

Effectiveness of interventions to reduce stigma by healthcare providers towards people with mental disorders: A systematic review

J. J. Musafiri

<https://orcid.org/0000-0002-6231-5687>
University of the Western Cape,
South Africa
jjjmusafiri@gmail.com

M. Bimerew

<https://orcid.org/0000-0002-3516-9709>
University of the Western Cape,
South Africa

Abstract

Introduction

Healthcare systems worldwide strive to respond to the global burden of mental disorders. However, healthcare providers' stigma towards people with mental disorders discourages them from seeking help. Educational interventions, contact interventions, and a combination of these have been effective in reducing mental health stigma among the general public. However, there is a lack of systematic reviews conducted to determine the effectiveness of interventions to reduce healthcare providers' stigma towards people with mental disorders.

Aim

The aim was to assess and synthesise evidence on effective interventions to reduce healthcare providers' stigma towards people with mental disorders.

Methods

The reviewers conducted a review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement flow diagram. The five steps for conducting a review were applied and a textual narrative synthesis was undertaken.

Results

Of 34 studies eligible for quality appraisal, 27 studies met the inclusion criteria. The educational interventions involved mental health training, while contact interventions consisted of engaging with people with mental disorders or



watching films related to the experience shared by people with such disorders. The results showed that each of these interventions or a combination of the two were effective in reducing healthcare providers' stigma towards people with mental disorders over the short term.

Conclusion

Educational interventions, contact interventions or a combination of these effectively reduced mental health stigma among healthcare providers, although information on their effectiveness in the long term could not be found.

Keywords: effectiveness; interventions; healthcare providers; people with mental disorders; stigma reduction

Introduction

The high prevalence of mental disorders persists at global level. In 2019, 970 million people across the world had mental disorders, which translates into one in every eight individuals being diagnosed with mental disorders, of which anxiety disorders and depressive disorders were the most common (World Health Organization, 2020). Healthcare systems worldwide strive to respond to the burden of mental disorders (Wakida et al., 2018). There are many factors contributing to an increase in the burden of mental disorders, such as mental health stigma, and a lack of human and financial resources allocated to mental health services (Thyloth et al., 2016). This review was conducted to determine the effectiveness of interventions to reduce mental health stigma among healthcare providers.

Mental health stigma has three main categories, namely public stigma, professional stigma, and self-stigma (Lee et al., 2020). Public stigma refers to the negative beliefs and attitudes of the general public towards people with mental disorders (Dobson & Rose, 2022), while professional stigma refers to the healthcare providers' stigma consisting of negative beliefs and attitudes towards people with mental disorders (Dobrinsky, 2019). Professional stigma towards people with mental disorders persists in the healthcare system (Jacob & Coetzee, 2018). Both public stigma and professional stigma have a negative impact on the professional help-seeking behaviour of people with mental disorders (Brower, 2021). Also, self-stigma resulting from public stigma occurs when people with mental disorders internalise the negative beliefs and attitudes that are directed towards them (Chatmon, 2020). This review focused on the professional stigma that contributes to the burden of mental disorders.

It is concerning that healthcare providers display negative attitudes towards people with mental disorders, while they are expected to comply with professional standards of non-discrimination. Research has shown consistent results regarding the negative beliefs and attitudes of healthcare providers towards people with mental disorders (Arbanas et al., 2019; Ghuloum et al., 2022). These negative beliefs and attitudes could result from a lack of mental health knowledge (Shim et al., 2022). Some of the beliefs among

healthcare providers include those related to the perceived unpredictability, aggression and dangerousness of people with mental disorders (Sukhera et al., 2017; Jombo et al., 2019; Salama et al., 2021; Zaraza-Moralesa et al., 2022). These beliefs are supported by the findings of studies among medical doctors, nurses and pharmacists in Poland, Croatia, the Middle East and North Africa (Babicki et al., 2021; Šimičić et al., 2023; Batarseh et al., 2022). The fact that healthcare providers perceive people with mental disorders as dangerous can result in fear and a reluctance to care for them. This statement is supported by the findings of a study conducted among nurses in Taiwan (Chou & Tseng, 2020).

Negative attitudes towards people with mental disorders have been reported among doctors and nurses in the United States of America (USA) and Saudi Arabia (Smith et al., 2017; AlSalem et al., 2020). Similar attitudes were noted among nurses in India and Ethiopia (Gandhi et al., 2019; Sahile et al., 2019). Some of healthcare providers' negative attitudes include being judgemental (Fokuo et al., 2017), labelling people with mental disorders as 'psychotic' or 'crazy' (Vaccari et al., 2020; Jassir Acosta et al., 2021), and being frustrated while caring for people with mental disorders (Chou & Tseng, 2020; Salama et al., 2021). The frustration can contribute to the lack of interest of healthcare providers to care for people with mental disorders. An example of such a lack of interest was noted among medical doctors in Poland and South Africa (Babicki et al., 2021; Minty et al., 2021). This lack of interest is aligned with healthcare providers' unwillingness to engage with people with mental disorders and their reluctance to care for them (Jombo et al., 2019; Kaba et al., 2020). As a result, people with mental disorders avoid seeking professional help (Salama et al., 2021), which increases the burden of mental disorders (Zweifel, 2021).

Evidence in the literature suggested that educational interventions, contact interventions, and a combination of these interventions have been effective in reducing the stigma of the general public towards people with mental disorders (Gronholm et al., 2017; Lo et al., 2018; Gürbüz et al., 2020; Kim et al., 2019; Ito-Jaeger et al., 2021). Protest interventions refer to the campaigns against negative beliefs and attitudes towards people with mental disorders (Heney, 2022). This means that individuals and advocacy groups can use protest interventions to counter misleading and inaccurate information about people with mental disorders (Koutsouradi et al., 2016). However, studies found that the protest interventions to reduce mental health stigma were scarce (Morgan, Wright & Reavley, 2021; Walsh & Foster, 2021) and less effective (Bilge & Palabiyik, 2017; Davies, Beever & Glazebrook, 2018). Educational interventions consisted of mental health literacy training for the general public which was aimed at improving their mental health knowledge and reducing stigma (Wong et al., 2019; Salmonsens et al., 2024). Contact interventions include direct and indirect contact interventions (Henderson & Gronholm, 2018). Direct contact interventions enhanced face-to-face interaction between respondents and people with mental disorders (Brown, 2019). Indirect contact interventions consisted of videos of people with mental disorders sharing their personal experience of mental disorders and related stigma (Makhmud et

al., 2022). However, there is a lack of systematic reviews conducted to determine the effectiveness of interventions to reduce healthcare providers' stigma towards people with mental disorders. This review was conducted to assess the effectiveness of interventions to reduce healthcare providers' stigma towards people with mental disorders.

Aim

The aim was to assess and synthesise the evidence on effective interventions to reduce healthcare providers' stigma towards people with mental disorders.

Method

Ethical clearance (reference number BM19/4/20) was obtained from the university's Ethical Research Committee. The authors adhered to the principles of honesty and transparency in reporting the review data. The systematic review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement flow diagram (Moher et al., 2009). PRISMA was used to report on the exclusion, eligibility and inclusion of studies (Zhang et al., 2019). The reviewers followed the five steps for conducting a review (Khan et al., 2011; Grønmo, 2020), including: 1) formulation of the review question, 2) identification of relevant literature, 3) assessing the quality of the literature, 4) summarising the evidence, and 5) interpreting the results.

