Abstract

Improving mental health status among individuals has become one of the primary concerns globally, including in Pakistan. However, there is a scarcity of studies assessing the level of mental health literacy (MHL), efficacy of mental health awareness programs, and MHL related measures in Pakistan. This systematic review aims to bridge this gap in the literature. Nine electronic databases were searched to identify empirical literature in this area. Only those studies which aimed to evaluate the efficacy of MHL and published in English were selected. Non-peer reviewed articles and grey literature were excluded. From 613 studies retrieved, 59 studies met inclusion criteria and were reviewed. Forty-three of included studies mentioned mental health outcome measures (only four mentioned reliability indices), 13 discussed stigma, 18 examined help-seeking approach to mental illness treatment, and 47 discussed mental health knowledge. Additionally, it was found that there is considerable heterogeneity and limited validity in outcome measures of MHL. Meta-analysis was not conducted owing to lack of MHL operationalisation, and measurement tools lacked consistency and standardization. This review presented a compilation of available studies on MHL to assist those currently studying various dimensions of MHL or designing new studies. The outcome of the review highlights the need for well-designed controlled intervention studies. Further implications for researchers, practitioners, and policymakers are mentioned.

Keywords: mental health literacy, health promotion; help-seeking; interventions; stigma; psychological tests, Pakistan
Background

The World Health Organization defines mental health as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (WHO, 2014b, p. 10). Mental health issues are one of the leading factors of disease burden, and major depression is the second primary cause of disability and significantly contributing to suicide and heart disease worldwide (Waldmann, Staiger, Oexle, & Rüsch, 2019; Whiteford et al., 2013). Universally, almost 350 million individuals suffer from depression, 60 million individuals suffer from bipolar affective disorder, and approximately 21 million from schizophrenia/other psychoses (Breslin, Shannon, Haughey, Donnelly, & Leavey, 2017; Pisciotta et al., 2019). Yet, mental health research in developing countries is growing but still fewer in number, and there is a paucity of research on mental health perceptions in Asia, especially in developing countries like Pakistan (Choudhry, 2019; Lund et al., 2010). Also, prevalence of diagnosable psychiatric disorders in the Pakistani population remains unclear (Alosaimi et al., 2014; Khalily, 2011).

Based upon the definition of health literacy by WHO (2013), mental health literacy (MHL) consists of three interconnected concepts: knowledge (knowledge of mental illness and positive mental health), attitudes, and help-seeking efficacy (WHO, 2013). MHL is defined as “knowledge and beliefs about mental health problems which aid their recognition, management, or prevention” (Jorm et al., 1997, p. 143). MHL not only is a primary indicator of mental health but also has the capability to enhance person’s health (Kelly, 2007; Kutcher, Bagnell, & Wei, 2015; Kutcher, Wei, & Coniglio, 2016; Wei, McGrath, Hayden, & Kutcher, 2015). Enhanced information about mental health may help decreasing stigma against mental health problems (Chang & Biegel, 2018; Henderson, Evans-Lacko, & Thornicroft, 2013). For the current review, we theorised MHL to include four domains: 1) knowing how to seek and
preserve better mental health; 2) knowing mental health issues and their treatments; 3) minimizing stigma against mental illness; and 4) increasing help-seeking effectiveness (Kutcher et al., 2015; Wei et al., 2015).

According to World Health Organization (WHO, 2014), the provision of the mental health services and interventions are difficult because of less employment ratio of qualified practitioners in Pakistan. An analysis of the mental health care system in Pakistan showed that situation improved after the execution of a new Mental Health Law on 20 February 2001, substituting the Lunacy Act of 1912, which embodies the current concept of mental illnesses, treatment, rehabilitation, and civil and human rights (Tareen & Tareen, 2016). Nevertheless, mental health services comprising policies, programmes, and resources are still not sufficient with respect to the total burden of mental health issues in Pakistan. According to a report, the number of trained mental health professionals in Pakistan is small compared to the demands of the population and specialist services are almost non-existent (Karim, Saeed, Rana, Mubbashar, & Jenkins, 2004; Malik & Bokharey, 2001).

