Inventory [RKI] and the Recovery Attitude Questionnaire [RAQ] (Walsh, et al., 2017; Wilrycx et al., 2012). Walsh et al. (2017) reported no significant pre and post training differences of recovery knowledge and recovery attitudes of nurses compared to non-nursing professionals. After the Advance Recovery in Ireland [ARI] training, Walsh et al. (2017) noted a positive impact on all domains of recovery knowledge ($p < 0.01$). Further, the training had a positive impact on both factors of the Recovery Attitudes Questionnaire [RAQ] (Factor 1$p<0.001$, Factor 2<0.009). Wilrycx et al. (2012) focused on long-term mental illness and found that recovery-oriented training enhanced mental health professionals' attitudes towards recovery from chronic psychiatric disorders, during the course of the program. The positive attitudes towards recovery improved mental health professionals' recovery orientation in their clinical practice.

Three studies included a focus on optimism alongside recovery orientation (Salgado et al., 2010; Tsai et al., 2010; Tsai et al., 2011). Salgado et al. (2010) revealed that Collaborative Recovery Training Program [CRTP] had a positive effect on attitudes and optimism ($F= (272) =58.10$, $p<.001$,$\eta2=.617$). While dispositional hope had no effect on the attitudes of mental health professionals ($F= (272) =.41$, $p>.05$), the results showed improvement of recovery

knowledge after training (F= (125) =6.59, p<.05, d-.414). Tsai et al. (2010) suggested that health care professionals who had specific/practical training had the most significant improvement in recovery attitudes compared to those who had general/inspirational training. The specific/practical training enabled the mental health professionals to develop various strategies to implement recovery-oriented practice in their area of work. Both types of training were also related to higher consumer optimism. Tsai et al. (2011) found that Illness Management Recovery training [IMR] had a significant effect on personal optimism (F=4.99, p<.001) and recovery orientation (F=5.24, p<.001). However, there was no difference in the recovery attitudes of the professionals who had Illness Management Recovery training and any other recovery-related training. Their study concluded that staff who had attended a minimum one recovery-related training had enhanced their personal and consumer optimism on recovery and implementation of recovery-oriented practice to provide recovery-based care for their consumers.

With respect to clinical care, two studies investigated recovery orientation in the context of staff practices and behaviour (Rabenschlag et al., 2014: Repique et al., 2016). Rabenschlag et al. (2014) found that the implementation of recovery orientation could facilitate a recovery-oriented culture in inpatient units. However, there was no significant change in the recovery attitudes and attitudes towards coercion after the interventions among the intervention group. They asserted that mental health professionals already have positive attitudes towards recovery and needed more time for influencing the attitudes towards coercion. The results suggested that the intervention group had in general developed more positive attitudes towards recovery and had higher work satisfaction than the control group after the training. Repique et al. (2016) also reported no significant change in the recovery knowledge and attitudes of mental health nurses after their intervention, although there were positive changes in perceptions of

the role and responsibilities in recovery and the role of self-definition and peer support. However, nurses still lacked the knowledge of the non-linearity of the recovery process and expectations regarding recovery. Meanwhile, there was some change in the use of physical restraints after the interventions. The result of this mixed method study suggested that specific recovery-oriented training as well as a live presentation may be effective in improving the recovery knowledge and attitudes of the mental health nurses to facilitate recovery-oriented practice.

Discussion

The review explored the recovery knowledge and attitudes of mental health professionals and the effectiveness of recovery-oriented interventions related to recovery-oriented practice. The selected nine papers pertain to mental health professionals with mental health nurses as major participants.

Findings from the review suggest that recovery-oriented interventions are effective in bringing a positive change in the knowledge and attitudes of mental health professionals to enhance recovery-oriented practice. Further, changes in the knowledge and attitudes also facilitated an improvement in work-satisfaction, optimism, reduction of restrictive techniques and the development of new recovery-oriented culture. Such training is suggested in all areas of mental health services and it is recommended that professionals should have ongoing comprehensive recovery-oriented training to maintain their knowledge, skills and attitudes to improve recovery-oriented practice. Nugent et al. (2017) assert that recovery-oriented professionals require regular commitment and on-going practice to develop and maintain recovery orientation.