Formulation of the review question

The following review question was formulated, based on the elements of PICO (population, intervention, comparison, and outcome) (Khan et al., 2011; Joanna Briggs Institute, 2014; Higgins et al., 2019; Holly et al., 2022): What is the effect of interventions on healthcare providers' stigma towards people with mental disorders? Regarding PICO, population (P) referred to the healthcare providers, and the interventions (I) included educational intervention, contact intervention, a combination of educational and contact interventions, and protest interventions. The comparison (C) was between the control and intervention groups and the pre- and post-intervention tests. The outcome (O) referred to improved mental health knowledge of healthcare providers and a positive change in their negative beliefs and attitudes towards people with mental disorders, thus reducing their stigma.

Identifying relevant literature

The reviewers identified the primary and relevant studies that addressed the abovementioned review question, and inclusion and exclusion criteria were determined accordingly (Khan et al., 2011; Polit & Beck, 2014). The search strategy, types of studies, respondents, and outcomes of the studies were described in this step (Polit & Beck, 2014).

Search strategy

The reviewers used seven electronic databases: CINAHL, Cochrane Library, ERIC, Google Scholar, MEDLINE, PsycARTICLES and PubMed. The reviewers used the Boolean search technique to create the following keywords: anti-stigma intervention, contact intervention, education intervention, protest intervention. Boolean operators such as ‘AND’, and ‘OR’ were used to search studies using the following key terms: anti-stigma intervention, contact intervention, education intervention, protest intervention, stigma mental disorder, stigma mental illness. To exclude interventions related to HIV and TB stigma reductions, the Boolean operator ‘NOT’ was used. To search studies that used protest interventions to reduce mental health stigma, the Boolean operator ‘NOT’ was used to exclude the political protests. The phrase search technique was used to create the following keywords: approach to reduce stigma mental illness, interventions to reduce stigma, mental health awareness to reduce stigma, mental healthcare providers and stigma, mental healthcare professionals and stigma, mental health stigma reduction, reducing stigma towards people with mental illness.

Selection criteria

The inclusion and exclusion criteria for the studies were guided by PICO elements. In this review, the respondents were practising healthcare providers and healthcare professions students, such as nursing, medical, social work, psychology, pharmacy, dietician, physiotherapy and occupational therapy students. Quantitative studies that used randomised controlled trials or quasi-experimental ones, one cohort (one group pre- and post-intervention) and cohort analytic (two groups pre- and post-intervention) protocols were included in this review. The abovementioned designs allowed comparison between the pre- and post-intervention mental health knowledge, beliefs and attitudes of respondents. Based on the year 2008 being when the World Health Organization (2008) recommended reduction of stigma towards people with mental disorders, this review included studies written in English between 2008 and 2019. Studies that used a qualitative approach, those conducted on the general public, systematic reviews and mixed methods studies were excluded.

Screening and quality assessment of studies

The reviewers independently performed the screening on Endnote 20 after the records were uploaded to it. Screening was done using the inclusion and exclusion criteria. The titles and abstracts were screened first, followed by screening of the full texts. Two reviewers conducted the screening of the studies and reviewed the full texts; disagreement was resolved through discussion and reaching consensus. There was no need for the use of an independent reviewer assigned to resolve any conflict between the two reviewers. The eligible studies that were found to have moderate or strong ratings were included in this study. This step entailed quality appraisal of eligible studies, that the reviewers independently assessed using the quality assessment tool for quantitative studies developed by the Effective Public Health Practice Project (EPHPP) (Hurley et al., 2019). The reviewers applied the EPHPP tool to rate the selection bias,

study design, confounders, blinding, data collection methods, withdrawals and drop-outs. The global rating had three outcomes: a study was deemed strong if it did not have a weak rating, and moderate if it had one weak rating, while it was excluded if it had two or more weak ratings.

Summarising the evidence

Summarising the evidence involved the use of a data extraction tool to extract information from selected quantitative studies (Uman, 2011). The reviewers adapted a standardised data extraction tool (Munn et al., 2014) to integrate the PICO elements included in this review. This tool was presented in a table form that included information related to author(s) of an article, publication year, country in which it was published, title, and the aim, design, participants, intervention, comparison, and outcome of the study. Two reviewers extracted data independently to ensure inter-rater reliability and prevent possible errors during data extraction (Uman, 2011). A textual narrative synthesis was used to create the themes from the appraised studies, and those themes were associated with the intervention outcomes. The reviewers undertook the synthesis of results which were relevant to the PICO, to answer the research question, and draw conclusions. The evidence of the effectiveness of the interventions in reducing mental health stigma was explained.

Interpreting the results

The last step in writing up the systematic review involves analysing and interpreting the results of the review in the context of the research question. This provides a precise summary of key results from the studies included in the review. This includes a description of the main outcomes and the effectiveness of the interventions, and providing the limitations, recommendations, and implications of this study.

Results

Search and screening results

The systematic search identified a total of 630 studies from the seven databases, as follows: CINAHL (30), Cochrane Library (10), ERIC (23), Google Scholar (106), MEDLINE (213), PsycARTICLES (31), and PubMed (217). A total of 456 studies were excluded: 319 duplicates, 31 studies which used the general public as respondents, three unfinished research projects and three reports with a lack of investigation of interventions, 17 were not primary studies, 32 qualitative studies, 25 mixed-method studies and 26 abstracts that had limited information on interventions. This left 174 full-text studies that were eligible (Joanna Briggs Institute, 2014). Thereafter, 140 studies were excluded for the following reasons: the aim was not to reduce mental health stigma, lack of intervention, 26 abstracts were excluded due to limited information on the intervention, or because the intervention was not useful in reducing mental health stigma. A total of 34 studies from the following databases were eligible for quality appraisal: CINAHL (5), Cochrane Libray (3), Google Scholar (3), MEDLINE (17),

PsycARTICLES (1), and PubMed (5). The quality assessment results showed that three studies were of good quality, 24 studies were of fair quality and seven studies were of poor quality. As a result, a final number of 27 studies with methodological quality remained for data extraction. The search detail of this review and the process of screening are presented in Figure 1.