In Pakistan, various socio-cultural as well as religious factors influence beliefs of individuals and there is a lack of wide acceptance and stigmatization of mental health problems. Most people consult primary medical care for their mental health issues and the majority of the staff are not trained to recognize or deal with these issues (Choudhry et al., 2016). A huge majority of individuals with mental health issues consult faith healers and religious leaders initially, and consult mental health professionals only when these initial modes of treatments are ineffective (Mubbashar & Saeed, 2001). Most people attribute supernatural causes to their health problems (Choudhry, Khan, Park, & Golden, 2018). Karim, Saeed, Rana, Mubbashar, and Jenkins (2004) highlighted that mental illness is stigmatized and broadly perceived to have supernatural causes, and traditional healers along with psychiatric services are the primary mental health service providers. Similar findings
were shown in a recent meta-synthesis (Choudhry et al., 2016). Such a lack of MHL and different cultural beliefs associated to mental health can be a common issue in many of the developing countries (Mubbashar & Farooq, 2001), which have implications for help seeking and treatment outcomes.

We were unable to locate any reviews on the effectiveness of MHL interventions, stigma on mental health issues, and knowledge measures in Pakistan; there seems to be a lack of thorough understanding of MHL (measures, interventions, and presence) in the country. Hence, there is a need to develop an evidence base to aid policy development on tackling the issues related to limited MHL and mental health services provision. The current review was aimed at scrutinizing the extent, range, and nature of research activity on MHL in order to develop a comprehensive understanding of MHL; to condense and disseminate research findings; and to find out research gaps in the existing literature on MHL in Pakistan.

**Methods**

**Protocol**

All methods of data analysis and reporting followed the PRISMA- Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (Moher et al., 2009). A protocol is registered and available on the PROSPERO database and can be accessed online (registration number: CRD42019133293). (See Supplementary Table 1: PRISMA checklist)

**Inclusion and exclusion criteria**

We included studies which evaluated MHL and are published in English, regardless of study design (e.g., qualitative, randomized controlled trials, nonrandomized, descriptive studies, mixed methods, and cluster randomized controlled trials). We also included the studies which assessed MHL training programs targeting varied mental health consumers. The systematic review included studies which explored at least one of the main components of MHL as follows: (a) knowledge of mental illnesses and their treatment; (b) stigmatizing
attitudes towards mental illnesses; (c) confidence in helping others with mental health problems and (d) behaviour of helping providers. No restriction was applied on the date of publication of the studies or on the duration of the interventions in the programs.

When mental disorders (neuroses- and psychoses-based disorders) were the focus, programs additionally addressing other issues (e.g., addiction) were not excluded. Studies which were not published in peer-reviewed journals, such as editorials, grey literature (e.g., programs published by the government, national public health agencies, sports bodies, and mental health charitable organisations), dissertations, and conference proceedings were excluded.

**Information sources and search strategy**

We used nine electronic databases and also manually checked reference lists of articles. MEDLINE, Embase, ERIC/ProQuest, ScienceDirect, PubMed, PsycINFO, CINAHL, Scopus, EBM Reviews - Cochrane Central Register of Controlled Trials, and Ovid Emcare were the databases searched. Only those studies which aimed to evaluate the efficacy of MHL and published in English were selected. Each database was searched from its year of inception to May 25, 2019. Synonymic keywords were searched in each database using the Boolean operators, truncation, MeSH terms and wildcard features as appropriate for each database’s indexing reference (Dinet, Favart, & Passerault, 2004). The search was stratified into three categories: mental health problems, mental health education, and setting. Search terms were chosen based on previous research, theory, and practice. A full electronic search of the PubMed search is uploaded as Supplementary Table 2.