Recovery oriented interventions have the potential to improve care for people with mental illness through reduced coercion and use of mechanical restraints, as demonstrated by the studies conducted by Rabenschlag et al. (2014) and Repique et al., (2016). It is suggested that recovery-oriented practice enables nurses to better understand the reasons for certain behaviours, such as aggression (Lim et al., 2019). Moreover, because recovery oriented practice facilitates collaborative partnerships, consumers are better supported to identify their own behaviour to take responsibility as well as modify behaviours for their personal recovery (Lim et al., 2017, 2020). Consumers have reported stronger therapeutic alliance with mental health professionals when they perceive they are experiencing recovery-oriented services, with this also translating into higher levels of individual well-being (Osborn & Stein, 2019). Certainly, the empowering nature of recovery, which underpinned all training in the selected studies, is in contrast to the biomedical model of health where consumers are viewed as passive in treatment decisions.

Indeed, a salient feature of the reported interventions in the selected papers was consumer participation. Involvement of lived experience could be the reason for change in the attitudes of mental health professionals. Consumers and their families are core to the recovery model of care (Australian Mental Health Council, 2013; Slade et al., 2015). Consumer participation enhances empathy, knowledge and skills among mental health professionals and supports the implementation of the recovery approach in mental health. This review shows the importance of consumer involvement in the education and training of mental health professionals. Evidence also suggests that consumer involvement in the education and training of mental health professionals is an effective strategy to improve their attitudes to facilitate recovery-oriented practice (Byrne et al., 2013; Happell et al.,2016; Hornik-Lurie et al., 2018). Roberts and Boardman (2014) recommended the importance of cultural change to promote recovery-oriented practice in mental health and professional development of recovery-oriented

practitioners. This review shows that live presentations may be more effective than webinars to enhance recovery knowledge and attitudes. Collaborative training is effective in improving providers' recovery knowledge, attitudes, hopefulness, optimism and recovery orientation (Resnick & Rosenheck, 2008; Salgado et al., 2010).

This review found that nurses' recovery knowledge and attitudes were similar to non-nursing professionals and consumers. However, while Cleary et al. (2013) found that mental health nurses have positive attitudes towards recovery-oriented practice, their study also suggested that implementation of recovery-oriented practice needs adequate resources and support from stakeholders. Happell et al. (2019) found that consumer participation in mental health nursing education can improve recovery-oriented practice among mental health nurses. Another study by Olasoji et al. (2019) observed that consumer participation in the nursing hand over could improve the attitudes of mental health nurse towards recovery-oriented practice. A recent narrative review by Jackson-Blott et al. (2019) on the effectiveness of recovery-oriented program among mental health professionals also suggested that education and training were effective in enhancing knowledge and attitudes of mental health professionals. The study recommended that change in practice could be possible with considerable organisational support.

The recovery-oriented training had a sustaining effect after the short term follow up assessment. Follow up assessments were done between eight weeks to two years. Our review identified that the interventions were not effective in maintaining a long-term effect on the recovery knowledge and attitudes of mental health professionals. There may be several reasons

associated with this finding. Mental health professionals are likely aware of conceptualisations of recovery although national mental health policies place a specific emphasis on personal recovery. In practice, national policies have not yet fully addressed the implications of recovery-oriented care in mental health (Le Boutillier et al., 2015; Le Boutillier et al., 2011). The workload demands on mental health professionals are considerable (Lim et al., 2020; McKeown et al., 2019; Slade et al., 2014). It is believed that lack of adequate resources such as workforce, budget, organisational support, workplace culture and clear guidance from national mental health policies and legislation may impede recovery oriented practices (Jackson-Blott et al., 2019; Le Boutillier et al., 2015; Lim et al., 2020; McKeown et al., 2019; Slade et al., 2014). Another reason associated with poor long term effect of the interventions might be related to lack of practice. In order to maintain acquired knowledge, professionals need to practice on a regular basis (Jackson-Blott et al., 2019; Jonides et al., 2008; Nugent et al., 2017). The dominance of the medical model of care, poor interdisciplinary understanding of recovery-oriented practice and lack of co-production of educational initiatives may be further barriers to sustain the effect of the interventions (Zuaboni et al., 2017) Therefore, future research must be focused on the cause and maintenance of the longstanding effect of the interventions.