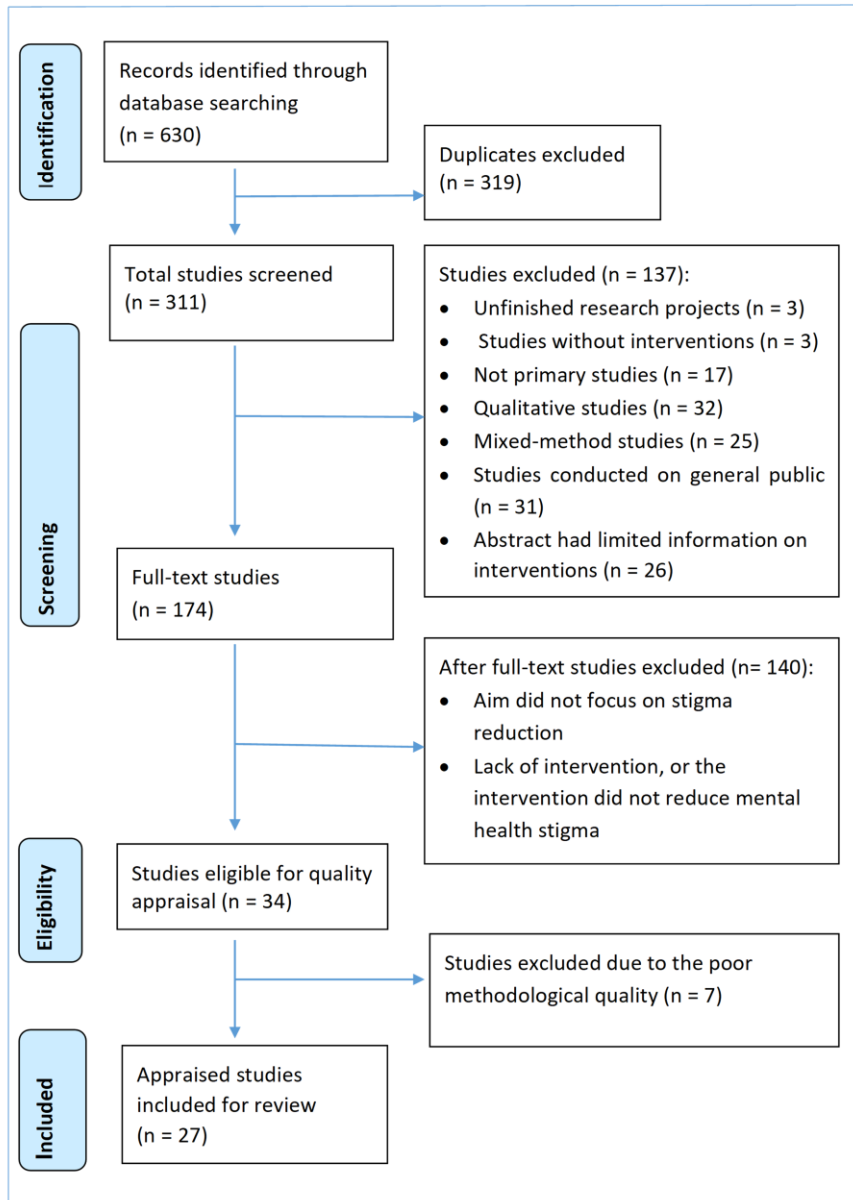


Figure 1: PRISMA flow chart of the screened and selected articles (adapted from Moher et al., 2009)

Characteristics of included studies

The following characteristics were extracted: author/s of a study, publication year, country in which the study was published, its aim, intervention, design, respondents, comparison, and outcome. The following numbers of studies were published in various years: 2008 (1), 2011 (1), 2012 (3), 2013 (2), 2014 (3), 2016 (6), 2017 (4), 2018 (3) and 2019 (4). The results showed that 25 (92.6%) of the 27 studies targeted students of healthcare professions as respondents. Fifteen studies used intervention and control designs while 12 used pre- and post-intervention designs. More results are presented under each type of intervention (see Tables 1, 2, and 3). The specific outcomes for each study are attached as Appendix 1.

Studies that used educational interventions

Six of the 27 studies that met the inclusion criteria used educational interventions (see Table 1), namely mental health training to reduce mental health stigma. In one study medical students attended a course, 'Mental Illness Among Us' (MIAU), where they shared their own experience of mental disorder and had discussions about mental disorders and associated stigma. In other studies, the mental health training included information on mental disorders such as bipolar, depression, psychosis and schizophrenia. Three components (mental health knowledge, and beliefs and attitudes towards people with mental disorders) which are the focus of mental health stigma reduction were mainly considered in the aims of the studies. Regarding the respondents, five studies used healthcare professions students (medical, nursing and pharmacy students), with four of these focusing on changing students' negative attitudes towards people with mental disorders, and one on changing students' negative beliefs and attitudes towards them. One study that targeted practising nurses, pharmacists, clinicians and public health workers focused on improving mental health knowledge and changing negative attitudes towards people with mental disorders. In all of the studies the respondents completed a questionnaire before and after intervention. The pre-intervention scores and post-intervention scores were compared to determine the effect of the intervention. The results indicated that educational interventions yielded a positive change in respondents' negative attitudes towards people with mental disorders. Moreover, the results showed that there was a decrease in the respondents' negative beliefs about the dangerousness of people with mental disorders. As a result, the respondents' reluctance to care for people with mental disorders decreased. Table 1 depicts a summary of the results from the studies that used educational interventions.

Studies that used contact interventions

Six of the 27 studies that met the inclusion criteria used contact interventions to reduce mental health stigma. Both direct (engaging with people with mental disorders) and indirect (watching films or audiovisual simulations) contact interventions were used. Two studies used films of people in recovery from mental disorders, while one study used a film and audiovisual simulation. One study used photovoice involving individuals in recovery from mental disorders, displaying pictures with accompanying recovery stories. Two studies used either recovery camps or sessions in which people in recovery from mental disorders shared their experience of mental disorders and stigma. In five studies the respondents were healthcare professions (nursing, psychology, pharmacy) students, while one study used primary healthcare providers. Four studies focused on reducing respondents' mental health stigma and two studies aimed at changing respondents' negative attitudes towards people with mental disorders.

Four studies used randomised controlled trial designs. An intervention group and a control group were given different interventions in two studies. In another study, an intervention group was given an intervention and a control group did not receive an intervention. One study used a quasi-experimental design; an intervention group attended a recovery camp together with individuals with mental disorders and a comparison group attended the clinical placement. Another employed a non-randomised design.

The results indicated that contact interventions decreased respondents' unwillingness to care for people with mental disorders. Moreover, the results showed that there was an improvement in mental health knowledge and a decrease in the respondents' negative beliefs about the dangerousness of people with mental disorders. The results revealed that in five of the studies the contact interventions led to a decrease in respondents' unwillingness to care for people with mental disorders. A positive change in negative beliefs about people with mental disorders being dangerous was noted in three studies. A decrease in fear of people with mental disorders and a positive change in negative beliefs about people with mental disorders being unpredictable was noted in two studies. Table 2 depicts a summary of the results from the studies that used contact interventions.

Table 1: Summary of results from studies that used educational interventions

Authors/year of publication/country	Intervention	Aim of the study	Study design	Respondents	Comparison	Post-intervention outcome
Muzyk et al. (2017), USA	A two-week psychopharmacologic therapeutic module	To reduce mental health stigma	Pre- and post-intervention	Pharmacy students	Comparison between pre- and post-intervention	A decrease in respondents' negative attitudes and beliefs about dangerousness of people with mental disorders
Aggarwal et al. (2013), USA	A two-hour mental health session			Medical students		An intervention brought about a positive change in respondents' negative attitudes towards people with mental disorders
Byrne et al. (2014), Australia	Mental health course			Nursing students		
Iheanacho et al. (2014), Nigeria	A four-day mental health training			Medical and nursing students		
Li et al. (2014), China	One-day mental health training			Doctors, nurses and pharmacists		
Douglass & Mey (2019), USA	A 90-minute mental health stigma module			Pharmacy students		

Studies that used educational and contact interventions

Fifteen of the 27 studies that met the inclusion criteria used a combination of educational and contact interventions to reduce mental health stigma (see Table 3). Four studies employed lectures and clinical placement. Two studies used videos and presentation sessions, while four studies employed lectures and films. A further two studies used theoretical sessions and testimonies of people with experience of mental disorders. One study used mental health first aid, while another used a lecture and a workshop in which an individual with experience of mental disorder shared stories related to mental disorders with the respondents. One study used a mental health module, clinical practice and anti-stigma programme.

Four studies involved medical students, three involved pharmacy students, four involved nursing students, three were conducted on psychology students, while one study was conducted with social work students. Five studies aimed to evaluate the effect of interventions on stigma towards people with mental disorders and nine studies focused on examining the effect of interventions on respondents' attitudes. One study aimed to assess the effect of interventions on respondents' beliefs about mental disorders.

Regarding the designs, four studies used randomised controlled trials and three used quasi-experimental designs while another employed a non-randomised design. Four studies used pre- and post-intervention designs and one study used a control design. One study used a randomised design while another study used an experimental design.