**Study selection**

Two reviewers (KM and FRC) independently screened titles and abstracts and excluded studies that were not relevant to the topic of interest. They independently reviewed full texts
of articles for the final selection of included studies and met to resolve any disagreements between the reviewers.

**Critical appraisal method**

The quantitative and qualitative studies were assessed for quality using the 14 and 10 criteria checklist given by Kmet and colleagues (2004), respectively (Kmet, Cook, & Lee, 2004). An overall rating (from 0 to 1) was assigned to every study; higher numerical ratings indicated higher quality. This checklist has already been used in previous reviews for assessing the quality of included studies (Choudhry et al., 2019; Munawar, Kuhn, & Haque, 2018; Wassenaar, Schouten, & Schoonhoven, 2014). The lowest quality rating of both quantitative and qualitative studies included in this review was determined to be 0.55 and four studies were excluded based on these criteria.

To assess the internal validity of the RCTs, the Cochrane tool for assessing risk of bias (ROB) (Higgins & Altman, 2008) was used. All included randomized studies were assessed for potential biases in five domains: selection bias, performance bias, detection bias, attrition bias, and reporting bias (Higgins & Altman, 2008). Each domain was ranked as low, unclear, or high ROB according to the criteria of the tool.

The Joanna Briggs Institute Critical Appraisal tools were used for a quasi-experimental study (Briggs, 2017). The mixed-method studies were assessed using Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018). Two authors (KM and FRC) independently assessed all the included studies. When the independent evaluations of the ranks differed between the two authors, they met and discussed the disagreements to reach a consensus. All studies were considered eligible for inclusion (please see Supplementary Table 2, 3, 4, 5, 6).

**Data extraction**

A single author (KM) extracted the following data from each included study: region/setting, objective, sampling/participant characteristics, study type, duration,
intervention, control, mental health outcome measure(s), psychometric properties, mental health descriptor (stigma, mental health knowledge, help-seeking intentions and behaviour), conclusion, and comments/limitations. Another author (FRC) confirmed the data extracted from each included study. When any difference was observed in the data extracted between KM and FRC, they verified the data (Supplementary Table 7).

**Synthesis and analysis of results**

For combining and reporting the results, we inspected each study’s outcomes and categorised them in accordingly.

**Risk of bias and heterogeneity**

A meta-analysis were not conducted as considerable heterogeneity was seen in the assessment of MHL and instead decided to present a narrative synthesis. No additional subgroup or sensitivity analyses were conducted, as these were not in line with our study aims.

**Results**

A total of 603 titles and abstracts were retrieved (171 from MEDLINE, 170 from Embase, 14 from ERIC/ ProQuest, 28 from ScienceDirect, 39 from PubMed, 44 from PsycINFO, 26 from CINAHL, 54 from Scopus, 14 from EBM Reviews - Cochrane Central Register of Controlled Trials, and 43 from Ovid Emcare). Ten more articles were identified from references lists. After removal of duplicates ($n = 382$), 231 titles and abstracts remained. Of these, 158 were identified as irrelevant and were excluded.

All the excluded titles and abstracts were again screened by FRC and a consensus was reached for their exclusion. Finally, a total of 73 articles underwent a further detailed screening for full-text printing eligibility; of these, 14 were excluded as they were either chapter in books, conference abstracts, short reports or RCT protocols, and had poor quality ratings. Eventually, 59 met the criteria for a standardised independent full-text screening by
two authors, were included in qualitative synthesis and there was 100% author agreement for their inclusion for further review synthesis (see Figure 1: PRISMA flow diagram showing process of study selection for inclusion in the systematic review). No further articles were identified by hand-searching the reference lists of the 59 included articles.

