Abstract

This review was conducted to systematically identify and synthesize evidence of mental health professionals (MPHs) and Mental Health Professional (MHP) students' knowledge, attitudes, understanding, perception and expectations regarding recovery-oriented practices. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, a systematic search was conducted in the following databases: Scopus, CINAHL, PsycINFO, Web of science, Medline and Embase as well as Google scholar and the web. A combination of key terms including "mental health professionals", ''students'', 'knowledge', "understanding", "perception" "attitude", "expectation", "recovery-oriented practice", were used for the searches. After screening and quality assessment, the review included 29 articles, published in English and published in the period January 2006 to June 2019 and were analyzed systematically using a mixed method synthesis. The findings revealed that there is increasing evidence (especially among MHPs) of knowledge, attitudes, understanding, perceptions and expectation regarding recovery. However, there are disparities in how MHPs perceive and understand recovery. While some understood it to mean a personal process, others explained it as a clinical process. In addition, there was limited knowledge among the MHPs and MHP students regarding the non-linearity nature of the recovery process and expectations regarding recovery. The implications from these findings are the need for more in-service training for MHPs and examination of the curriculum used to educate MHP students. In particular, they should be sufficiently informed about the non-linearity nature of the recovery process and how to develop hopeful and realistic expectations for consumers throughout the recovery process.

Keywords: mental health professionals, mental health students, knowledge, attitude, recovery-oriented practice

Introduction

Consumers of mental health services were previously cared for in a variety of settings using numerous approaches (Gooding 2016; U.S. Department of Health and Human Services 1999), in particular biomedical approaches, where people with mental illness were seen as having diseases of the brain (Bracken et al. 2013). This form of care was characterized by paternalism, expert-centered and centralized structures of welfare (Brooks et al. 2011; Gooding 2016). Critics of the system recognized the detrimental effect that the system had on consumers' self-efficacy and sense of hope and hence the notion of recovery came into being (Anthony 1993; Deegan 1988).

The "recovery" concept was introduced by consumers after the failures in the implementation of the deinstitutionalization movement and in recognition that consumers want more than symptom relief (Anthony 1993). These consumers, who had themselves recovered from schizophrenia, reported their own personal experiences, perceptions, and opinions concerning coping with symptoms, finding hope, getting better, and gaining an identity (Allott & Loganathan 2002; Deegan 1988). Recovery was seen not to abandon the tools of empirical science or reject medical and psychotherapeutic techniques but rather to highlight the ethical and hermeneutic aspects of health (for example, values, relationships, politics and the ethical basis of care) (Bracken et al. 2013, p. 3). In particular, the emerging emphasis on the concept of recovery in mental health care for consumers emphasized social inclusion and consumerism (Brooks et al. 2011). increasingly, consumers began to demand that their own perspectives and goals should take on more importance than just being additional elements of the recovery process (Frese et al. 2009).

In the recent past, approaches to managing severe mental illnesses have increasingly incorporated the perspectives of consumers (Ramon et al.; Frese et al. 2009). These perspectives are explored with emphasis on how they have helped drive themselves, government agencies and professionals' perspectives. Particular attention is given to the varying views of psychiatrists, psychologists, and other highly trained persons who have themselves been diagnosed and treated for severe mental illness (Frese et al. 2009).

The uniqueness of each individual's recovery journey has made it difficult in finding a generally agreed-upon definition of recovery (Allott & Loganathan 2002; U.S. Department of Health and Human Services 1999). As a result, the concept has been defined differently by different professional and consumer groups. More specifically, recovery has been defined as a process in which people are able to live, work, learn, and participate fully in their communities. For some individuals, recovery is the ability to live a fulfilling and productive life despite a disability. For others, recovery implies the reduction or complete remission of symptoms (U.S. Department of Health and Human Services 2003). Importantly, recovery-orientated models of care place the consumer at the center of care where they are recognized as the expert (Hercelinskyj & Alexander 2019).

In the present study, the definition proposed by Anthony (1993) has been adapted to recognize the concept of recovery as involving the development of new meaning and purpose in one's life as one grows beyond the catastrophic effects of mental illness. Common to this definition is that instead of focusing primarily on symptom relief, recovery broadly focuses on personal development and places emphasis on building self-esteem and identity and attaining a meaningful role in society (Anthony 1993). This process of recovery has been identified as an active, gradual, unique, non-linear and life-changing experience for consumers that can occur

without professional intervention (Anthony 1993; Deegan 1988; Leamy et al. 2011). In this way, recovery is thought to be influenced by internal factors which include the psychological perceptions and expectations of consumers and external factors such as social support and the ability to self-manage care, all of which combine to give consumers mastery over their own lives (U.S. Department of Health and Human Services 1999). Recovery is thus built on hope and optimism, connectedness, meaning and purpose, self-identity, taking risks, adjustment to disability, self-determination, respect, person-driven, empowerment, strengths/responsibility, community support system and holism (Anthony 1993; Leamy et al. 2011; World Health Organization 2017). These elements are assessed with respect to their ability to ameliorate people's impairment, dysfunction, disability, and disadvantage (Anthony 1993).

Past studies have suggested that MHPs play a significant role in the recovery process of consumers (Frese et al. 2009). Therefore, proponents of recovery envision MHPs understanding the concept and believing in and supporting consumers in their quest to recover. One of the ways in examining the extent of understanding and implementation of the recovery concept is through measuring professionals' and students' knowledge and attitude towards recovery. In view of this, research into knowledge and understanding of recovery among MHPs and students are increasingly gaining momentum. Consequently, there seems to be increasing empirical evidence on MHPs' and students' knowledge, attitudes, understanding and expectations towards recovery. However, there are limited review studies that synthesize evidence about the knowledge and attitude of health professionals and health students towards recovery. A preliminary search of literature showed that no systematic review has been conducted to synthesize MHPs' and students' knowledge, attitudes, understanding, perception and expectations related to mental health recovery.

Therefore, the present study aimed to systematically review literature and synthesize the available evidence of the knowledge, attitudes, understanding, perceptions and expectations of MHPs and MHP students regarding recovery. The evidence from this review is expected to highlight the gap in knowledge and serve as a guide to influence education and training of current practitioners and future students working in mental health areas, respectively. The evidence would also inform policy makers about where to direct resources to improve the rehabilitation of consumers of severe mental illness through education and intervention development.

Methods

The review was conducted to synthesize the available evidence of the knowledge and attitudes of MHPs and health students on 'mental health recovery'. The review question was: what are the knowledge, attitudes, understanding, perceptions and expectations of MHPs and students regarding recovery-oriented practice? The study was conducted according to PRISMA; (Moher, Liberati, Tetzlaff, Altman, & Group, 2009) methodology for conducting a systematic review. It was pre-registered under Prospero (registration no CRD42019136543)

Inclusion criteria

We included studies in the review that met the following criteria: an empirical peer-reviewed study that addresses MHPs' or students' knowledge or attitudes or understanding or expectations or a combination of them regarding recovery-oriented mental health practice. In addition, we included articles with experimental, descriptive, and observational study designs. Again, research was included in this study if they were either qualitative, quantitative or mixed-methods studies. Furthermore, the studies included in the review were those published in English language and published in the period January 2006 to June 2019 (for explanation, 2006 was

when people first started researching on the knowledge, attitudes, understanding and expectations of MHPs towards the notion of recovery) (Bedregal et al 2006; Cleary & Dowling 2009). Studies were excluded if they were not published in English and published before 2006 and those with participants different from or did not include MHPs and health students and did not address knowledge, understanding, attitude and expectation of recovery. The general exclusion criteria were research relating to conference abstracts, book chapters, commentaries, opinion, editorials, and clinical case reviews.

Data sources and search strategy

A literature search using Scopus, CINAHL, PsycINFO, Web of science, Medline and Embase database was conducted from May through July 2019. A combination of the following search terms were entered in the search query on each search page: 'Mental health recovery', 'knowledge', 'understanding', 'perception or 'attitude', 'psychologist' 'recovery-oriented practice' 'professionals', 'psychiatrist' 'mental health recovery', 'recovery interventions', 'social workers' 'severe mental illness' 'nurse', 'students'. The initial search was not restricted by limiters; field, language, timespan, and type of publication. However, the subsequent searches were restricted to title, abstract and keywords due to a plethora of research obtained by the initial search. In addition, a manual search using the Google scholar and the web was conducted with the search terms to identify other relevant references missed by the database searches.