The results of this study showed that a combination of both educational and contact interventions reduced stigma and improved mental health knowledge. In two studies the combination decreased respondents' unwillingness to engage with people with mental disorders, while in another it reduced unwillingness to engage with people with mental disorders, and increased mental health knowledge. In a further study unwillingness to engage with people with mental disorders, was reduced and there was a positive change in negative beliefs about people with mental disorders being dangerous. Moreover, in four studies that used the above combination there were positive changes in negative attitudes. In one study use of a combination of these interventions led to a positive change in negative beliefs, while in another there was an improvement in mental health knowledge and a positive change in negative attitudes.

In one study that used a combination of educational and contact interventions the willingness to care and belief about recovery increased. In another study this combination decreased respondents' negative attitudes, such as fear and avoidance of people with mental disorders, and decreased the belief in their dangerousness. One study also revealed that the combination was useful to improve mental health knowledge and empathy towards people with mental disorders. Moreover, a positive change in negative beliefs and attitudes was reported in one study. In another study the combination of educational and contact interventions increased the belief in recovery from mental

disorder and decreased the belief about people with mental disorders being unpredictable. Table 3 displays a summary of results from the studies that used both educational and contact interventions.

Table 2: Summary of results from studies that used contact interventions

Author/s/year of publication/country	Aim of the study	Intervention	Study design	Respondents	Comparison	Post-intervention outcome
Erown (2013), USA	To evaluate the impact of video and an audio on stigma	16-minute video and 2-minute audio/visual simulation	Controlled clinical trial	Psychology students	Comparison between the intervention group and control group	An intervention brought a positive change in the intervention group's negative beliefs and attitudes; there was no change in the control group
Fianagan et al. (2016), USA	To investigate the effects of photovoice on mental health stigma	1-hour photovoice intervention -'Recovery, Speaks'	A randomised controlled trial	Primary healthcare providers		
Thoron et al. (2016), Belgium	To evaluate the effects of a film on mental health stigma	A 55-minute film about schizophrenia		Psychology students		
Moxham et al. (2016), Australia	To determine the effect of contact on mental health stigma	A 5-day recovery camp and clinical placement	Quasi-experimental	Nursing students	Comparison between the intervention group and control group	An intervention brought a positive change in the intervention group's negative attitudes
Nguyen et al. (2012), Australia	To evaluate the effect of contact on mental health stigma reduction	A 2-hour mental health workshop with people suffering from mental disorders and watching a 90-minute film	Non-randomised, comparative	Pharmacy students		
Patten et al. (2012), Canada		A 1-hour contact session with an individual with schizophrenia	A randomised controlled trial	Pharmacy students		

Table 3: Summary of results from studies that used educational and contact interventions

Authors/year of publication/country	Aim of the study	Intervention	Study design	Respondents	Comparison	Post-intervention outcome
Bangbade et al. (2016), USA	To increase mental health knowledge and reduce mental health stigma	A 2.5-hour anti-stigma video and presentations	A pre- and post-intervention	Pharmacy students	Comparison between pre- and post-intervention intervention group and control group	Combined interventions led to an improvement in mental health knowledge and brought a positive change in negative attitudes towards people with mental disorders
Friedrich et al. (2013), United Kingdom		A short lecture on stigma and hearing testimonies shared by people with mental disorders	A randomised controlled trial	Medical students		
O'Reilly et al. (2011), Australia	To evaluate the effect of anti-stigma interventions	Mental health course and watching videos	A non-randomised controlled trial	Pharmacy students	Comparison between pre- and post-intervention	Combined interventions brought a positive change in negative beliefs and attitudes towards people with mental disorders
Bangbade et al. (2017), USA		Watching videos followed by presentations	A pre- and post-intervention	Pharmacy students		
Duman et al. (2017), Turkey	To determine the effects of mental health training on stigma	Theoretical sessions and clinical practice	Quasi-experimental	Nursing students	Comparison between intervention group and control group Comparison between intervention groups	Combined interventions brought a positive change in negative attitudes towards people with mental disorders
Inan et al. (2019), Turkey						
Magliano et al. (2016), Italy	To reduce mental health stigma	3-hour theoretical sessions and testimonies and videos	Non-randomised controlled trial	Psychology students	Comparison between intervention group and control group	Combined interventions brought a positive change in negative beliefs about people with mental disorders
Strassle (2018), USA		Theoretical lectures and practical training	Quasi-experimental intervention	Medical students		
Bingham & O'Brien (2018), New Zealand	To reduce mental health stigma	Videos and a 70-minute lecture about stigma	A randomised controlled trial	Nursing students	Comparison between pre- and post-intervention	Combined interventions brought a positive change in negative attitudes towards people with mental disorders
Clement et al. (2012), United Kingdom		Theoretical lectures and practical training	A pre- and post-intervention	Medical students		
Economou et al. (2017), Greece	To reduce mental health stigma	A face-to-face contact, 40-minute video and one 90-minute lecture	A randomised controlled trial	Medical students	Comparison between pre- and post-intervention	Combined interventions brought a positive change in negative attitudes towards people with mental disorders
Fernandez et al. (2016), Malaysia		Lecture and a 60-minute video	Experimental	Psychology students		
Mann & Himelein (2008), USA	To reduce mental health stigma	Lecture and 1-hour workshop led by an individual with mental disorder	A randomised controlled trial	Social work students	Comparison between intervention group and control group	Combined interventions brought a positive change in negative attitudes about people with mental disorders
Rubio-Valera et al. (2018), Spain						

Discussion

The results of this review identified that the educational intervention, contact intervention, and a combination of educational and contact interventions were effective in reducing healthcare providers' negative beliefs and attitudes towards people with mental disorders. This review revealed a gap in research investigating interventions to reduce practising healthcare providers' mental health stigma. The fact that studies focused on students of healthcare professions as respondents highlighted the need for them to undergo mental health training and stigma reduction prior to their registration as practising healthcare providers. Students who are exposed to stigma reduction interventions can contribute to mental health anti-stigma and improve future mental healthcare services.

This review found that the interventions targeted three components, namely mental health knowledge, beliefs and attitudes that needed improvement towards mental health stigma reduction. In this regard, a study conducted in Spain found that a combination of educational and contact interventions brought about a positive change in primary healthcare (PHC) providers' beliefs and attitudes towards people with mental disorders (Eiroa-Orosa et al., 2021).

The results of this review showed that the educational interventions were effective in reducing respondents' negative attitudes towards people with mental disorders. For instance, the educational interventions reduced respondents' negative attitudes, such as their unwillingness to care for people with mental disorders (Aggarwal et al., 2013) and fear of them (Muzyk et al., 2017). These results are consistent with the findings of a study among medical students in Portugal (Vilar Queirós et al., 2021) and another among nurses in the USA (Walker et al., 2022). The results of this review show that the effectiveness of educational interventions in reducing respondents' negative attitudes towards people with mental disorders was in the short term. Similar results were found in a study conducted in primary healthcare in China (Zhang et al., 2022), among medical students in Tunisia (Saguem et al., 2022) and among nursing students in Spain (Juliá-Sanchis et al., 2024). However, the effectiveness of educational interventions in reducing mental health stigma over the long term remains unknown (Stubbs, 2014), and it is suggested that regular educational interventions to reduce healthcare providers' mental health stigma should be implemented (Saguem et al., 2022).