**Insert figure 1 here**

**Study characteristics**

Study characteristics are detailed in Supplementary Table 7. Dates of published studies ranged from 1988 to 2019: 3 studies from 1992 to 2001, 29 studies from 2002 to 2011, and 27 studies from 2011 to 2019 (please see Supplementary Figure 1 and 2). The locations of the 59 studies varied: 24 in various regions of Karachi; 10 in Lahore; 5 in Peshawar, 13 in Rawalpindi/Islamabad, and 6 in other cities. Studies adapted various designs including (as shown in Supplementary Table 7): qualitative, cluster/randomized controlled trials, quasi-experimental study, cross-sectional studies, and mixed-method studies.

**Stigma**

The stigma around mental health issues was strong, depicted in various ways across reviewed studies. For instance, a study on pharmacy undergraduate students revealed their unwillingness to socialise or work with individuals having mental health problems and considered them a threat to others (Abbas et al., 2015). Studies have shown negative attitudes were shown towards individuals with schizophrenia, depression, alcohol, and drug problems; These individuals were considered dangerous, different, and unable to take care of themselves (Naeem et al., 2006; Rathod et al., 2018). Another study showed that there were stronger stigmas and taboos associated with female patients consulting male traditional healer(s), hence, these females avoided visiting male healers. In extreme cases, the females were accompanied by their male relatives, and were met with shame and embarrassment due to taboos attached to female patients’ mental health issues. Therefore, as compared to males who have better mobility, choice of treatment, and economic independence, there were
reduced chances of females seeking help for their mental health issues (Farooqi, 2006; Hussain et al., 2017). In another study, patients with schizophrenia were described as more dangerous and were suggested to be locked away from the rest of the society (Furnham et al., 2008; Suhail, 2005). Overall, people were less likely to form social relationships (i.e., marrying them or accepting them as a close friend) with individuals having mental health problems (Suhail, 2005). Medical professionals held discriminating attitudes and showed hesitance when they had to deal with psychiatric patients (Laraib et al., 2018; Zafar et al., 2009).

Parents of children with autistic spectrum disorder and intellectual disabilities reported unsympathetic, intolerant attitudes abuse and neglect toward their child by other people including schoolteachers. Because of this mistreatment at the hands of the community, such children were restricted to stay in the home (Minhas et al., 2015; Mirza et al., 2009). Parents’ main worry was the absence of a proper system of care for such children to teach them basic self-care and unnecessary use of physical restraint by next of kin and community when the parents passed away (Mirza et al., 2009). There were few cases, however, where positive attitudes were found. Patka and colleagues (2013) found positive attitudes among highly educated female staff who served individuals with intellectual disability. In the same way, caregivers’ perception of individuals with mental health issues revealed that these individuals were considered reliable, able to work, and were comfortable with having them as their friends (Shah et al., 2019).

**Help-seeking approach to mental illness treatment**

The reviewed studies showed varied opinions of seeking help in case of mental health issues. For instance, a survey of physicians (psychiatrists, paediatricians, neurologists and family physicians) and non-physicians (psychologists and speech therapists) revealed reduced endorsement of speech therapy or other special education services for children with autism
due to limited knowledge (Imran et al., 2011). In another study, it was shown that individuals
were less likely to seek psychological help if they were men and Muslims who had higher
scores on measures of depression, anxiety, and stress, as compared to Hindus, Sikhs,
Christians and those with no religious affiliation (Liaqat et al., 2018; Sheikh & Furnham,
2000; Zafar et al., 2008).