This review shows that recovery-oriented interventions improved mental health professionals' attitudes towards recovery from mental illness. The recovery approach is focused on the hope and wellbeing of people rather than the symptoms of illness. Family, friends and professionals play an important role to achieve those goals (Jacob, 2015). The development of new approaches depends on staff values, knowledge, attitudes and behaviour (Slade, 2010). Therefore, workforce planning is an essential task of recovery-oriented care.

Mental health professional need to demonstrate their values, knowledge and skills underpinning their recovery orientation (Le Boutillier et al., 2011). This new culture can be developed through the incorporation of recovery-based interventions (Gaffey et al., 2016; Le Boutillier et al., 2015).

Finally, this review shows that positive change in the knowledge and attitudes on recovery can improve their job satisfaction, personal and consumer optimism as well as development of recovery related skills. However, those changes did not have much influence on recovery-oriented practice (Jackson-Blott et al., 2019; Repique et al., 2016). Previous review results also show that acquired knowledge and attitudes may not influence recovery-oriented practice in clinical settings (Jackson-Blott et al., 2019). Therefore, this review firmly recommends ongoing recovery-based intervention to promote recovery-oriented practice in clinical settings.

Limitation of the selected papers

Recovery oriented interventions were effective in improving recovery knowledge and attitudes among mental health professionals. However, there are some limitations associated with the training.

First, most of the studies were focused on the immediate effect of the interventions. However, they all recommended the long-term effect of the interventions. Therefore, future studies should focus on examining the long-term effect of the interventions.

Second, none of the studies used randomisation. It is difficult to assess the real effect of the interventions because the changes in the knowledge and attitudes might be related to previous knowledge on recovery. Randomised controlled studies are proven to be effective in measuring shifts in knowledge and attitudes. Therefore, more research on recovery orientation should be conducted using a randomised controlled design.

Third, whilst recovery-oriented interventions were effective in enhancing recovery knowledge and attitudes of mental health professionals, eight out of nine studies involved a heterogeneous group, i.e., participants were from different professional backgrounds such as nursing, medical, social work, occupational therapy, psychology and non-professionals. It was considered that had the interventions been given to a single homogenous group, such as only nurses or doctors, the effect of the interventions could have been different. The mental health workforce constitutes multidisciplinary professionals. Each mental health professional's training and certification is different. For example, nursing and medical professionals receive more clinical training than social workers. Though mental health professionals are part of multidisciplinary teams, the knowledge level of clinical practice will be varied among them. It is suggested that more tailored education and training focusing on the need of each health professional would be beneficial (Kilbourne et al., 2018).

Lastly, eight out of nine studies did not assess the behavioural outcome of the recovery-oriented interventions in clinical practice. Therefore, future studies should focus on the behavioural outcome of the interventions.

Review Limitations

The studies are limited to pre and post-test quantitative studies with full text, written in English, within the selected databases and studies that followed Population Intervention Comparison Outcome [PICO] strategies. The current review dealt only with recovery-oriented interventions specific to the topic of interest and the effect of educational interventions more generally. Papers were limited between 2008-2020 (January) to understand the most recent trends in the recovery-oriented interventions about recovery knowledge and attitudes of mental health professionals, including MHN related to recovery-oriented practice in mental health. Grey literature was not included but may had added further context and contributed to the comprehensiveness of the review.