The results of this review indicated that two types of contact interventions were effective in reducing respondents' negative beliefs and attitudes towards people with mental disorders. These findings are consistent with those of another systematic review conducted on the general public, mostly students (Rodríguez-Rivas et al., 2022). The direct contact interventions, such as healthcare professions students' clinical placement in mental health institutions or workshop attendance, were effective in reducing students' negative beliefs and attitudes towards people with mental disorders. Students' exposure to social interaction with people with mental disorders allows them to obtain accurate information, which replaces the negative beliefs about the latter. As a result,

students' negative attitudes, such as their unwillingness to engage with and care for people with mental disorders, can be reduced. This concurs with the findings of studies carried out in China, where the direct contact interventions reduced nursing students' unwillingness to engage with people with mental disorders (Cho & Kim, 2024; Qin et al., 2024).

An example of indirect contact interventions includes students watching videos of people with mental disorders sharing their lived experience. Such indirect contact interventions led to a positive change in students' negative beliefs and attitudes towards people with mental disorders. For example, the use of videos led to a positive change in psychology students' negative beliefs and attitudes towards people with mental disorders in the short term (Thonon et al., 2016; Brown, 2019). Similarly, a positive change in healthcare providers' negative beliefs about people with mental disorders was seen after they attended a 1-hour 'Recovery Speaks' performance (Flanagan et al., 2016).

Although contact interventions brought about a positive change in respondents' negative beliefs and attitudes towards people with mental disorders (Abuhammad et al., 2019; Aflakseir et al., 2019), there is a lack of evidence for the effectiveness over the long term. In addition, this review did not find studies in which contact interventions increased respondents' mental health knowledge.

The results of this review showed that a combination of educational and contact interventions was effective in increasing respondents' mental health knowledge (Ayano et al., 2017). This combination was also effective in reducing their negative beliefs about people with mental disorders being dangerous and unpredictable (Magliano et al., 2016; Duman et al., 2017; Inan et al., 2019; Strassle, 2018). Furthermore, a combination of these interventions brought about a positive change in respondents' negative attitudes, such as their unwillingness to engage with people with mental disorders (Fernandez et al., 2016; Economou et al., 2017; Inan et al., 2019; Rubio-Valera et al., 2018). The effectiveness of combined educational and contact interventions was limited to the short term, as with the studies that only used either the educational intervention or contact intervention. This constitutes a gap in knowledge of the effectiveness of this combination over the long term.

The fact that studies used a combination of both interventions is not surprising in the education curricula of healthcare professions students. These curricula focus on integrated learning that involves both theoretical and practical learning. The theoretical learning focused on knowledge of the causes, symptoms and treatments for common disorders such as depression, anxiety disorders and schizophrenia (Bamgbade et al., 2017). This exposure of healthcare professions students allowed them to improve their social interaction with people with mental disorders and to integrate the theory into practice. This combination could also fill the gap in mental health knowledge.

In this review there were no studies that combined educational and contact interventions to reduce mental health stigma among practising healthcare providers. This combination could be effective in reducing practising healthcare providers' stigma if they attend sessions on knowledge of mental disorders and gain exposure to people with mental disorders.

Limitations

This review was limited to studies published in English. Studies mostly focused on examining the effectiveness of interventions to reduce healthcare professions students' stigma towards people with mental disorders. Studies that targeted practising healthcare providers were limited.

Recommendations

This review recommends more research on the effectiveness of interventions used for practising healthcare providers to reduce their stigma towards people with mental disorders. A further investigation of the long-term effects of interventions used to reduce this stigma among healthcare providers in studies published after 2019 is recommended.

Conclusion

The results of this review showed that educational interventions, contact interventions, and a combination of both interventions were effective in mental health stigma reduction over the short term. Studies that investigated the effectiveness of these interventions in the long term could not be found. Moreover, studies that investigated protest interventions were scarce.

References

- Abuhammad, S., Hatamleh, R., Howard, K., & Ahmad, M. M. (2019). Correlates and predictors of stigmatization of patients with mental illness among nursing students. *Journal of Psychosocial Nursing and Mental Health Services*, 57(1), 43-51. <https://doi.org/10.3928/02793695-20180907-01>
- Acosta, M.P.J., Charry, M.P.C., Restrepo, J.M.U., Cepeda, M., Cubillos, L., Bartels, S.M.,...Gómez-Restrepo, C.G. (2021). Characterizing the perceived stigma towards mental health in the early implementation of an integrated services model in primary care in Colombia. A qualitative analysis. *Revista Colombiana de Psiquiatría*, 50(Suppl 1), 91-101.
- Aflakseir, A., Esini, M. R., Goodarzi, M., & Molazadeh, J. (2019). Individuals with mental illness and stigma reduction: A cross-sectional study in a group of college students. *Iranian Journal of Psychiatry*, 14(4), 297-301.

- Aggarwal, A. K., Thompson, M., Falik, R., Shaw, A., O'Sullivan, P., & Lowenstein, D. H. (2013). Mental illness among us: A new curriculum to reduce mental illness stigma among medical students. *Academic Psychiatry, 37*(6), 385-391.
- AlSalem, M., Alamri, R., & Hejazi, S. (2020). Nonpsychiatric healthcare professionals' attitudes toward patients with mental illnesses in Makkah City, Saudi Arabia: A cross-sectional study. *Neuropsychiatric Disease and Treatment, 16*(2020), 341-348. <https://doi.org/10.2147/NDT.S236148>
- Amsalem, D., Gross, R., Dorman, A., Goren, Y., Tene, O., Shelef, A.,... Gothelf, D. (2019). Reducing stigma towards psychiatry among medical students: A multicenter controlled trial. *The Lancet, (2019)*, 1-26.
- Arbanas, G., Rožman, J., & Bagariü, Š. (2019). The attitudes of medical doctors, nurses and lay people towards schizophrenia, depression and PTSD. *Psychiatria Danubina, 31*(1), 84-91.
- Ayano, G., Assefa, D., Haile, K., Chaka, A., Haile, K., Solomon, M., Yohannis, K., Adane, A.A., & Jemal, K. (2017). Mental health training for primary health care workers and implication for success of integration of mental health into primary care: evaluation of effect on knowledge, attitude and practices (KAP). *International Journal of Mental Health Systems, 11*(63), 1-8.
- Babicki, M., Kotowicz, K., & Mastalerz-Migas, A. (2021). The assessment of attitudes of medical doctors towards psychiatric patients-A cross-sectional online survey in Poland. *International Journal of Environmental Research and Public Health, 18*(12), 1-13. <https://doi.org/10.3390%2Fijerph18126419>
- Bamgbade, B. A., Barner, J. C., & Ford, K. H. (2017). Evaluating the impact of an anti-stigma intervention on pharmacy students' willingness to counsel people living with mental illness. *Community Mental Health Journal, 53*(5), 525-533.
- Bamgbade, B. A., Ford, K. H., & Barner, J. C. (2016). Impact of a mental illness stigma awareness intervention on pharmacy student attitudes and knowledge. *American Journal of Pharmaceutical Education, 80*(5), 1-11. <https://scholarworks.waldenu.edu/dissertations/10886>
- Bilge, A., & Palabiyik, O. (2017). The Effect of Short Films about Mental Health and Disorders on Preventing Stigmatization in Nursing Education. *Archives of Psychiatric Nursing, 31*(1), 88-92. <https://doi.org/10.1016/j.apnu.2016.09.006>
- Bingham, H., & O'Brien, A.J. (2018). Educational intervention to decrease stigmatizing attitudes of undergraduate nurses towards people with mental illness. *International Journal of Mental Health Nursing, 27*(1), 311-319. <https://doi.org/10.1111/inm.12322>
- Brower, KJ. (2021). Professional Stigma of Mental Health Issues: Physicians are both the cause and solution. *Academic Medicine, 96*(5), 635-640.