Normally, seeking psychiatric help is the last option, as people preferred to consult
religious healer (Maulvi, Peer, Fakir), naturopathy (Tibb), homoeopathic doctor, Faith healer
(Aamil Sanyasi), and sometimes school teachers for guidance and solace (Mirza et al., 2006;
Mirza et al., 2009; Naeem et al., 2012; Shah et al., 2019; Usman et al., 2018; Zafar et al.,
2008), however, some people also preferred consultation from consult general practitioners
(Farooqi, 2006). In some cases, caregivers of children with intellectual disabilities resented
their lack of knowledge and the resulting delay in seeking professional help. Mental health
services were sought in a few cases, especially by residents of urban areas, and it was
influenced by factors, such as: suggestion from others about engagement in the mental health
services, no effectiveness of traditional healing treatments, risky behaviours (threatening
themselves, their caregivers or others), or a combination of these factors (James et al., 2002;
Mirza et al., 2009; Naqvi et al., 2009; Shah et al., 2019; Zafar et al., 2009). Within the
psychiatric treatment modalities, highest awareness was documented for Pharmacotherapy
followed by psychotherapy and electroconvulsive therapy/treatment (Zafar et al., 2009).
However, there was lack of knowledge about any other professionals involved in the care of
the mentally ill (e.g., psychologists) and inability to identify the correct definition of
psychotherapy (Naeem et al., 2012; Zafar et al., 2009).

Contrary to these findings, a study assessing the attitudes, knowledge, and practices of
teachers towards dyslexia, attention-deficit/hyperactivity, and autistic spectrum disorders
showed that the schoolteachers recognized the need of psychological supports among
children with these problems. These teachers also endorsed hiring specially trained educators for these children in schools (Lodhi et al., 2016). In another study, parents of children with autistic spectrum disorder (ASD) and people in rural areas mentioned difficulty in assessing mental health services, rehabilitation, health and education services due to low education, distance, financial or time costs (Minhas et al., 2015; Usman et al., 2018; Yousafzai et al., 2011). The parents only went to seek help when the secondary behavioural and social problems linked with ASD became noticeable and disturbed family (Minhas et al., 2015). The residents of rural areas specifically consulted traditional faith healers due to religious reasons (Usman et al., 2018). The educated parents who had access to information about ASD felt that even the medical profession had only limited information or knowledge about the condition, and hence, they kept on changing doctors for their child’s problems (Minhas et al., 2015).

Furthermore, the mothers of children with intellectual disabilities received little support from their husbands or from extended members of the family and were blamed for having a child with disabilities (Yousafzai et al., 2011). A study comparing the attitude toward seeking mental health services among students of various disciplines showed that students of Psychology were mostly in favour of psychotherapy (Zaidi & Ali, 2017). These studies show that mental health services are considered the last option after patients have tried other means dealing with their mental health problems especially traditional faith healers.

**Mental health knowledge**

The included studies revealed limited or complete absence of mental health knowledge among participants. For instance, in one study, undergraduate pharmacy students disagreed any improvement in depressed individuals even after seeking treatment (Abbas et al., 2015). A very small proportion of participants (patients, caregivers, and health care providers) preferred psychological/psychiatric method of treatment and had insight according to
Western model (Afridi & Ahmed, 1992; Mirza et al., 2006; Naqvi et al., 2009). In another study, a few of schizophrenia patients, their caregivers, mental health professionals, psychology students, and nomads endorsed a bio-psycho-spiritual-social model of illness (Choudhry & Bokharey, 2013; Naeem et al., 2014; Zaidi & Ali, 2017). Most of patients lacked insight, attributed symptoms based on socio-cultural myths and values, and had poor family knowledge of illness (Afridi & Ahmed, 1992; Ahmad et al., 2017; Mirza et al., 2009; Naeem et al., 2012; Rabbani, 1999; Zafar et al., 2008). Similarly, the rates of relapse was higher especially in those schizophrenic patients who preferred traditional faith healers, lacked insight, and used psychoactive substances either as an alternative to psychotropic medications, or as a consequence of use, and had a reduced recollection to take prescribed psychotropic agents (Ahmad et al., 2017).

Studies on patients receiving psychopharmacological medications revealed that these patients were not provided information about: diagnosis, alternative treatment options, causes of illness, duration of treatment, adverse effects of medications, and referral options (Ganatra et al., 2009; Hussain et al., 2017; Taj & Khan, 2005). Furthermore, in some studies, patients and caregivers lacked insight about nature of the problems, perceived negative consequence, and had limited belief in the effectiveness of treatment (Hussain et al., 2017; Naeem et al., 2012; Taj & Khan, 2005; Tareen et al., 2008). Studies on substance abuse, smoking and betel nut chewing showed low awareness about: adverse effects, existence of re-rehabilitation facilities, and continued abuse of substances even after knowing the dangers of substances among users (Malik et al., 2012; Minhas & Rahman, 2009; Nisar et al., 2007; Shafiq et al., 2006; Shah et al., 2008).