Conclusion

The purpose of the review is to understand the effectiveness of recovery-oriented interventions on recovery knowledge and attitudes of mental health professionals regarding recovery-oriented practice. Identified evidence suggested that all interventions were effective in enhancing recovery knowledge and attitudes among mental health professionals. However, specific or practical recovery-oriented training was most effective. All interventions had consumer participation. However, the interventions did not have a lasting effect on recovery knowledge and attitudes regarding recovery-oriented practice. Further, there is limited evidence on the specific effect of consumer participation along with specific recovery-oriented intervention on recovery knowledge and attitudes of mental health professionals regarding recovery-oriented practice. It is suggested that ongoing recovery education is paramount for mental health professionals.

Relevance for clinical practice

This review identified that recovery-oriented interventions were effective in enhancing mental health practices by improving work satisfaction, hope and optimism among mental health professionals and towards consumer's recovery, provision of quality of care through effective patient provider interaction and the development of recovery-oriented culture in mental health. In terms of education, to maintain the acquired positive attitudes and knowledge, recovery-oriented education and training must be integrated as part of in-service training of mental health professionals. The gap identified through the review shows that it would be beneficial for the future research pertaining to the recovery to focus on a single professional group, using randomised controlled studies, in order to best understand the long-term effects of the interventions.

Data Availability statement

Availability of data	Data availability statement
Data sharing not applicable – no new data generated	Data sharing is not applicable to this article as no new data were created or analysed in this study.

Reference

Anthony, W. A. (1993). Recovery from mental illness: the guiding vision of the mental health service system in the 1990s. *Psychosocial rehabilitation journal, 16*(4), 11.

Aromataris, E., & Munn, Z. (2020). Chapter 1: JBI Systematic Reviews. In: Aromataris E, Munn Z (Editors). JBI Manual for Evidence Synthesis. JBI.Retrieved from Available from https://synthesismanual.jbi.global.. https://doi.org/10.46658/JBIMES-20-02. *SBN: 978-0-6488488-0-6*.

Australian Institute of Health and Welfare. (2021). Mental health services in Australia. Retrieved from https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-contents/mental-health-workforce.

Australian Mental Health Council. (2013). A national framework for recovery-oriented mental health services: Guide for practitioners and providers.Retrieved from http://www.health.gov.au/internet/main/publishing.nsf/+content/67D17065514CF8E8CA257C1D00017A90/$File/recovgde.pdf.

Byrne, L., Happell, B., Welch, T., & Moxham, L. J. (2013). 'Things you can't learn from books': teaching recovery from a lived experience perspective. *International Journal of Mental Health Nursing, 22*(3), 195-204. https://doi.org/10.1111/j.1447-0349.2012.00875.x

Cleary, A., & Dowling, M. (2009). Knowledge and attitudes of mental health professionals in Ireland to the concept of recovery in mental health: a questionnaire survey. *Journal of Psychiatric and Mental Health Nursing, 16*(6), 539-545. https://doi.org/10.1111/j.1365-2850.2009.01411.x

Cleary, M., Horsfall, J., O'Hara-Aarons, M., & Hunt, G. E. (2013). Mental health nurses' views of recovery within an acute setting. *International Journal of Mental Health Nursing, 22*, 205-212. https://doi.org/10.1111/j.1447-0349.2012.00867.x

Del Vecchio, P. (2015). Bringing Recovery to Practice: Improving Provider Competencies and Promoting Positive Outcomes. *Psychiatric Services, 66*, 750-752. https://doi.org/10.1176/appi.ps.201400310

Doughty, C., Tse, S., Duncan, N., & McIntyre, L. (2008). The Wellness Recovery Action Plan (WRAP): workshop evaluation. *Australasian Psychiatry: Bulletin Of Royal Australian And New Zealand College Of Psychiatrists, 16*(6), 450-456. https://doi.org/10.1080/10398560802043705

Evans, D. (2002). Systematic reviews of interpretive research: interpretive data synthesis of processed data. *Australian Journal of Advanced Nursing, The, 20*(2), 22.