Search Outcomes

The search identified 1464 articles, out of this, 1448 were retrieved through database searches. These databases were Scopus (226), CINAHL (97), PsycINFO (239), Web of science (180), Medline (531), and Embase (156). The manual search added 16 additional papers from Google scholar and the web. All the papers were imported into an endnote library, version X9.

Out of the total records, 341 duplicates papers were removed leaving 723 papers remaining. Screening by abstract and title resulted in 45 papers. An additional 16 papers which comprised commentaries, brief reports and conference abstracts were excluded after full text screening. Twenty-nine of 1464 articles were included in the final synthesis. This comprised eight qualitative studies, 18 quantitative and three mixed method studies. Figure 1 below details the number of studies identified from the searches and the selection process.

INSERT Figure 1 HERE

Data Extraction

Data were collected from included studies using a self-developed data extraction form. The extraction form was divided into three sections. The first section was related to characteristics of the study such as the topic, citation, authors and year of publication. The second section documented information on the methodology, objective, type of intervention (if applicable) and demographics of the study participants. In particular, information related to the objective design, study setting, type of participants, type of data, data collection instrument, sampling, sample size, data analysis theory, ethics, age, sex and years of work experience were collected in this section. The last section documented the findings, relevant additional information, recommendations, as well as additional references to follow up.

Quality assessment

The included studies were critically assessed by all the authors of the present review. Three assessment tools including the AXIS Tool, the Critical Appraisal Skills Program [CASP] and the Mixed Method Appraisal Tool [MMAT] were used to assess the quality of the included papers. The quality of all the qualitative studies was judged using the Critical Appraisal Skills Program [CASP]; the quantitative cross sectional studies were assessed with the AXIS Tool. Finally the quality of the experimental studies (mostly uncontrolled trials) and the mixed method studies were assessed using Mixed Method Appraisal Tool [MMAT]. The assessment procedure involves: (1) the lead author, N.G. independently assessed the quality of all the papers using the above-mentioned tools. (2) Additionally, the quality of the qualitative study was re-assessed by K.U. Also, M.S.I. re-assessed the quality of the experimental and mixed method studies. Using the AXIS Tool, N.B. finally assessed the quality of all the quantitative cross sectional studies; each included paper was independently assessed by two reviewers. The scores of the studies were calculated by counting and expressing as a percentage the total number of "yes" obtained by each study. 27 studies obtained 80 and above scores and were awarded high quality and two fixed for moderate quality.

Data synthesis

This review was synthesized using a mixed methods synthesis approach to summarise both qualitative and quantitative data into a single combined synthesis (Sandelowski et al. 2006). The qualitative data was extracted and reviewed to identify the common themes that were related to the objective. Similarly, the quantitative data (percentages, means and the level of significance) was also extracted. A coding framework was developed to group the qualitative

themes. Based on the study objective, an evidence table was developed (see Table 2) to synthesise the studies. The textual evidence from the qualitative studies was presented followed by the quantitative studies. The qualitative and the quantitative data were finally assimilated during the interpretation of the findings.

Results

Characteristics of the included papers

Table 1 provides a summary of characteristics of the included studies in the present review. More than one third (n=11) of the studies were conducted in Europe, eight were undertaken in Australia and New Zealand, seven in the US and Canada, and one in Asia (see Table 1). One study was conducted in more than one continent. One study did not report the study setting. Twenty (69%) of the studies were conducted with MHPs, three studies were on MHPs and consumers, two studies were on MHPs, consumers and carers, and two studies used MHPs and non-professionals. For the studies that included students, one study used only students and the other used MHPs and students. Out of the 29 studies included, 11 used interventions (see Table 2). Most of the papers were published between 2013 and 2019, especially in 2015 and 2018.

INSERT Table 1 HERE

Qualitative Synthesis

Understanding the concept of Recovery

Personal recovery process

The concept of recovery was described by 11 articles as the personal process for consumers of mental health services (see Table 2). Personal recovery can generally be conceptualized according to an internal and external process. The internal recovery process may comprise of reclaiming various aspects of the self or learning about the self to overcome the effects of mental illness (Jacob et al. 2015). Nine papers described the internal recovery process

with attributes such as self-esteem, independent self, self-realization, self-improvement, betterment, managing aspects of daily living, and empowerment (Cleary et al. 2013; Gaffey et al. 2016; Gilburt et al. 2013; Jackson-Blott et al. 2019; Karpetis 2018; Khoury & Rodriguez 2015; Sparkes 2018). More Specifically, the internal recovery process focused on the individuals' own goals and priorities (dreams, hopes and aspirations), belief in the possibility of change, encouraging personal ownership and responsibility for well-being (Parker et al. 2017), the independent self (Sparkes 2018), as well as maximizing quality of life and potential for meaningful activity (Tickle et al. 2014). Alternatively, the external recovery process described how consumers are presented in the external world without being affected by symptoms of mental illness, or living life in the community like everybody else (Jacob et al. 2015). Six papers classified the external recovery process according to attributes such as social inclusion, relationship, and attaining an optimum level of functioning in the community (Gaffey et al. 2016; Gilburt et al. 2013; Jackson-Blott et al. 2019; Jacob et al. 2015; Karpetis 2018; Parker et al. 2017; Sellin et al. 2018).

Five papers described several factors that can expedite the personal recovery process of consumers of mental health services. These factors include collaborative or multidisciplinary team work, therapeutic rapport, good communication skills (Gaffey et al. 2016; Karpetis 2018; Sellin et al. 2018), showing 'empathy, the ability to listen' (Gaffey et al. 2016), caring, helping, supporting, being respectful and open (Gilburt et al. 2013), assessing risk (Karpetis 2018), and consumer involvement in service utilization (Gilburt et al. 2013). In addition, two papers recommended factors such as staff involvement and developing idiosyncratic management strategies in delivering recovery oriented services (Gilburt et al. 2013; Jackson-Blott et al. 2019).

Furthermore, several studies have recommended interventions that can be applied in achieving personal recovery. These interventions include meaningful activity, training and stress management (Gilburt et al. 2013), advocacy, counseling, family therapy, problem-solving, cognitive behavioral and dialectic behavioral (Karpetis 2018), and by taking into account the emotional, spiritual, social and the physical factors that may impact the effectiveness of the intervention (Gilburt et al. 2013).

INSERT Table 2 HERE

Clinical recovery process

Eight papers highlighted the concept of recovery as a clinical process (see Table 2). Some papers explained recovery as an abstract and contradictory concept (Khoury & Rodriguez 2015; Sparkes 2018; Tickle et al. 2014). Specifically, one paper said that the term recovery in itself resounds of illness and being ill (Sparkes 2018) and claims that the chronic nature of some psychiatric problems can not be escaped (Khoury & Rodriguez 2015; Sparkes 2018). In addition, seven papers explained recovery with attributes such as medication adherence, reduction in symptoms, improved mental state and improved behaviour, reduction in the risk of reoffending, risks and distress from the consumers (Cleary et al. 2013; Gilburt et al. 2013; Jackson-Blott et al. 2019; Karpetis 2018; Tickle et al. 2014), return to pre-illness state (Gilburt et al. 2013; Jacob et al. 2015; Khoury & Rodriguez 2015), and being better and living a normal life (Sparkes 2018). Gilburt et al. (2013) suggested that MHPs are primary agents and implementers of recovery and also improved the service they provide to consumers.

Quantitative Synthesis

Knowledge about recovery

Self-definition and peers

Six articles explained MHPs and students' knowledge on recovery in the context of the role of self-definition and peers (see Table 3). The review of these articles found that MHPs and students appreciated the need for the consumers to develop a positive identity outside their diagnosis and acknowledge the key role peers play in the recovery process (see Table 2). For example, in a sample of 436 MHPs and students, more than 80% recognized the importance of positive personal identity of consumers and peers in all aspects of the treatment process (Giusti et al. 2019). In addition, most of the articles reported the highest mean score for roles of self-definition and peers on the Recovery Knowledge Inventory [RKI] scale (the mean score of 4.0 to 4.4 out of 5.0). The scale consists of 20 statements on a 5-point Likert scale and assesses four different domains of understanding of recovery in mental health; each item on the scale is rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), where higher scores represent a greater orientation to the concept of recovery.