Some studies revealed mixed views regarding the therapeutic action of psychotropic drugs and psychotherapy. The participants shared concerns about psychiatric drugs having addiction potential, but for some mental health problems, such as schizophrenia, depression
and intellectual disability, medications were preferred (Abid et al., 2018). The over-
subscription of psychotropic drugs was also a concern of parents having children with mental
health problems (Abid et al., 2018). Furthermore, studies on parents’, healthcare
professionals’, and teachers’ knowledge and awareness of autism showed that media, doctors,
medical school training, medical journals, pharmaceutical companies, and health
professionals were playing a major role in increasing awareness around autism (Anwar et al.,
2018; Arif et al., 2013; Minhas et al., 2015; Rahbar et al., 2011). Most of the parents accepted
parental counselling to be an effective treatment for autism and were willing to get their child
treated in case of them being diagnosed with autism (Anwar et al., 2018). Likewise, the
healthcare professionals endorsed psychotropic medications, mood stabilizers, speech
therapy, and special education interventions for autism but had misconceptions regarding
social, emotional, cognitive, and general descriptive features of autism (Imran et al., 2011).
The non-private school teachers recognized that medication and different behavioural and
cognitive therapies could manage autism (Arif et al., 2013). Furthermore, patients were
doubtful about the safety of ECT, didn’t want ECT to be advised by psychiatrists, and
considered it a treatment of last resort (Arshad et al., 2007).

Similarly, studies assessing impact of various programmes such as: counselling-, peer-
delivered Thinking Healthy-, psychoeducation-, school mental-health -, ADHD training-, and
parent-based programme showed significant findings in the form of: improvements in anxiety
and depression symptoms, reduction in family burden, awareness of mental health, and
improved the knowledge and attitudes of mothers about infant development, in intervention
groups at post-assessment (Atif et al., 2017; Gul & Ali, 2004; Nasr & Kausar, 2009; Rahman
et al., 2009; Rahman et al., 1998; Syed & Hussein, 2010).

Studies on the beliefs of substance abusers, parents, medical students and the general
public about the manifestation, aetiology, and management of schizophrenia, drug abuse, and
autism revealed that sociological explanations (i.e., rejection from family/friends at an early age, parents with inconsistent behaviour, societal pressure, consumption of drugs by friends/family members, academic stress) were the norm. Also, it was still strongly believed that mental health issues could be treated effectively by reducing social pressure and seeking help from faith healers, counselling/recreational facilities and rehabilitation programs (Furnham et al., 2008; Hussain et al., 2017; Malik et al., 2012; Minhas et al., 2015; Shafiq et al., 2006; Yousafzai et al., 2009). Studies revealed that the knowledge and practice skills of general physicians, medical students, school teachers, caregivers, and paediatricians were below average by medical standards regarding schizophrenia, attention deficit/hyperactivity disorder, ASD, intellectual disability, and learning disorder screening/diagnosis and treatment (Irfan et al., 2015; Jawaid et al., 2008; Lodhi et al., 2016; Mirza et al., 2009; Naqvi et al., 2012; Shaukat et al., 2014; Suhail, 2005). Many supernatural explanations for mental health issues among doctors, faith healers, and caregivers (Haddad et al., 2016; Minhas et al., 2015; Mirza et al., 2006; Saeed et al., 2000; Sheikh & Furnham, 2000; Zafar et al., 2008).