- Brown, S. (2019). The effectiveness of two potential mass media interventions on stigma: Video-recorded social contact and audio/visual simulations. *Community Mental Health Journal, 56*(8), 471-477. <https://doi.org/10.1007/s10597-019-00503-8>
- Byrne, L., Platania-Phung, C., Happell, B., Harris, S., & Bradshaw, J. (2014). Changing nursing student attitudes to consumer participation in mental health services: A survey study of traditional and lived experience-led education. *Issues in Mental Health Nursing, 35*(9), 704-712. <https://doi.org/10.3109/01612840.2014.888604>; <https://doi.org/10.1177/1098214018804195>
- Chatmon, B.N. (2020). Males and mental health stigma. *American Journal of Men's Health, 14*(4), 1-3. <https://doi.org/10.1177/1557988320949322>
- Cho, M., & Kim, M. (2024). Effects of an empathy enhancement program using patient stories on attitudes and stigma toward mental illness among nursing students. *Frontiers in Psychiatry, 14*(2024), 1-10. <https://doi.org/10.3389/fpsy.2023.1304947>
- Chou, H.J., & Tseng, K.Y. (2020). The experience of emergency nurses caring for patients with mental illness: A qualitative study. *International Journal of Environmental Research and Public Health, 17*(22), 1-11. <https://doi.org/10.3390%2Fijerph17228540>
- Clement, S., van Nieuwenhuizen, A., Kassam, A., Flach, C., Lazarus, A., de Castro, McCrone, P., Norman, I., & Thornicrof, G. (2012). Filmed v. live social contact interventions to reduce stigma: randomised controlled trial. *The British Journal of Psychiatry, 201*(1), 57-64.
- Davies, E.B., Beever, E., & Glazebrook, C. (2018). A pilot randomised controlled study of the mental health first aid eLearning course with UK medical students. *BMC Medical Education, 18*(1), 1-15. <https://doi.org/10.1186/s12909-018-1154>
- Dobransky, K. M. (2019). Breaking down walls, building bridges: Professional stigma management in mental health care. *Society and Mental Health, 9*(2), 228-242.
- Dobson, K. S., & Rose, S. (2022). “Myths and facts” campaigns are at best ineffective and may increase mental illness stigma. *Stigma and Health, 7*(1), 27-34.
- Douglass, M., & Moy, B. (2019). Evaluation of the impact of a social media-focused on reducing mental health stigma among pharmacy students. *Mental Health Clinician, 9*(3), 110-115. <https://doi.org/10.9740/mhc.2019.05.110>
- Duman, Z. Ç., Günüşen, N. P., İnan, F. Ş., Ince, S. Ç., & Sari, A. (2017). Effects of two different psychiatric nursing courses on nursing students' attitudes towards mental illness, perceptions of psychiatric nursing, and career choices. *Journal of Professional Nursing, 33*(6), 452-459.

- Economou, M., Kontoangelos, K., Peppou, L. E., Arvaniti, A., Samakouri, M., Douzenis, A., & Papadimitriou, G. N. (2017). Medical students' attitudes to mental illnesses and to psychiatry before and after the psychiatric clerkship: Training in a specialty and a general hospital. *Psychiatry Research*, 258(2017), 108-115. <https://doi.org/10.1016/j.psychres.2017.10.009>
- Eiroa-Orosa, F.J., Lomascolo, M., & Tosas-Fernández, A. (2021). Efficacy of an Intervention to reduce stigma beliefs and attitudes among primary care and mental health professionals: Two cluster randomised-controlled trials. *International Journal of Environmental Research and Public Health*, 18(3), 1-15. <https://doi.org/10.3390/ijerph18031214>
- Fernandez, A., Tan, K. A., Knaak, S., Chew, B. H., & Ghazali, S. S. (2016). Effects of brief psychoeducational program on stigma in Malaysian pre-clinical medical students: A randomized controlled trial. *Academic Psychiatry*, 40(6), 905-911.
- Flanagan, E. H., Buck, T., Gamble, A., Hunter, C., Sewell, I., & Davidson, L. (2016). "Recovery Speaks": A photovoice intervention to reduce stigma among primary care providers. *Psychiatric Services*, 67(5), 566-569.
- Fokuo, J. K., Goldrick, V., Rossetti, J., Wahlstrom, C., Kocurek, C., Larson, J., & Corrigan, P. (2017). Decreasing the stigma of mental illness through a student- nurse mentoring program: A Qualitative study. *Community Mental Health Journal*, 53(3), 257-265. <https://doi.org/10.1007/s10597-016-0016-4>
- Friedrich, B., Evans-Lacko, S., London, J., Rhydderch, D., Henderson, C., & Thornicroft, G. (2013). Anti-stigma training for medical students: The education not discrimination project. *British Journal of Psychiatry*, 202(Suppl.55), s89-s94. <https://doi.org/10.1192/bjp.bp.112.114017>
- Gandhi, S., Vijayalakshmi, P., Govindan, R., Jothimani, G., Anjanappa, S., Sahu, M., Narayanasamy, P., Manjunath, N., Naveenkumar, C., & Badamath, S. (2019). Knowledge and perceptions of Indian primary care nurses towards mental illness. *Investigacion y Educacion En Enfermeria*, 37(1), 1-13. <https://doi.org/10.17533/udea.iee.v37n1a06>
- Ghuloum, S., Mahfoud, Z.R., Al-Amin, H., Marji, A., & Kehyayan, V. (2022). Healthcare professionals' attitudes toward patients with mental illness: A cross-sectional study in Qatar. *Frontiers in Psychiatry*, 13(2022), 1-13.
- Gronholm, P.C., Henderson, C., Deb, T., & Thornicroft, G. (2017). Interventions to reduce discrimination and stigma: The state of the art. *Social Psychiatry and Psychiatric Epidemiology*, 52(3), 249-258. <https://link.springer.com/article/10.1007/s00127-017-1341-9>.
- Grønmo, S. (2020). *Social Research Methods: Qualitative, Quantitative and Mixed Methods Approaches* (3rd Ed.). Sage Publications.

- Gürbüz, A. A., Yorulmaz, O., & Durna, G. (2020). Reducing the social stigma associated with obsessive compulsive disorder: A controlled trial of an intervention program in a Turkish community sample. *Journal of Evidence-Based Psychotherapies*, 20(2), 101-120.
- Henderson, C., & Gronholm, P.C. (2018). Mental health related stigma as a 'Wicked problem': The need to address stigma and consider the consequences. *International Journal of Environmental Research and Public Health*, 15(6), 1-13.
- Heney, D.B. (2022). Solving for stigma in mental health care. *The Journal of Evaluation in Clinical Practice*, 28(2022), 883-889. <https://doi.org/10.1111/jep.13735>
- Higgins, J.P.T., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M.J., & Welch, V.A. (2019). *Cochrane Handbook for Systematic Reviews of Interventions* (2nd Ed.). John Wiley & Sons.
- Holly, C., Salmond, S., & Saimbert, M. (2022). *Comprehensive Systematic Review for Advanced Practice Nursing* (3rd Ed.). Springer Publishing Company.
- Hurley, E., Dietrich, T., & Rundle-Thiele, S. (2019). A systematic review of parent based programs to prevent or reduce alcohol consumption in adolescents. *BMC Public Health*, 19(2019), 1-14. <https://doi.org/10.1186/s12889-019-7733-x>
- Iheanacho, T., Marienfeld, C., Stefanovics, E., & Rosenheck, R. A. (2014). Attitudes toward mental illness and changes associated with a brief educational intervention for medical and nursing students in Nigeria. *Academic Psychiatry*, 38(3), 320-324. <https://doi.org/10.1007/s40596-014-0073-3>
- Inan, F. Ş., Günüşen, N., Duman, Z. Ç., & Ertem, M. Y. (2019). The impact of mental health nursing module, clinical practice and an anti-stigma program on nursing students' attitudes toward mental illness: A quasi-experimental study. *Journal of Professional Nursing*, 35(3), 201-208.
- Ito-Jaeger, S., Perez Vallejos, E., Curran, T., Spors, V., Long, Y., Liguori, A., Warwick, M., Wilson, M., & Crawford, P. (2021). Digital video interventions and mental health literacy among young people: a scoping review. *Journal of Mental Health*, (2021), 1-12.
- Jacob, N., & Coetzee, D. (2018). Mental illness in the Western Cape Province, South Africa: A review of the burden of disease and healthcare interventions. *South African Medical Journal*, 108(3), 176-180.
- Jassir Acosta, M.P., Cárdenas Charry, M.P., Uribe Restrepo, J.M., Cepeda, M., Cubillos, L, Bartels, S.M., Castro, S., Marsch, L.A, & Gómez-Restrepo, C. (2021). Characterizing the perceived stigma towards mental health in the early implementation of an integrated services model in primary care in Colombia. A qualitative analysis. *Revista Colombiana de Psiquiatría*, 50(Suppl 1), 91-101.