INSERT Table 3 HERE

Roles and responsibilities

Four articles reported on the MHPs and students' knowledge on recovery using their understanding of roles and responsibilities (see Table 2). These articles indicated that MHPs and students had a good understanding of the importance of differentiating the roles and responsibilities of providers and consumers in the treatment and rehabilitation process (see Table 2). For example, the papers reporting MHPs and students' knowledge on recovery showed that

they had a mean score of 3.8 to 3.6 out of 5.0 on the roles and responsibilities (on the RKI scale). In addition, Walsh et al. (2017) reported the lowest mean score of 1.8 out of 5.0 on the roles and responsibilities.

Recovery intervention regarding knowledge

Ten articles reported recovery interventions used to improve the knowledge of MHPs (see Table 2 for authors and Table 3 for interventions). The articles described 5 recovery-based interventions (see Table 3). Most of the papers reported that the interventions yielded a significant change in knowledge from pre and post-intervention stages (see Table 3). Specifically, two articles concluded that the recovery intervention helped the professionals to develop practical skills such as value-based care, advocacy, peer support, having action plans and actual implementation, sharing ideas with other team members, crisis planning, and learning about resources and an advanced agreements (Chen et al 2014; Higgins et al. 2012). In addition, two articles reported that the intervention had increased the confidence of MHPs, particularly in their ability to empower and motivate people to work towards recovery and manage their own mental health and recovery (Doughty et al. 2008; Higgins et al. 2012).

Perceptions and Attitudes of MHPs about recovery

Non-linearity nature and attitude regarding recovery

Six articles described the perception of MHPs and students regarding the non-linearity nature of the recovery process (see Table 2). Five of the articles reported that MHPs' and students had low scores regarding the non-linearity of the recovery process (Bedregal et al. 2006; Cleary & Dowling 2009; Gaffey et al. 2016; Giusti et al. 2019; Happell et al. 2015) suggesting that MHPs and students were less familiar with that nature of the recovery process. For instance,

most papers reported the least mean score (ranges from 2.56-2.80) for non-linearity on the RKI scale.

Hardiman & Hodges (2008) reported MHPs' attitude regarding recovery-oriented practice. This study explained that MHPs had greater belief in recovery (Hardiman & Hodges 2008). For example, 73.8% of MHPs (in a sample of 301) strongly agree that they genuinely believe that clients can shape their own futures. Similarly, 61.2 %) and 57.1 %, respectively, strongly agreed that there was significant room for improvement in the move toward a recovery-oriented mental health system and recovery is a goal that is feasible for most of the clients.

Recovery interventions explaining Non-linearity

Three articles reported recovery interventions (see Table 3) that MHPs' perception regarding the non-linearity nature of the recovery process. The articles highlighted three recovery-based interventions for MHPs. Two articles reported that MHPs had limited understanding regarding the non-linearity nature of the recovery process (Repique et al.; Walsh et al. 2017). For example, Repique et al. (2016) reported a mean score of 2.5 and 2.4 out of 5.0 for pre and post interventions, respectively, for non-linearity on the RKI scale.

Recovery interventions explaining attitudes of MHPs

Nine articles reported recovery interventions that measured MHPs' attitude regarding recovery-oriented practice (see Table 2 and 3). All the articles reported a change in a more positive attitude towards recovery from pre and post intervention stages and were significant in one or more tool, intervention or sub-scales (see Tables 2 and 3).

For instance, Gudjonsson et al. (2010) reported that the mean attitudes score for a sample of 90 MHPs receiving training on forensic recovery approach to care changed (mean score for trained professionals = 133 versus non-trained professionals =128). In addition, (Peebles et al.

2009) indicated that there was an increase in recovery-promoting attitudes among MHPs who received a recovery education program compared with those who did not received such training. In particular, the professionals felt strongly that recovery was possible regardless of the cause (94%), and occurred even if symptoms persisted (100%), and acknowledged that setbacks were common in the recovery process (Walsh et al. 2017).

Expectation of MHPs and students regarding recovery

Three articles reported the expectation of MHPs on the concept of recovery (see Table 2). The articles concluded that while MHPs agreed that recovery was relevant to all phases of treatment, they had less knowledge of how to develop a hopeful expectation throughout the recovery process for their consumers (Bedregal et al. 2006; Cleary & Dowling 2009). The papers reported the lowest mean score for expectation on the RKI scale (the mean score of 3.0 to 3.1 out of 5.0) (see Table 2).

In addition, two papers reported a recovery based interventions used to measure the expectation of professionals' regarding recovery-oriented practice (see Table 2 and 3). Walsh et al. (2017) reported the lower mean scores for post-training (mean = 2.38) than pre-training stage (3.17) for professionals' expectation towards recovery on the RKI scale. On the contrary, Repique et al. (2016) reported a moderate score for this domain for pre and post-intervention stages (pre-intervention; mean 3. 40, post intervention; mean 3.32).

The predisposing factors that influence recovery concept

Influence of predisposing factors on knowledge

Nine articles described the influence of individual predisposing factors of MHPs and students on their knowledge regarding recovery (see Table 2). The individual predisposing factors influencing their knowledge were type of profession, setting of services (eg dual, acute and community settings), gender, education, training and working experience. A study reported that health professionals with experience in mental illness had significantly less variation in their knowledge score compared with those without experience (Doughty et al. 2008). However, Klockmo et al. (2012) reported otherwise. Regarding profession, Hardiman & Hodges (2008) reported that psychologists were less likely to be familiar with the recovery literature compared with other professionals (eg social workers and psychiatrist). Also, the mean scores were higher for professionals working in dual settings followed by those working in the acute hospital unit, with those working in the community generally having the lowest mean scores (Gaffey et al. 2016).

Furthermore, in comparing nursing and non-nursing professionals, nurses had significantly lower mean scores for roles and responsibilities (3.8) than non-nurses (4.2) (Gaffey et al. 2016). More so, a study reported a significant statistical difference regarding the 'role of self-definition and peers in recovery' between female and male respondents with females attaining a higher mean score (4.1) than males (3.9) (Cleary & Dowling 2009). Finally, Klockmo et al. (2012), reported that MHPs with a university or a one year education had 0.02 and 0.14 higher mean scores than psychiatric aide/nursing assistant respectively.

Influence of predisposing factors on Attitude

The predisoposing factors influencing MHPs and students attitude on recovery oriented-practice were examined by six articles (see Table 2). These factors include organizational, personal level, and sociodemographic profile. For instance, a significant positive attitude were found in MHPs working in an agency that hires consumers as providers (Hardiman & Hodges, 2008). In addition, Hardiman & Hodges (2008) found a significant positive attitude among professionals who believed that consumers should be given the opportunity to provide services. Also, psychologists, nurses and psychiatrist were reported to have positive attitude than social workers (Hardiman & Hodges 2008; Tsai et al. 2011).

Walsh et al. (2017) reported a significant difference in mean scores by gender with females (mean = 17.5) attaining a higher mean score than males (mean =−16.50). In addition, staff who were higly educated, experienced, older, married, had more recovery training reported higher personal optimism and/or higher consumer optimism (Tsai et al. 2011).

Salgado et al. (2010) reported professionals with both low and high- dispositional hope showed pre-post improvements (low hope $z = -2.61$, $p < .01$; high hope $z = -2.11$, $p < .05$) indicating a no interaction between dispositional hope and positive attitude (Salgado et al. 2010).