Outcome measure validity assessment

A total of 43 studies mentioned names of mental health outcome measures; two studies (Haddad et al., 2017; Sheikh & Furnham, 2000) reported reliability indices for their own participants, and two (Ahmad et al., 2017; Haddad et al., 2016) referenced reliability indices from previous studies. However, as shown in Supplementary Table 7, 14 studies used standardized tools but there were no references to reliability or psychometric validity; five studies used questionnaires adapted from other standardized questionnaires. A total of 20 studies used self-designed questionnaire or structured interviews.

Discussion

This systematic review was a response to an increasing recognition that low levels of MHL contributes to mental health problems (Altweck, Marshall, Ferenczi, & Lefringhausen,
The study findings showed that younger participants and those having psychology/psychiatry backgrounds had a comparatively better understanding of mental disorders. For instance, mental health professionals were more optimistic toward treatment outcomes and had positive attitudes toward individuals with mental health problems. Past studies have also reported similar findings (Corrigan & Watson, 2007; Farrer, Leach, Griffiths, Christensen, & Jorm, 2008).

However, general practitioners, family physicians, medical students having no prior mental health training and traditional healers were sceptical about the efficacy of mental health treatments, had a negative attitude, and misperceptions regarding aetiology of mental health problems. Those who lived in urban areas, economically stable, and had positive attitudes towards mental health problems revealed greater utilization of mental health services. Most of the patients and caregivers preferred psychological/psychiatric treatments as least favoured option and consulted general practitioners, religious healer (Maulvi, Peer, Fakir), naturopathy (Tibb), homoeopathic doctor, faith healer (Aamil Sanyasi) due to: lack of MHL, financial or travel costs, low education, living in rural areas, and taboos/stigmas attached with seeking mental health services. Similar findings are shown in the past research studies on non-Western countries (Loo & Furnham, 2012; 2013). As a result, the rates of misdiagnosis and mismanagement of the symptoms increased which further deteriorated the symptoms (Khalily, 2011; Naqvi et al., 2012).

Nevertheless, the adherence to mental health treatments due to enhanced MHL could not be established owing to the absence of any studies assessing this link in Pakistan (Choudhry et al., 2016). There is a need for mental health awareness program for health care providers and medical students as most of the studies revealed reduced MHL in these individuals. In comparison to the mental health professionals, general health care providers are considered the earlier person sought after by the patients having mental health issues.
Therefore, it is very important for the general health care providers and medical students to be equipped with MHL and have positive attitudes towards mental health issues in order to improve the services provided. Furthermore, psycho-education programmes for mental health problems need to launch not limited to the patients, and caregivers, but also for the general public to dispel stigmatization connected with mental illness and ensure compliance to mental health regimens.

**Limitations and recommendations**

The current systematic review excluded non-peer reviewed articles and grey literature, and, therefore, may have missed some eligible studies. However, a review of grey literature could be considered in future. As formerly mentioned, we did not conduct meta-analyses as the operationalisation, measurement tools lacked consistency and standardization. Consequently, the effects of various programs on mental health literacy remain uncertain.

**Conclusions**

This systematic review offers a compilation of available research on mental health literacy. This review can assist in designing new measures to increase or assess MHL. Due to the systematic selection of the studies, this review inevitably forms an inclusive dataset of current MHL data in Pakistan for health stakeholders. This review also recognizes and highlights many gaps in the field, for instance, lack of psychometrically valid tools to evaluate mental health knowledge, help-seeking, stigma/attitudes, as well as an absence of measures that assess all the aspects of MHL at the same time. This recognition of a gap could possibly guide future research work in the field of mental health.

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a search across databases, performed data extraction and formulated themes. JHAK, MSP and IZB checked the search strategy, extracted data and themes. FRC, MSP and JHAK assist in reviewing and providing feedback for improvements. All authors have also agreed to be accountable for all aspects of this manuscript in ensuring that questions related to the accuracy or integrity of any part of this manuscript are appropriately investigated and resolved.

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Figure 1: PRISMA flow diagram showing process of study selection for inclusion in the systematic review