Gaffey, K., Evans, D. S., & Walsh, F. (2016). Knowledge and attitudes of Irish Mental Health Professionals to the concept of recovery from mental illness - Five years later. *Journal of Psychiatric & Mental Health Nursing (John Wiley & Sons, Inc.), 23*(6/7), 387-398. https://doi.org/10.1111/jpm.12325

Gale, J., & Marshall-Lucette, S. (2012). Community mental health nurses' perspectives of recovery-oriented practice. *Journal of Psychiatric and Mental Health Nursing, 19*(4), 348-353. https://doi.org/10.1111/j.1365-2850.2011.01803.x

Glick, I. D., Sharfstein, S. S., & Schwartz, H. I. (2011). Inpatient psychiatric care in the 21st century: The need for reform. *Psychiatric Services, 62*(2), 206-209. https://doi.org/10.1176/appi.ps.62.2.206

Happell, B., Bennetts, W., Platania-Phung, C., & Tohotoa, J. (2016). Exploring the Scope of Consumer Participation in Mental Health Nursing Education: Perspectives From Nurses and Consumers. *Perspectives In Psychiatric Care, 52*(3), 169-177. https://doi.org/10.1111/ppc.12113

Happell, B., Bennetts, W., Tohotoa, J., Wynaden, D., & Platania-Phung, C. (2019). Promoting recovery-oriented mental health nursing practice through consumer participation in mental health nursing education. *Journal of Mental Health, 28*(6), 633-639. https://doi.org/10.1080/09638237.2017.1294734

Higgins, A., Callaghan, P., deVries, J., Keogh, B., Morrissey, J., Nash, M., Ryan, D., Gijbels, H., & Carter, T. (2012). Evaluation of mental health recovery and Wellness Recovery Action Planning education in Ireland: a mixed methods pre-postevaluation. *Journal of Advanced Nursing (John Wiley & Sons, Inc.), 68*(11), 2418-2428. https://doi.org/10.1111/j.1365-2648.2011.05937.x

Hornik-Lurie, T., Shalev, A., Haknazar, L., Garber Epstein, P., Ziedenberg-Rehav, L., & Moran, G. S. (2018). Implementing recovery-oriented interventions with staff in a psychiatric hospital: A mixed-methods study. *Journal of Psychiatric and Mental Health Nursing, 25*(9-10), 569-581. https://doi.org/10.1111/jpm.12502

Jackson-Blott, K., Hare, D., Davies, B., & Morgan, S. (2019). Recovery-oriented training programmes for mental health professionals: A narrative literature review. *Mental Health and Prevention, 13*, 113-127. https://doi.org/10.1016/j.mhp.2019.01.005

Jacob, K. S. (2015). Recovery model of mental illness: a complementary approach to psychiatric care. *Indian journal of psychological medicine, 37*(2), 117-119. https://doi.org/10.4103/0253-7176.155605

Jonides, J., Lewis, R. L., Nee, D. E., Lustig, C. A., Berman, M. G., & Moore, K. S. (2008). The mind and brain of short-term memory. *Annual Review of Psychology, 59*, 193-224. https://doi.org/10.1146/annurev.psych.59.103006.093615

Kilbourne, A. M., Beck, K., Spaeth-Rublee, B., Ramanuj, P., O'Brien, R. W., Tomoyasu, N., & Pincus, H. A. (2018). Measuring and improving the quality of mental health care: a global perspective. *World psychiatry : official journal of the World Psychiatric Association (WPA), 17*(1), 30-38. https://doi.org/10.1002/wps.20482

Le Boutillier, C., Chevalier, A., Lawrence, V., Leamy, M., Bird, V. J., Macpherson, R., Williams, J., & Slade, M. (2015). Staff understanding of recovery-orientated mental health practice: a systematic review and narrative synthesis. *Implementation science : IS, 10*, 87. https://doi.org/10.1186/s13012-015-0275-4

Le Boutillier, C., Leamy, M., Bird, V. J., Davidson, L., Williams, J., & Slade, M. (2011). What does recovery mean in practice? A qualitative analysis of international recovery-oriented practice guidance. *Psychiatric Services, 62*(12), 1470-1476.