Influence of predisposing factors on non-linearity

Three articles emphasized the influence of individual predisposing factors of MPHs on the non-linearity of the recovery process. The individual predisposing factors influencing their knowledge regarding non-linearity were profession, training in recovery, setting of services, education and working experience. One study reported significant differences between experienced and less- experienced professionals with less-experienced professionals having a least higher mean score (2.83) than experienced professionals (2.57) on the RKI scale (Cleary &

Dowling 2009). However, Klockmo et al. (2012) reported that the less experienced professionals had 0.13 lower average score (P=0.035) than experienced professionals. Also, training in recovery was positively related to increased perception regarding the non-linearity nature of the recovery process (Klockmo et al. 2012). For work settings, mean scores were highest for those working in dual settings followed by those working in the acute hospital unit, with those working in the community generally having the lowest mean scores on the scale (Gaffey et al. 2016). Furthermore, in comparing nursing and non-nursing professionals, nurses had significantly lower mean scores (2.63) than non-nurses (3.05) (Gaffey et al. 2016). Lastly, a significant higher mean score in educational level was reported by Klockmo et al. (2012) for those with unversityeducation.

Influence of predisposing factors on Expectation

Four articles underscored the influence of individual predisposing factors of MHPs and students regarding the expectation on the recovery process. The predisposing factors highlighted to influence their expectation were education, training in recovery, experience, facility, gender and profession. Cleary & Dowling (2009) reported a statistically significant difference between female and male professionals, with females attaining a higher mean score on the RKI scale (mean score = 3.06) than males (2.66). Also, one study reported significant differences between experienced and less- experienced professionals with less-experienced professionals having a higher mean score (2.92) than experienced professionals (mean score =2.68) (Giusti et al. 2019). Similarly, training in recovery was positively related to increased expectation for recovery oriented practice (Klockmo et al. 2012). For settings, there was a significant difference (mean score = 3.56) for hospital and community compared to (mean score =2.95) acute hospital unit and 2.95 for community (Gaffey et al. 2016). Also Giusti et al. (2019) reported a statistically

significant difference between psychiatrists, non-psychiatrists and students with the highest mean value for students compared to non-psychiatrists (students 3.16,; non-psychiatrists 2.76) (Giusti et al. 2019). In addition, comparing nursing and non-nursing professionals, nurses had significantly lower mean scores (2.99) than non-nurses (3.64) (Gaffey et al. 2016). Lastly, a significantly higher mean scores in educational level with those who have a university education with 0.26 higher mean score (P=0.018) than those without university education (Klockmo et al. 2012)

Discussion

This review was conducted to synthesize the available evidence of the knowledge, attitudes, understanding, perceptions and expectations of MHPs and MHP students regarding mental health recovery. A total of 29 studies describing staff knowledge, attitudes, understanding, perceptions and expectations of recovery were included. The review findings has been discussed using four themes: (1) the understanding of the concept of recovery; (2) knowledge of recovery; (3) perceptions and attitudes towards recovery; and (4) predisposing factors influencing MHPs and students knowledge, attitudes, perceptions and expectations of recovery.

Understanding of the concept of Recovery

The recovery concept was a term referred to in the research included in this review. There were, however, disparities in how they explained their use of the concept. The recovery concept was explained by some researchers as a personal process, while others perceived it as a clinical process. Consistent with the findindgs where recovery is understood as a personal process, it is perceived as a process of building on personal strengths, realizing self-determination and hope, and interdependency risk taking in order to develop required supports and coping mechanisms

(Allott & Loganathan 2002; Ramon et al. 2007). On the othe hand, clinical recovery is defined by some studies using the problem-centred model with primary focus on medication and the resumption of normal psychosocial functioning (Ng et al. 2008). This notion of recovery implies a complete cure where the individual returns to a place prior to the illness where they are symptom free (Ng et al. 2008) through medication compliance (Ng et al. 2008). Those findings coroborate the findings of this review as some researches explained recovery in terms such of medication adherence, reduction of symptoms, improved mental state, reduction in the risk of reoffending, and improved behavior.

Knowledge of recovery

Knowledge of recovery is increasing in the mental health literature. The knowledge of mental health nursing in regard to recovery is identified as relevant to the improvement of service provision. An improved knowledge of recovery is linked to the ability to provide a consumer-centred service (Anthony 1993). The current findings demonstrate that MHPs and students knowledge regarding recovery (especially on the roles of self definitin and peers) has improved. More specifically, the majority of the professionals and students who participated in both the intervention and non-intervention studies acknowledged the importance of defining consumers' identity and availability of peer support as well as clarifying the roles and responsibilities among consumers, carers and professionals during the recovery jouney. Consistently, previous studies have also identified the importance of peer support in recovery (Douglas et al. 2019). It is apparent that the improved knowledge regarding the recovery concept could be ascribed to in-service training as well as recovery interventions at the workplace. The review findings recommend that the existing recovery interventions should be promoted to

improve the knowledge of MHPs and students, particulary regarding their understanding of roles and responsibilities.

Perceptions and Attitudes of MHPs regarding recovery

Generally, attitudes of health practitioners have been identified as the major barrier to consumer and carers participation and overall improvement of health (Badu et al. 2018; Klages et al. 2017; World Health Organization 2017). Negative attitudes such as discrimination, frustration and lack of respect can result in poor health outcomes for consumers (Goodwin & Happell 2007; Klages et al. 2017). However, the review findings suggest that MHPs in both intervention and non-intervention groups had positive attitudes about the concept of recovery. In particular, MHPs had improved attitudes and recognized that recovery is possible even when symptoms persist, and regardless of the cause. This finding may be the result of continuous in-service recovery training provided to MHPs. The positive attitudes regarding recovery in these studies contradict previous literature that reported general negative attitudes against consumers and carers. Negative attitudes towards recovery mostly occurred in studies that explored general experiences of consumers and carers regarding the attitudes of MHPs. Athough the findings did not report on student attitudes towards recovery, earlier research that compared professionals, consumers and students attitudes concluded that students had the least favourable attitude of all groups towards recovery (Borkin et al. 2000). In view of this, this review recommend that more studies should be conducted on the attitude of students regarding recovery. Particularly, researchers should use interventional studies to measure the effectiveness of recovery oriented training on the attitudes of students.

Recovery, it has been argued, is not a linear process (Anthony 1993; Deegan 1988). Rather, recovery is not understood as having a beginning nor an end, or a stage of mental illness or cure.

It does however entail growth and setbacks, times of rapid transfromation, as well as times of limited change. Over time, consumer outcomes improve as a result of their natural support systems (Anthony 1993). Particularly, recovery is linked to having people who believe in and stand by the consumer in recovery (Anthony 1993). However, this review found that the majority of MHPs and students were less familiar with the non-linearity nature of the recovery process. This finding is important and warrants urgent resolution in the form of eduaction and training to improve the students and the professionals knowledge regarding the non-linearity nature of the recovery process. Recovery oriented training for MHPs and students should be strengthened to improve their understanding of the non-liearity nature of the recovery process.

Expectation of MHPs and students regarding recovery

In mental health systems, negative beliefs and attitudes can result in little or no expectation of recovery among professionls (Allott & Loganathan 2002). Such negative expectations and experiences have had a severe effect on the lives of consumers and carers. Many consumers treated by the psychiatric system have been placed in a position of 'learned helplessness' as a result of these attitudes (Deegan 1988). However, the adoption of the concept of recovery by the government and other organizations is generating significant interest and even optimism among many consumers, advocates, providers, funders, and other stakeholders (Frese et al. 2009). The findings from the review conclude that whilst MHPs understand the concept of recovery in managing severe mental illness, many have low to moderate expectations for recovery among consumers of mental health services. This finding may mean that many professionals have little hope that consumers have the ability to recover and as a result, they may not even encourage consumer participation from a position of recovery. In addition, this may explain the reason why, despite the evidence that consumers involvement in planning mental

healthcare is beneficial, their involvemnt is rare in routine practice. In fact, a number of studies have reported that professionals with low expectations for consumers can actually delay the recovery journey and encourage learned helplessness (Roberts & Wolfson 2004). We recommend that more interventional studies be conducted to explore the effectiveness of recovery training on the expectations of MHPs and students.

The predisposing factors influencing recovery

The study showed that several organizational and individual socio-demographic profiles influence MHPs and students knowlege, attitudes, perceptions and expectations regarding recovery. In particular, MHPs working in an agency that hires consumers as providers as well as agencies that collaborates with consumer-run programs had a positive attitudes towards recovery. This findings suggests that consumers are likely to become advocates of the recovery process, thus resulting in positive attitudes towards the notion of recovery.