- Joanna Briggs Institute. (2014). *Joanna Briggs Institute Reviewers' Manual: 2014 Edition*. University of Adelaide, Joanna Briggs Institute. <https://docplayer.net/6678504-Joanna-briggs-institute-reviewers-manual-2014-edition.html>
- Jombo, H.E., Idung, A.U., & Iyanam, V.E. (2019). Attitudes, beliefs and social distances towards persons with mental illness among health workers in two tertiary healthcare institutions in Akwa Ibom State, South-South Nigeria. *International Journal of Health Sciences & Research*, 9(6), 252-259.
- Juliá-Sanchis, R., Sastre-Rus, M., Puig-Llobet, M., Tomás-Sábado, J., Roldán-Merino, J. F., & Lluch-Canut, M. T. (2024). Reducing mental health stigma among nursing students through an educational intervention. *Contemporary Nurse*, 17(2024), 1-13. <https://doi.org/10.1080/10376178.2024.2363906>
- Kaba, E., Triantafyllou, A., Fasoí, G., Kelesi, M., & Stavropoulou, A. (2020). Investigating nurses' views on care of mentally ill patients with skin injuries. *International Journal of Environmental Research and Public Health*, 17(20), 1-14.
- Khan, K., Kunz, R., Kleijnen, J., & Antes, G. (2011). *Systematic reviews to support evidence based Medicine: How to review and apply findings of healthcare research (2nd Ed.)*. Hodder & Stoughton.
- Koutsouradi, G., Dimitrakaki, C., Agapidaki, E., Tountas, Y., & Lagiou, A. (2016). A theory-based intervention in health visiting students in order to reduce mental illness stigma: A quasi-experimental study. *Archives of Community Medicine and Public Health*, 2(1), 37-43.
- Lee, E., Jeong, Y.M., & Yi, S.J. (2020). Nurses' attitudes toward psychiatric help for depression: The serial mediation effect of self-stigma and depression on public stigma and attitudes toward psychiatric help. *International Journal of Environmental Research and Public Health*, 17(14), 1-10.
- Li, J., Li, J., Huang, Y., & Thornicroft, G. (2014). Mental health training program for community mental health staff in Guangzhou, China: Effects on knowledge of mental illness and stigma. *International Journal of Mental Health Systems*, 8(1), 1-6. <https://doi.org/10.1186/1752-4458-8-49>
- Lo, K., Gupta, T., & Keating, J.L. (2018). Interventions to promote mental health literacy in university students and their clinical educators. A systematic review of randomised control trials. *Health Professions Education*, 4(3), 161-175.
- Magliano, L., Rinaldi, A., Costanzo, R., Leo, R. D., Schioppa, G., Petrillo, M., & Read, J. (2016). Improving psychology students' attitudes toward people with schizophrenia: A quasi randomized controlled study. *American Journal of Orthopsychiatry*, 86(3), 253-264. <https://doi.org/10.1037/ort0000161>

- Makhmud, A., Thornicroft, G., & Gronholm, P. (2022). Indirect social contact interventions to reduce mental health-related stigma in low- and middle-income countries: Systematic review. *Epidemiology and Psychiatric Sciences*, *31*(2022), 1-10. <https://doi.org/10.1017/S2045796022000622>
- Mann, C. E., & Himelein, M. J. (2008). Putting the person back into psychopathology: An intervention to reduce mental illness stigma in the classroom. *Social Psychiatry and Psychiatric Epidemiology*, *43*(7), 545-551. <https://doi.org/10.1007/s00127-008-0324-2>
- Minty, Y., Moosa, M.Y.H., & Jeenah, F.Y. (2021). Mental illness attitudes and knowledge in non-specialist medical doctors working in state and private sectors. *South African Journal of Psychiatry*, *27*(2021), 1-11. <https://doi.org/10.4102/sajpsy psychiatry.v27i0.1592>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., & The PRISMA Group. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med*, *6*(6), e1000097.
- Morgan, A.J., Wright, J. & Reavley, N.J. (2021). Review of Australian initiatives to reduce stigma towards people with complex mental illness: what exists and what works? *International Journal of Mental Health Systems*, *15*(2021), 1-51. <https://doi.org/10.1186/s13033-020-00423-1>
- Moxham, L., Taylor, E., Patterson, C., Perlman, D., Brighton, R., Sumskis, S., Keough, E., & Heffernan, T. (2016). Can a clinical placement influence stigma? An analysis of measures of social distance. *Nurse Education Today*, *44*(2016), 170-174. <https://doi.org/10.1016/j.nedt.2016.06.003>
- Munn, Z., Tufanaru, C., & Aromataris, E. (2014). JBI's Systematic Reviews: Data Extraction and Synthesis. *The American Journal of Nursing*, *114*(7), 49-54.
- Muzyk, A. J., Lentz, K., Green, C., Fuller, S., May, D. B., & Roukema, L. (2017). Instructional design and assessment Emphasizing Bloom's Affective Domain to Reduce Pharmacy Students' Stigmatizing Attitudes. *American Journal of Pharmaceutical Education*, *81*(2), 1-8.
- Nguyen, E., Chen, T. F., & O'Reilly, C. L. (2012). Evaluating the impact of direct and indirect contact on the mental health stigma of pharmacy students. *Social Psychiatry and Psychiatric Epidemiology*, *47*(7), 1087-1098. <https://doi.org/10.1007/s00127-011-0413-5>
- O'Reilly, C. L., Bell, J. S., Kelly, P. J., & Chen, T. F. (2011). Impact of mental health first aid training on pharmacy students' knowledge, attitudes and self-reported behaviour: A controlled trial. *Australian and New Zealand Journal of Psychiatry*, *45*(7), 549-557. <https://doi.org/10.3109/00048674.2011.585454>
- Patten, S. B., Remillard, A., Phillips, L., Modgill, G., Szeto, A. C., Kassam, A., & Gardner, D. M. (2012). Effectiveness of contact-based education for reducing mental illness-related stigma in pharmacy students. *BMC Medical Education*, *12*(120), 1-9. <https://doi.org/10.1186/1472-6920-12-120>