Lim, E., Wynaden, D., & Heslop, K. (2017). Recovery-focussed care: How it can be utilized to reduce aggression in the acute mental health setting. *International Journal of Mental Health Nursing, 26*(5), 445-460. https://doi.org/10.1111/inm.12378

Lim, E., Wynaden, D., & Heslop, K. (2019). Changing practice using recovery-focused care in acute mental health settings to reduce aggression: A qualitative study. *International Journal of Mental Health Nursing, 28*(1), 237-246. https://doi.org/10.1111/inm.12524

Lim, E., Wynaden, D., & Heslop, K. (2020). Using q-methodology to explore mental health nurses' knowledge and skills to use recovery-focused care to reduce aggression in acute mental health settings. *International Journal of Mental Health Nursing*. https://doi.org/10.1111/inm.12802

Luigi, M., Rapisarda, F., Corbière, M., De Benedictis, L., Bouchard, A.-M., Felx, A., Miglioretti, M., Abdel-Baki, A., & Lesage, A. (2020). Determinants of mental health professionals' attitudes towards recovery: A review. *Canadian medical education journal, 11*(5), e62-e73. https://doi.org/10.36834/cmej.61273

McKenna, B., Furness, T., Dhital, D., & Ireland, S. (2014). Recovery-Oriented Care in Older-Adult Acute Inpatient Mental Health Settings in Australia: An Exploratory Study. *Journal of the American Geriatrics Society, 62*(10), 1938-1942.

McKenna, B., Oakes, J., Fourniotis, N., Toomey, N., & Furness, T. (2016). Recovery-Oriented Mental Health Practice in a Community Care Unit: An Exploratory Study. *Journal of Forensic Nursing, 12*(4), 167-175. https://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=27782924&login.asp&site=ehost-live&scope=site

McKeown, M., Thomson, G., Scholes, A., Jones, F., Baker, J., Downe, S., Price, O., Greenwood, P., Whittington, R., & Duxbury, J. (2019). "Catching your tail and firefighting": The impact of staffing levels on restraint minimization efforts. *Journal of Psychiatric & Mental Health Nursing (John Wiley & Sons, Inc.), 26*(5/6), 131-141. https://doi.org/10.1111/jpm.12532

Nieminen, I., & Kaunonen, M. (2017). Professionals' views on mental health service users' education: Challenges and support. *Journal of Psychiatric and Mental Health Nursing, 24*(1), 57-68. https://doi.org/10.1111/jpm.12355

Nugent, A., Hancock, N., & Honey, A. (2017). Developing and Sustaining Recovery-Orientation in Mental Health Practice: Experiences of Occupational Therapists. *Occupational therapy international, 2017*, 5190901. https://doi.org/10.1155/2017/5190901

Olasoji, M., Cross, W., Reed, F., Wang, W., Jacob, S., & Plummer, V. (2019). Mental health nurses' attitudes towards consumer involvement in nursing handover pre and post an educational implementation. *International Journal of Mental Health Nursing, 28*(5), 1198-1208. https://doi.org/10.1111/inm.12631

Osborn, L. A., & Stein, C. H. (2019). Recovery-oriented services in an inpatient setting: The role of consumers' views of therapeutic alliance and practitioner directiveness on recovery and well-being. *American Journal of Orthopsychiatry, 89*(1), 115.

Rabenschlag, F., Konrad, A., Rueegg, S., & Jaeger, M. (2014). A recovery-oriented approach for an acute psychiatric ward: is it feasible and how does it affect staff satisfaction? *The Psychiatric Quarterly, 85*(2), 225-239. https://doi.org/10.1007/s11126-013-9285-z

Repique, R. J. R., Vernig, P. M., Lowe, J., Thompson, J. A., & Yap, T. L. (2016). Implementation of a Recovery-Oriented Training Program for Psychiatric Nurses in the Inpatient Setting: A Mixed-Methods Hospital Quality Improvement Study. *Archives of Psychiatric Nursing, 30*(6), 722-728. https://doi.org/https://doi.org/10.1016/j.apnu.2016.06.003

Resnick, S. G., & Rosenheck, R. A. (2008). Integrating Peer-Provided Services: A Quasi-experimental Study of Recovery Orientation, Confidence, and Empowerment. *Psychiatric Services, 59*, 1307-1314. https://doi.org/10.1176/ps.2008.59.11.1307