Similarly, MHPs that received training in recovery had positive perceptions and increased expectations regarding the recovery process (Klockmo et al. 2012) These findings have also been reported by other researchers such as Meehan & Glover (2009). This suggests that training may be the strongest factor in predicting better and positive knowledge, attitude, understanding, perceptions, and expectations regarding recovery, thus promoting recovery training should be supported by policy makers and rehabilitation specialist.

Further, some socio-demographic profiles of MHPs and students were linked to a positive or negative knowledge, attitudes and expecation towards recovery. Whiles some studies reportd experiened MHPs to be knowledgeable about the recovery process, one study found otherwise. The findings recommend that stakeholders should consider the working experience of MHPs when designing a recovery oriented training. Future research should also aim to explore the

underlying factors that causes the differences in knowledge and expectation regarding the working experience of MHPs. Also the findings that different MHP and students had low, inconsistent and diverse knowledge and attitude regarding recovery rquires a re-examinination of the curriculums used to train them (Peebles et al. 2009).

Furthermore, the findings that different settings, gender and education resulted in differences in knowledge and attitudes requires that recovery training and education take these factors into account.

Limitatitons

The present review's limitations include the relatively small sample size used in 2 (7%) articles and the inclusion criteria limiting the articles to those published in English language and published in the period January 2006 to June 2019 could have missed some important non-English-language articles and articles published prior to 2006. Nevertheless, consultation with librarians, the double-rating of the articles to assess eligibility and quality helped addressed some of these limitations. Despite the limitations, this is the first review that has been systematically conducted to synthesize MHPs' and students' knowledge, attitudes, understanding, perception and expectations related to mental health recovery, and will help in future professional development as well as undergraduate education to transform mental health care into a recovery-oriented care.

Conclusion

The review concludes that there is increasing evidence regarding MHPs knowledge, attitudes, understanding and perceptions as well as expectations towards recovery. However, disparities exist in the evidence based on several factors. More importantly, the increasing evidence on recovery regarding this population is largely centered on developed countries, with

relatively little studies conducted in low resource settings. Moreso, the increasing empirical studies regarding recovery also targets MHPs (e.g., mostly psychiatrists, psychologists, social workers and nurses) with only few studies that have attempted to consider MHP students. Similarly, the increasing empirical studies regarding recovery in this population employ largely quantitative data, with little studies attempting to incorporate both qualitative and quantitative, to better understand the complementality and complexity of the issue.

Implications for practice

These findings have important implications for continued training and education of MHPs and MHP students in the area of recovery. It is imperative to re-examine the curriculum used to educate MHP students in order to ensure they are receiving adequate education in regard to the principles of recovery. Given the evidence that professionals lack adequate understanding of the non- linearity nature of the recovery proces and the need for professionals to maintain a hopeful and realistic expectation for consumers throughout the recovery processs, it is important that these processes be incorporated in future profesional development as well as undergraduate education.

Also more future studies focused on the principles and processes of recovery might be conducted in low resource settings, as well as with students and using mixed method studies to understand the complementality and complexity of recovery. The findings from this review support continued efforts to educate, train and engage in professional discussions about recovery.

Table 1: Characteristics of Included Studies in the Review

Article	Country	Objective	Participants	Design	Methods	Data collection	Data analysis	Q	Summary of findings
Bedregal et al. (2006)	USA	To measure providers' knowledge and attitudes towards the different recovery domains	Mental health professionals	Not reported	Quantitative	• Recovery Knowledge Inventory (RKI)	Inferential	H	Professionals had good knowledge for some recovery domain, however; they were unfamiliar with the recovery process
Chen et al. (2014)	Canada	To describe the development of a recovery education program designed specifically for inpatient providers.	Mental health professionals	Pretest/Posttest Design	Quantitative	• Recovery Knowledge Inventory	Descriptive & inferential	H	Professionals' knowledge on recovery improved after training
Cleary and Dowling (2009)	Ireland	To examine the knowledge and attitudes of mental health professionals to the concept of recovery in mental health	Mental health professionals	Descriptive survey	Quantitative	• Recovery Knowledge Inventory	Descriptive & inferential & content analysis	H	Respondents had positive and good knowledge in some recovery domains, however; they were unfamiliar with the recovery process
Cleary et al. (2013)	Australia	To assess the views of mental health nurses working in acute inpatient mental health units about a range of recovery-focused topics	mental health nurses	Qualitative Interpretive	Qualitative	• Semi structured interviews	Thematic analysis	H	Most Professionals identify the concept of recovery as holism (holistic approach to health care)
Crowe, Deane, Oades, Caputi, and	Australia	To examined the impact of a two-day, recovery-based training program for mental health workers on knowledge,	Mental health professionals	Pre-post training design	Quantitative	• The Recovery Attitude Questionnaire (RAQ-7) • The collaborative	Descriptive & Inferential	H	Professionals' attitudes and hopefulness improved after training.

Morland (2006)		attitudes, and hopefulness on recovery.				recovery knowledge scale • The staff attitudes to recovery scale (STARS)			
Doughty et al. (2008)	New Zealand	To determine whether workshops could change participants' attitudes and knowledge about recovery	Mental health professionals & consumers	Pre-Test/Post-Test Design	Quantitative	• WRAP Questionnaires	Descriptive & inferential	H	A significant change in total attitudes and knowledge about recovery occurred with no differences between consumers and health professionals
Gaffey et al. (2016)	Ireland	To assessed current knowledge and attitudes to recovery among Mental health professionals	Mental health professionals	Descriptive survey	Quantitative	• Recovery Knowledge Inventory	Descriptive & inferential & content analysis	H	Respondents have positive and good knowledge in some recovery domains however; they were unfamiliar with the recovery process
Gilburt et al. (2013)	U.K & Australia	To evaluate the implementation of recovery-orientated practice through training across a system of mental health services.	Mental health professionals	Quasi-experimental	Mixed	• Document review & Semi-structured interview	Inferential & thematic analysis	H	The professionals strongly associated the word recovery with the verb 'to recover' and recovery was seen by the majority as a linear journey with a start and end point
Giusti et al. (2019)	Italy	To investigate attitudes toward personal recovery in a sample of 436 healthcare professionals and students of psychiatric rehabilitation techniques	Mental health professionals& Students	Not reported	Quantitative	• Italian version of the recovery knowledge inventory	Descriptive & inferential	H	The respondents in the study demonstrated a good global orientation towards personal recovery

Gudjonsson et al. (2010)	U.K	To investigate staff attitude towards the recovery approach in forensic mental health services and the impact of training on staff knowledge and attitude	Mental health professionals	Not reported	Quantitative	• Recovery approach staff questionnaire	Inferential	H	Professionals' attitudes were positive and those trained scored significantly higher values than non-trained staff.
Happell et al. (2015)	Australia	To assess whether students' attitudes and knowledge on recovery changed over the course of a semester	Nursing students	Not reported	Quantitative	• Recovery Knowledge Inventory	Descriptive & inferential	H	Students' knowledge were highest for Self-Definition and Peers, followed by Roles and Responsibilities, and least in recovery as a Process
Hardiman and Hodges (2008)	USA	To examine mental health provider attitudes toward and utilization of psychiatric recovery concepts in practice settings	Mental health professionals	Not reported	Quantitative	• Recovery Attitude Questionnaire (RAQ-7)	Descriptive & inferential	H	Professionals were positive and familiar with recovery principles, but its translation into practice remained mixed within them
Higgins et al. (2012)	Ireland	To evaluate the effectiveness of a Wellness Recovery Action Planning education program	Mental health professionals, consumers and carers	Mixed methods approach pre–post-evaluation	Mixed	• Recovery Knowledge Questionnaire (RKQ), • Recovery Attitudes Questionnaire • beliefs about Recovery and WRAP questionnaire • focus group interviews	Descriptive & Inferential & thematic analysis	H	The intervention increased participants' knowledge of and attitudes towards recovery and Wellness Recovery Action Planning