- Polit, D.F., & Beck, C.T. (2014). *Essentials of Nursing research: Appraising evidence for nursing practice* (4th Ed.). Lippincott Williams & Wilkins.
- Qin, S., Zhou, H., & Hu, Y.H. (2024). A mental health nursing course to reduce discrimination towards people with mental illness among nursing students: A quasi-experimental study. *Open Access Library Journal*, *11*(2024), 1-12. <https://doi.org/10.4236/oalib.1111585>
- Rodríguez-Rivas, M.E., Cangas, A.J., Cariola, L.A., Varela, J.J., & Valdebenito, S. (2022). Innovative technology-based interventions to reduce stigma toward people with mental illness: Systematic review and meta-analysis. *JMIR Serious Games*, *10*(2), 1-12.
- Rubio-Valera, M., Aznar-Lou, I., Vives-Collet, M., Fernández, A., Gil-Girbau, M., & Serrano-Blanco, A. (2018). Reducing the mental health-related stigma of social work students: A cluster RCT. *Research on Social Work Practice*, *28*(2), 164-172.
- Saguem, B.N., Ouanes, S., Rhouma, A., & Nakhli, J. (2022). Effectiveness of an educational program for reducing mental illness stigma targeting family medicine trainees in Tunisia: A quasi-experimental study. *Applied Psychology Health and Well-Being*, *15*(2), 686-704. <https://doi.org/10.1111/aphw.12405>
- Sahile, Y., Yitayih, S., Yeshanew, B., Ayelegne, D., & Mihiretu, A. (2019). Primary health care nurses' attitude towards people with severe mental disorders in Addis Ababa, Ethiopia: a cross sectional study. *International Journal of Mental Health Systems*, *13*(26), 1-8.
- Salama, R., Tadros, T., Sikandar, I., Ashraf, A., & Khan, A. (2021). Attitudes of healthcare professionals towards mental illness: A survey study in Ras Al Khaimah. *Open Journal of Psychiatry*, *11*(3), 160-173.
- Salmonsén, J., Mizock, L., Cornelius, A., Read, J., & Russinova, Z. (2024). Development and evaluation of a webinar to reduce stigma toward people with serious mental illness. *Psychiatric Rehabilitation Journal*, *47*(1), 73-80. <https://doi.org/10.1037/prj0000584>
- Shim, Y.R., Eaker, R., & Park, J. (2022). Mental health education, awareness and stigma regarding mental illness among college students. *Journal of Mental Health & Clinical Psychology*, *6*(2), 6-15.
- Šimičić, M., Pačarić, S., Pavlović, D., Babić, M., Farčić, N., & Srb, N. (2023). Nurses' attitudes and stigma about mental illness and substance abuse. *Open Access Macedonian Journal of Medical Sciences*, *11*(2023), 98-104. <https://oamjms.eu/index.php/mjms/article/view/11713>
- Smith, J. D., Mittal, D., Chekuri, L., Han, X., & Sullivan, G. (2017). A comparison of provider attitudes toward serious mental illness across different health care disciplines. *Stigma and Health*, *2*(4), 327-337. <https://doi.org/10.1037/sah0000064>
- Strassle, C. G. (2018). Reducing mental illness stigma in the classroom: An expanded methodology. *Teaching of Psychology*, *45*(4), 351-357.

- Stubbs, A. (2014). Reducing mental illness stigma in health care students and professionals: A review of the literature. *Australasian Psychiatry*, 22(6), 579-584. <https://doi.org/10.1177/1039856214556324>
- Sukhera, J., Miller, K., Milne, A., Scerbo, C., Lim, R., Cooper, A., & Watling, C. (2017). Labelling of mental illness in a paediatric emergency department and its implications for stigma reduction education. *Perspectives on Medical Education*, 6(2017), 165-172. <https://doi.org/10.1007/s40037-017-0333-5>
- Thonon, B., Pletinx, A., Grandjean, A., Billieux, J., & Larøi, F. (2016). The effects of a documentary film about schizophrenia on cognitive, affective and behavioural aspects of stigmatisation. *Journal of Behavior Therapy and Experimental Psychiatry*, 50(2016), 196-200. <https://doi.org/10.1016/j.jbtep.2015.08.001>
- Thyloth, M., Singh, H. & Subramanian, V. (2016). Increasing burden of mental illnesses across the globe: Current Status. *Indian Journal of Social Psychiatry*, 32(3), 254-256.
- Uman, L.S. (2011). Systematic reviews and meta-analyses. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 20(1), 57-59. <https://pubmed.ncbi.nlm.nih.gov/21286370>
- Vaccari, P., Ramírez-Vielma, R., Saldivia, S., Cova, F., Vielma-Aguilera, A., Victoriano, V., Ulloa-Vidal, N., Grandón, P. (2020). Stigma towards people with a diagnosis of severe mental disorder in primary healthcare centers: perspectives of service users and health teams in Chile. *International Journal of Mental Health Systems*, 14(6), 1-11.
- Vilar Queirós, R., Santos, V., & Madeira, N. (2021). Decrease in stigma towards mental illness in Portuguese medical students after a psychiatry course. *Acta Médica Portuguesa*, 34(7), 498-506. <http://dx.doi.org/10.20344/amp.13859>
- Wakida, E.K., Talib, Z.M., Akena, D., Okello, E.S., Kinengyere, A., Mindra, A., & Obua, C. (2018). Barriers and facilitators to the integration of mental health services into primary health care: a systematic review. *Systematic Reviews*, 7(1), 1-13. <https://doi.org/10.1186/s13643-018-0882-7>
- Walker, J.N., Vanderhoef, D., Adams, S.M., & Fleisch, S.B. (2022). The impact of an educational intervention on nursing staff attitudes toward patients experiencing homelessness and mental illness. *Journal of the American Psychiatric Nurses Association*, 28(6):474-479. <https://doi.org/10.1177/10783903211011669>
- Walsh, D.A.B., & Foster, J.L.H. (2021). A call to action. A critical review of mental health related anti-stigma campaigns. *Frontiers in Public Health*, 8(2021), 1-15.
- Wong, P.W.C., Arat, G., Ambrose, M.R., Qiuyuan, K.X., & Borschel, M. (2019). Evaluation of a mental health course for stigma reduction: A pilot study. *Cogent Psychology*, 6(1), 1-12. <https://doi.org/10.1080/23311908.2019.1595877>

World Health Organisation. (2008). *Integrating mental health into primary care: A global perspective*. WHO Library Cataloguing-in-Publication Data.

World Health Organisation. (2020). *Mental disorders*. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>

Zaraza-Moralesa, D.R., Duque-Ortiz, C., Castañeda-Palacio, H.L, Montoya, L.M.H., Chica, M.L.C., & Sánchez, L.M.H. (2022). The Care of Patients with Psychiatric Symptoms in General Hospitalisation Units: A Phenomenological Study. *Revista Colombiana de Psiquiatría*, (2022).

Zhang, J., Shields, L., Tian, J., & Wang, J. (2019). A PRISMA assessment of the reporting quality of systematic reviews of nursing published in the Cochrane Library and paper-based journals. *Medicine*, 98(49), 1-6.

Zhang, W., Henderson, C., Magnusdottir, E. Chen, W., Ma, N., Ma. H., & Thornicroft, H. (2022). Effect of a contact-based education intervention on reducing stigma among community health and care staff in Beijing, China: Pilot randomized controlled study. *Asian Journal of Psychiatry*, 73(2022), 1-7.

Zweifel, P. (2021). Mental health: The burden of social stigma. *The International Journal of Health Planning and Management*, 36(3), 813-825. <https://doi.org/10.1002/hpm.3122>