Roberts, G., & Boardman, J. (2014). Becoming a recovery-oriented practitioner. *Advances in Psychiatric Treatment, 20*, 37-47. https://doi.org/10.1192/apt.bp.112.010652

Salgado, J. D., Deane, F. P., Crowe, T. P., & Oades, L. G. (2010). Hope and improvements in mental health service providers' recovery attitudes following training. *Journal of mental health (Abingdon, England), 19*(3), 243-248. https://doi.org/10.3109/09638230903531126

Santangelo, P., Procter, N., & Fassett, D. (2018). Mental health nursing: Daring to be different, special and leading recovery-focused care? *International Journal of Mental Health Nursing, 27*(1), 258-266. https://doi.org/10.1111/inm.12316

Shepherd, G., Boardman, J., & Slade, M. (2008). Putting recovery into mental health practice. *Mental health today (Brighton, England)*, 28-31. https://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=18584845&login.asp&site=ehost-live&scope=site

Slade, M. (2010). Mental illness and well-being: the central importance of positive psychology and recovery approaches. *BMC health services research, 10*(1), 26.

Slade, M., Amering, M., Farkas, M., Hamilton, B., O'Hagan, M., Panther, G., Perkins, R., Shepherd, G., Tse, S., & Whitley, R. (2014). Uses and abuses of recovery: implementing recovery-oriented practices in mental health systems. *World Psychiatry, 13*(1), 12-20.

Slade, M., Bird, V., Boutillier, C. L., Farkas, M., Grey, B., Larsen, J., Leamy, M., Oades, L., & Williams, J. (2015). Development of the REFOCUS intervention to increase mental health team support for personal recovery. *The British Journal of Psychiatry, 207*(6), 544-550. https://doi.org/10.1192/bjp.bp.114.155978

The Joanna Briggs Institute. (2014). The Joanna Briggs Institute Reviewers' Manual 2014.The Systematic Review of Economic Evaluation Evidence. (2014 edition).The University of Adelaide ,SouthAustralia :The Joanna BriggsInstitute.Retrieved from http://joannabriggs.org/assets/docs/sumari/ReviewersManual-2014.pdf.

Tsai, J., Salyers, M. P., & Lobb, A. L. (2010). Recovery-oriented training and staff attitudes over time in two state hospitals. *The Psychiatric Quarterly, 81*(4), 335-347. https://doi.org/10.1007/s11126-010-9142-2

Tsai, J., Salyers, M. P., & McGuire, A. B. (2011). A cross-sectional study of recovery training and staff attitudes in four community mental health centers. *Psychiatric rehabilitation journal, 34*(3), 186-193. https://doi.org/10.2975/34.3.2011.186.193

Tufanaru, C., Munn, Z., Aromataris, E., Campbell, J., & Hopp, L. (2020). Chapter 3: Systematic reviews of effectiveness. In: Aromataris E, Munn Z (Editors). JBI Manual for Evidence Synthesis. JBI, 2020. Available from https://synthesismanual.jbi.global.

Walsh, F. P., Meskell, P., Burke, E., & Dowling, M. (2017). Recovery-based Training in Mental Health: Effects on Staff Knowledge and Attitudes to Recovery. *Issues In Mental Health Nursing, 38*(11), 886-895. https://doi.org/10.1080/01612840.2017.1346014

Wilrycx, G., Croon, M. A., Van den Broek, A. H. S., & Van Nieuwenhuizen, C. (2012). Mental health recovery: evaluation of a recovery-oriented training program. *The Scientific World Journal, 2012*.

Zuaboni, G., Hahn, S., Wolfensberger, P., Schwarze, T., & Richter, D. (2017). Impact of a Mental Health Nursing Training-Programme on the Perceived Recovery-Orientation of Patients and Nurses on Acute Psychiatric Wards: Results of a Pilot Study. *Issues In Mental Health Nursing, 38*(11), 907-914. https://doi.org/10.1080/01612840.2017.1359350