Jackson-Blott et al. (2019)	Wales	To explore staff and service-users' views regarding factors deemed important to recovery from psychosis in a forensic service.	Mental health professionals & consumers	Cross-sectional	Mixed	• Q-set • semi-structured interviews	Descriptive & inferential	H	The findings indicated that multiple dimensions of recovery (personal growth, psychosocial, gaining insight and reducing recidivism) are important in clinical practice.
Jacob et al. (2015)	Australia	To outline the results of a qualitative study on mental health recovery, which involved mental health consumers, carers and mental health nurses	Mental health professionals, consumers and carers	phenome nology	Qualitative	• semi-structured interviews	thematic analysis	H	Participants had similar views that recovery involves living life, cure or absence of symptoms and contribution to community
Karpetis (2018)	Australia	To explore how statutory mental health social workers implement recovery policies	Mental health professionals	phenome nology	Qualitative	• semi-structured interviews	Thematic analysis	H	Professionals revealed they use a holistic approach to care that is, clients centeredness ad community approach in applying recovery
Khoury and Rodriguez del Barrio (2015)	Canada	To explore the concept of recovery-oriented social work practice in mental health settings as it is understood and practised by social workers.	Mental health professionals	Phenome nology	Qualitative	• Semi-structured interviews • Document review	Thematic analysis	H	Recovery involves a non -linear approach of care contrary to system belief in outcome.

Klockmo et al. (2012)	Sweden	To investigate the knowledge and the attitude regarding recovery among practitioners working in the Swedish mental health system	Mental health professionals	Not reported	Quantitative	• Recovery Knowledge Inventory	Descriptive & inferential	H	There were differences in knowledge and attitude regarding recovery between different services
Parker et al. (2017)	Australia	To explore the experiences of staff working at a recovery-oriented, community-based residential mental health rehabilitation	Mental health professionals	Longitudinal	Qualitative	• semi structured interviews	Grounded theory analysis	H	Professionals understandings of recovery in rehabilitation work were complex and included consideration of both personal and clinical recovery concept
Passley-Clarke (2018)	USA	To reduce 30-day readmissions, assess recovery knowledge of nurses, and evaluate patients' perceived quality of life	Mental health professionals and consumers	Pre-post survey	Quantitative	• The Medical Outcomes Study 36-Item Short Form • Recovery self-assessment Registered Nurse Version (RSA-RN) • Nurse and Patient Demographic Questionnaire (s).	Descriptive & inferential	H	Professionals recovery knowledge increased with training
Peebles et al. (2009)	Georgia	To design and examine the effectiveness and/or impact of educational interventions for an academic audience	Mental health professionals	Not reported	Quantitative	• The Project GREAT Recovery Knowledge Measure • Recovery Knowledge Inventory (RKI)	Inferential	H	The intervention increased providers' knowledge of recovery and a shift in recovery-supporting attitudes.

						• Recovery Attitudinal Pre-Post Survey • Attribution Questionnaire—27 (AQ-27)			
Repique et al. (2016)	USA	To reduce the use of restraints in a short-stay inpatient psychiatric hospital setting by facilitating change in nursing care delivery	Mental health professionals	Mixed-methods	Mixed	• Recovery Knowledge Inventory • Interview guide and • Field note	Descriptive, inferential & Thematic content analysis	H	There was no significant difference in the results from the pre and post RKI surveys; more practical recovery education was requested.
Salgado et al. (2010)	Australia	To determine whether attitudinal improvements following formal recovery training vary depending on participants' dispositional hope	Mental health professionals	Not reported	Quantitative	• Recovery Attitudes Questionnaire (RAQ), • dispositional Hope Scale • Staff Attitudes to Recovery Scale (STARS) • Therapeutic Optimism Scale • Recovery Knowledge Inventory	Inferential	H	The training improved professionals' recovery knowledge, attitudes, hopefulness and optimism.

Sellin et al. (2018)	Sweden	To describe what characterizes a recovery-oriented caring approach, and how this can be expressed through caring acts involving suicidal patients and their relatives	Mental health professionals & Researches	Delphi approach	Qualitative	• Focus group interviews	Thematic analysis	H	The professional revealed that recovery-oriented caring approach is characterized by a communicative togetherness; enabling a nurturing and caring space for suicidal patients to really express themselves and to reach for their own resources.
Sparkes (2018)	UK	To explore two interpretive repertoires that mental health practitioners draw upon in their accounts of recovery	Mental health professionals & non-professionals	Not reported	Qualitative	• Field notes • documents review • semi-structured interviews	Discourse analysis	H	The participants accounts of recovery were variable and contradictory, and offer a number of subject positions (clinical and personal) from which recovery can be experienced
Tickle et al. (2014)	Not reported	To explore the views of clinical psychologists towards the concepts of 'risk' and 'recovery' and to set those views against the context of mental health services	Mental health professionals	Grounded theory	Qualitative	• Semi-structured interviews	line-by-line coding thematic analysis	H	Professionals were aware of the emergence of recovery but lack clear understanding of its concepts
Tsai et al. (2011)	USA	To examined whether recovery-related trainings in community mental health centers is	Mental health professionals	Not reported	Quantitative	• Consumer Optimism scale	Inferential	H	The professionals trained in one or more recovery-concept reported

		associated with differences in staff attitudes and reported organizational practices				• Personal Optimism scale • Recovery Self-Assessment (RSA)Provider Version scale			significantly higher consumer optimism and a greater agency recovery orientation towards consumers' life goals than those with no training
Walsh et al. (2017)	Ireland	To determine the effects of a recovery-based training in mental health on staff knowledge and attitudes to recovery	Mental health professionals	longitudinal	Quantitative	• Recovery Knowledge Inventory (RKI-20) • Recovery Attitudes' Questionnaire (RAQ-16)	Descriptive & Inferential	M	The recovery-based training positively affected professionals' knowledge and attitudes to recovery.
Wilrycx, Croon, Van Den Broek, and Van Nieuwenhuizen (2012)	Netherlands	To investigate the effectiveness of a recovery-oriented training program on knowledge and attitudes of mental health care professionals towards recovery of people with serious mental illness	Mental health professionals	longitudinal	Quantitative	• Dutch versions of the Recovery Knowledge Inventory (RKI) • Dutch version of Recovery Attitude Questionnaire (RAQ)	Descriptive & Inferential	M	The professionals' attitudes towards recovery from mental illness improved with training

Table 2: Organizing Themes Included in the Review

Global themes	Organizing themes	No.	Articles
Understanding of the concept of Recovery	Personal recovery process	11	(Cleary et al., 2013) (Gaffey et al., 2016) (Gilburt et al., 2013) (Jackson-Blott et al., 2019) (Jacob et al., 2015) (Karpetis, 2018) (Khoury & Rodriguez del Barrio, 2015) (Parker et al., 2017) (Sellin et al., 2018) (Sparkes, 2018) (Tickle et al., 2014)
	Clinical recovery process	8	(Cleary et al., 2013) (Gilburt et al., 2013) (Jackson-Blott et al., 2019) (Jacob et al., 2015) (Karpetis, 2018) (Khoury & Rodriguez del Barrio, 2015) (Sparkes, 2018) (Tickle et al., 2014)
Knowledge on recovery	Self-definition and peers	6	(Bedregal et al., 2006) (Cleary & Dowling, 2009) (Giusti et al., 2019) (Happell et al., 2015) (Gaffey et al., 2016) (Walsh et al., 2017)
	Roles and responsibilities	4	(Bedregal et al., 2006) (Cleary & Dowling, 2009) (Happell et al., 2015) (Gaffey et al., 2016)
	Recovery intervention knowledge	10	(Chen et al., 2014) (Crowe et al., 2006) (Doughty et al., 2008) (Passley-Clarke, 2018) (Peebles et al., 2009) (Repique et al., 2016) (Higgins et al., 2012) (Salgado et al., 2010) (Walsh et al., 2017) (Wilrycx et al., 2012)
Perceptions and Attitudes	Non-linearity nature and attitude regarding recovery	5	(Bedregal et al., 2006) (Cleary & Dowling, 2009) (Giusti et al., 2019) (Happell et al., 2015) (Gaffey et al., 2016) (Hardiman & Hodges, 2008)
	Non-linearity intervention	3	(Repique et al., 2016) (Walsh et al., 2017) (Gudjonsson et al., 2010)
	Attitude Intervention	9	(Gudjonsson et al., 2010) (Crowe et al., 2006) (Doughty et al., 2008) (Walsh et al., 2017) (Peebles et al., 2009) (Tsai et al., 2011) (Higgins et al., 2012) (Salgado et al., 2010) (Wilrycx et al., 2012)
Expectations	Expectations regarding recovery	3	(Bedregal et al., 2006) (Cleary & Dowling, 2009) (Gaffey et al., 2016)
	Expectations intervention		(Walsh et al., 2017) (Repique et al., 2016)
Influence of predisposing factors on recovery	Influence of predisposing factors on knowledge	9	(Cleary & Dowling, 2009) (Gaffey et al., 2016) (Giusti et al., 2019) (Hardiman & Hodges, 2008) (Gudjonsson et al., 2010) (Klockmo et al., 2012) (Doughty et al., 2008) (Khoury & Rodriguez del Barrio, 2015) (Walsh et al., 2017)
	Influence of predisposing factors on attitude	5	(Tsai et al., 2011; Walsh et al., 2017) (Salgado et al., 2010) (Hardiman & Hodges, 2008; Klockmo et al., 2012) (Crowe et al., 2006)

	Influence of predisposing factors on perception(non-linearity)	3	(Cleary & Dowling, 2009) (Gaffey et al., 2016) (Klockmo et al., 2012)
	Influence of predisposing factors on expectation	5	(Cleary & Dowling, 2009) (Gaffey et al., 2016) (Giusti et al., 2019) (Klockmo et al., 2012) (Walsh et al., 2017)

Table 3: Summary of Characteristics of Recovery Interventions Based on some Quantitative Studies Included in the Review

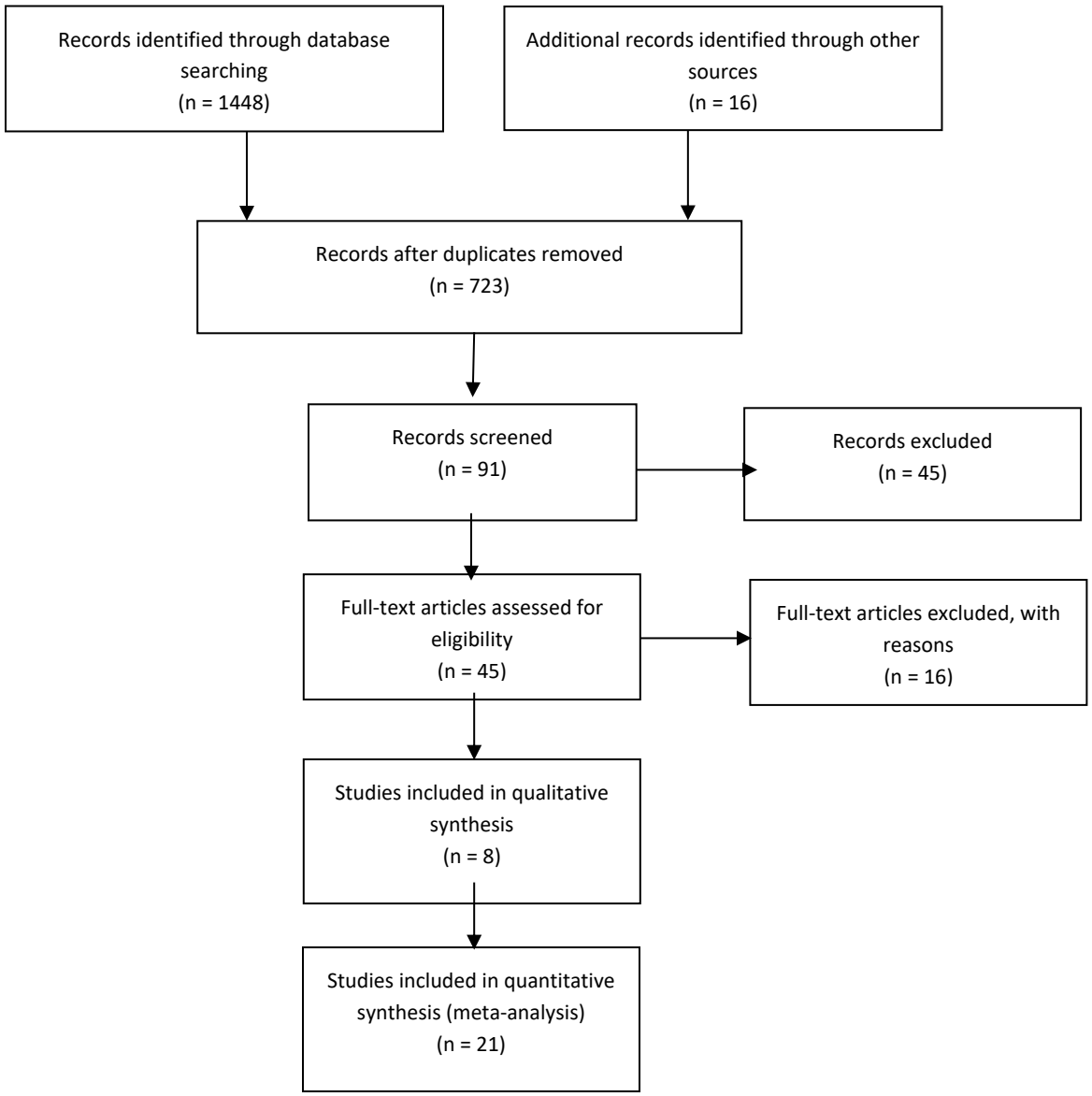
Study	Intervention	Objective of intervention	Mode of delivery	Content of intervention	Group	Outcome
Chen et al. (2014)	An educational program	To describe the development of a recovery education program designed specifically for inpatient providers.	• A 3 month self-learning program • Group learning program with three group sessions per module for three month.	• The Self-learning focused on basic recovery concepts, the tension-practice-consequence model and recovery competency framework and the Group learning also focused on encouraging participation and strength-based practice	Providers	Professionals' knowledge on recovery improved after training
Crowe et al. (2006)	Collaborative Recovery Training Program(CRTP)	To examined the impact of a two-day, recovery-based training program for mental health workers on knowledge, attitudes, and hopefulness on recovery.	• A 2-day Collaborative Recovery Training workshop was delivered	• The workshop focused on a motivational enhancement modules and a collaborative goal setting strategies; supporting the unique recovery processes of consumers and collaboration between mental health workers and these individuals.	Providers	Professionals' attitudes and hopefulness improved after training
Doughty et al. (2008)	The Wellness Recovery Action Plan (WRAP) workshop	To determine whether workshops could change participants' attitudes and knowledge about recovery	• A day or 2 full workshop was delivered through presentation, small group discussion, and sharing of recovery experiences	• The workshop focused on recovery concepts medical care, daily living strategies, Identifying triggers, and early and late symptoms of a worsening situation and developing a personal crisis plan	Providers and consumers	A significant change in total attitudes and knowledge about recovery occurred with no differences between consumers and health professionals
Gilburt et al. (2013)	Recovery orientated training program	To evaluate the implementation of practice through training across a system of mental health services.	• A 4 full-day workshops with each workshop been run twice in the same month was delivered, followed by an in-team half day session	• The first day focused on approaches to recovery, days 2 and 3 focused on psychosocial approach to recovery and day 4 covered a range of topics including care planning, social inclusion and spirituality.	Community based and inpatient service providers	Recovery was seen by the majority as a linear process and staffs as the facilitators.

Gudjonsson et al. (2010)	Forensic recovery approach staff training program	To investigate staff attitude towards the recovery approach in forensic mental health services and the impact of training on staff knowledge and attitude	• A day training package on the forensic recovery approach to care delivered by a didactic teaching and experiential learning through role play	• The training centered on Introduction to recovery, recovery approach within forensic services, and application of recovery approach in practice	in-patient providers	Professionals' attitudes were positive and those trained scored significantly higher values than non-trained staff.
Happell et al. (2015)	Recovery for Mental Health Practice course	To assess whether students' attitudes and knowledge on recovery changed over the course of a semester	• A semester classroom education	• The course focused on mental health recovery of consumers with severe mental illness	Students	Students' knowledge were highest for Self-Definition and Peers, followed by Roles and Responsibilities, and least in recovery as a Process
Higgins et al. (2012)	Wellness Recovery Action Planning (WRAP) education	To evaluate the effectiveness of a Wellness Recovery Action Planning education program	• The workshop was delivered in two stages: participants first completed a 2-day program and a smaller cohort subsequently attended a 5-day training program	• The initial 2-day program gave participants insight into recovery and WRAPs. and the other 5-day program focused on giving the participants skills to help other groups learn about recovery and WRAP	Providers, consumers and carers	The intervention increased participants' knowledge of and attitudes towards recovery and Wellness Recovery Action Planning
Passley-Clarke (2018)	An educational section focusing on recovery principles and facilitation of IMR groups	To reduce 30-day readmissions, assess recovery knowledge of nurses, and evaluate patients' perceived quality of life	• A 3-hour educational program that included videos and interactive discussion was delivered • Facilitation of IMR program	• The workshop focused on illness management strategies, psychosocial and social aspect of recovery. • IMR program focused on psychoeducation about mental illness and treatment, cognitive-behavioral interventions and building social supports	Providers & consumers	Professionals recovery knowledge increased with training
Peebles et al. (2009)	Recovery oriented curriculum	To design and examine the effectiveness and/or impact of educational interventions for an academic audience	• A 5-hour workshop was delivered through role-playing, storytelling by consumers, didactic	• An initial 3-hour workshop on SAMHSA Fundamental Components of Recovery was given • Another (2-hour) workshop on providers attitude was	Providers	The intervention increased providers' knowledge of recovery and a shift in recovery-supporting attitudes.

			presentations and discussions	presented to practitioners 1 month later		
Salgado et al. (2010)	Collaborative Recovery Training Program (CRTP)	To determine whether attitudinal improvements following formal recovery training vary depending on participants' dispositional hope	• A 2-day workshop on the subject of recovery was delivered.	• The workshop focused on recovery concepts and skills supporting consumers' abilities to set, pursue and attain personal goals were.	Providers	The training improved professionals' recovery knowledge, attitudes, hopefulness and optimism.
Tsai et al. (2011)	Illness Management and Recovery (IMR)	To examined whether recovery-related trainings in community mental health centers is associated with differences in staff attitudes and reported organizational practices	• A 2-day IMR training and a one-day IMR case consultation workshop were provided to community health staff during the year of the study	• The workshop focused on IMR program and case consultation activities	Community mental health providers	The professionals trained had significantly higher consumer optimism and a greater agency recovery orientation towards consumers' life goals than those with no training
Repique et al. (2016)	Substance Abuse and Mental Health Services Administration (SAMHSA) recovery training program	To reduce the use of restraints in a short-stay inpatient psychiatric hospital setting by facilitating change in nursing care delivery	• An hour-long online webinar introductory workshop was provided in phase one • During phase two, a continued hour workshop was provided	• The workshop focused on patient engagement models, trauma systems theory, restraint reduction strategies and integration of peer-to-peer services	Inpatient providers	There was no significant difference in the results from the pre and post RKI surveys; more practical recovery education was requested
Walsh et al. (2017)	A recovery-based training program	To determine the effects of a recovery-based training in mental health on staff knowledge and attitudes to recovery	• A 4-hour training workshop was developed and facilitated by consumers, carers and providers	The workshop focused on defining the concept of recovery, exploration of the recovery principles and how these recovery principles can be adopted into clinical practice.	Providers	The recovery-based training positively affected professionals' knowledge and attitudes to recovery.

Wilrycx et al. (2012)	An educational program about recovery	To investigate the effectiveness of a recovery-oriented training program on knowledge and attitudes of mental health care professionals towards recovery of people with serious mental illness	• A 2-day module workshop was given every six months. One was in 2008 and the second one in 2009	• The first module focused on the basics of recovery-oriented care in order to familiarize the professional with the concept of recovery. • The second module focused on recovery-oriented attitude of professional	Providers	The professionals' attitudes towards recovery from mental illness improved with training

Figure 1: PRISMA Flow Diagram



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Appendices
Appendix 1: Data Extraction Form

Study Topic	
Study Details;	
Citation	
Year of publication	
Author(s)	
Study Objective(s)	
Methodology	
• Study design	
• Study setting	
• Type of Participants	
• Type of data	
• Data collection instrument	
• Sampling	
• Sample size	
• Data analysis	
• Theory	
• Ethics	
Population Characteristics;	
Age range	
Sex	
Years of working experience	
Intervention/Training(if applicable)	
Knowledge of recovery-oriented practice;	
Mental health professionals	
Health Students	
Attitude towards recovery-oriented practice;	
Mental health professionals	
Health Students	
Understanding of recovery-oriented practice;	
Mental health professionals	
Health Students	
Expectation towards recovery-oriented practice;	
Mental health professionals	
Health Students	
Additional information	
Recommendation	
Conclusion	
Identifiable references to follow up	

Appendix 2: Quality Asessment Tools

Critical Appraisal Skills Program

NB: Y=Yes, N=No, C.T=Can't Tell

Articles	Clear aims	Appropriate(App)study type or approach	App design	App recruitment	App data collection	Author(s) and participant relationship	Ethical consideration	Rigorous analysis	Clear findings	Value of research	Rating	Judgment
Cleary, Horsfall, O'Hara-Aarons, and Hunt (2013)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	H
Jacob, Munro, and Taylor (2015)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	H
Karpetis (2018)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	H
Khoury and Rodriguez del Barrio (2015)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	H
Parker et al. (2017)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	H
Sellin, Kumlin, Wallsten, and Wiklund Gustin (2018)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	H
Sparkes (2018)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10	
Tickle, Brown, and Hayward (2014)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	9	H

AXIS Tool for Cross Sectional Studies

NB: Y=Yes, N=No, D.K=Don't Know

Articles	(Bedregal, O'Connell, & Davidson, 2006)	Cleary and Dowling (2009)	Giusti et al. (2019)	Klockmo, Marnetoft, Nordenmark, and Dalin (2012)	Happell, Byrne, and Platania-Phung (2015)	(Hardiman & Hodges, 2008)	Gaffey, Evans, and Walsh (2016)
Items							
Were the aims/objectives of the study clear?	Y	Y	Y	Y	Y	Y	Y
Was the study design appropriate for the stated aim(s)?	Y	Y	Y	Y	Y	Y	Y
Was the sample size justified?	Y	Y	Y	Y	Y	Y	Y
Was the target/reference population clearly defined?	Y	Y	Y	Y	Y	Y	Y
Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?	Y	Y	Y	Y	Y	Y	Y
Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?	Y	Y	Y	Y	Y	Y	Y
Were measures undertaken to address and categorise non-responders?	Y	N	Y	Y	Y	N	Y
Were the risk factor and outcome variables measured appropriate to the aims of the study?	Y	Y	Y	Y	Y	Y	Y

Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously?	N	Y	Y	Y	Y	Y	Y
Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p-values, confidence intervals)	Y	Y	Y	Y	Y	Y	Y
Were the methods (including statistical methods) sufficiently described to enable them to be repeated?	Y	Y	Y	Y	Y	Y	Y
Were the basic data adequately described?	Y	Y	Y	Y	Y	Y	Y
Does the response rate raise concerns about non-response bias?	N	N	N	N	N	N	N
If appropriate, was information about non-responders described?	N	Y	Y	Y	Y	Y	Y
Were the results internally consistent?	Y	Y	Y	Y	Y	Y	Y
Were the results presented for all the analyses described in the methods?	Y	Y	Y	Y	Y	Y	Y
Were the authors' discussions and conclusions justified by the results?	Y	Y	Y	Y	Y	Y	Y
Were the limitations of the study discussed?	Y	Y	Y	N	Y	N	Y
Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?	N	N	N	N	N	N	N
Was ethical approval or consent of participants attained?	N	Y	Y	Y	Y	N	Y
Total Score	15	17	18	17	18	15	18
Rating	high	high	high	high	high	high	high