

Healthcare undergraduate student's attitudes towards mental-illness following anti-stigma education: A critical review of the literature.

Abstract

Purpose - *There has been growing awareness underpinned with legislative recognition of the need to reduce the stigma attached to mental health. Education is seen as an integral factor for this endeavour. The purpose of this paper is to review existing literature to determine both positive and negative attitudinal changes of healthcare related undergraduate students towards mental illness after a training intervention within higher education.*

Design/methodology/approach - *A search of papers written in the English Language was conducted between 2004-2021, using CINAHL, Eric, Educational Research Complete, Medline, psychINFO and SocIndex. Search terms used were undergraduate, attitudes or perceptions, mental illness/mental ill-health, education, stigma and students.*

Findings - *24 studies were critically reviewed, which included experimental, descriptive and exploratory designs. The appraisal of papers utilised recognised evaluation tools to review the methodological quality. Findings suggest that overall, anti-stigma education has a significant positive effect for student attitudinal change.*

Research limitations/implications – *Mental health anti-stigma education is beneficial for changing attitudes, however, more bio-medically framed training is less powerful for initiating change. Learning from those with the lived experience appears to have a more sustainable impact as indicated in some of the studies. There is a need for more exploratory research to gain further knowledge on the critical educational mechanisms that may foster more long term reframing of positive attitudes towards mental health.*

Practical implications - *Training providers need to consider the compelling evidence base surrounding anti- stigma pedagogy that supports the use of individuals with experience of mental ill-health within the educational processes.*

Social implications – *Mental health stigma has potential for profound negative impact on individuals, and at a wider societal level. Education is central to enable learners to consider their attitudes to mental illness to reduce stigmatising attitudes. Students on healthcare related courses are influential in becoming catalysts for change.*

Originality/value – *This paper has critically reviewed the literature examining the attitudes of healthcare related undergraduate students following anti-stigma education, offering insights into some of positive and negative attitudinal changes and opinions of the event. In particular*

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3 *contributing to an understanding on the important components of training for sustainable*
4 *change.*

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6 **Keywords** *Mental health/illness, undergraduate students, healthcare, educational intervention,*
7 *stigma/anti-stigma, literature review.*

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9 **Paper type** *Literature Review*

10 11 12 13 14 **Introduction:**

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16 The stigma attached to mental health is a significant issue, which now more than ever as we
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18 hopefully move beyond the global pandemic, requires concerted efforts to eradicate. In recent
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20 years, there have been ongoing attempts to cultivate more positive attitudes towards mental ill-
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22 health (TNS UK, 2014; DoH, 2012). However, this is not before a realisation of the damaging
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24 impact stigma may inflict on both individuals and wider society stemming from a variety of
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26 academic disciplines and spanning a long historical timeframe (Bogardus, 1925; Goffman,
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28 1990; Foucault, 1988; Thornicroft, 2006; Rusch and Corrigan, 2013). Indeed, there are many
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30 differing perspectives on what for many is clearly an emotive topic, one deeply associated with
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32 negativity and shame.
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38 It is concerning that stigmatising attitudes have been highlighted as an issue among health care
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40 professionals (Horsefall *et al.*, 2010; Arbanas *et al.*, 2018; Fresan *et al.*, 2018; Fokuo *et al.*,
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42 2019; Masedo *et al.*, 2021). Education and the centrality of learning has been identified as a
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44 valuable catalyst for changing negative attitudes which are often further compounded by
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46 working conditions, that potentially pre-dispose staff to stress and 'burnt-out'. A risk here being
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48 a less favourable arena for nurturing the capacity for compassion (Crawford *et al.*, 2014), and
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50 the conditions required for the promotion of mutually beneficial practitioner/client relationships
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55 (Brown, 2016).
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3 Therefore, a range of educational approaches that allow learners on health related courses to
4 consider the topic of stigma to examine existing attitudes may be beneficial (Yamaguchi *et al.*,
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6 2011; Giralt Palou *et al.*, 2021). It would appear a pertinent time for opportunities that provide
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8 what Mezirow (2000) would term a ‘perspective transformative’ educational experience.
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10 Arguably, it is only through the acquisition of what Freire (1972) would refer to as a critical
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12 understanding of ‘reality’, which in this case links to thoughts and ‘feelings’ about mental ill-
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14 health, that attitudinal and cultural change can be initiated.
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21 Review Aim

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23 The aim of this literature review was to identify the effects of anti-stigma educational
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25 interventions on the attitudes of ‘healthcare related’ undergraduate students towards people with
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27 mental-illness. The time frame for the review of literature was 2004-2021, with the initial search
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29 up to 2017 and repeated to include the more contemporary studies.
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35 Review Objectives:

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37 • To ascertain the students experience of the educational event.
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39 • To consider the variables that may influence student attitudes.
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41 • To critically evaluate the methodological quality of the research reviewed.
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43 • To discuss the implications for further research and educational practice.
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50 Whilst the term mental illness is adopted throughout, it is not one that sits comfortably here, and
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52 refers to what would be considered a range of psychological conditions that are given a
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54 diagnostic label (and are often widely referred to as mental illness). The decision to use it is
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56 because it would appear to be the preferred term within the literature and other search terms
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58 utilised (that are arguably more neutral and less bio-medically framed) were not as fruitful,
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3 when conducting the search. In light of this review attitudes are defined as “*a psychological*
4 *tendency that is expressed by evaluating a particular issue in a positive or negative way*”
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6 (Lester *et al.* Glasby, 2010p.95).
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10 11 12 **Methods:**

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15 Electronic searches for published peer-reviewed articles were conducted on several databases,
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17 which included those listed in CINAHL, Eric, Educational Research Complete, Medline,
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19 psychINFO and SocIndex. These were regarded the most appropriate to utilise due to the nature
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21 of this inquiry. Search terms used were *undergraduate, attitudes or perceptions, mental*
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23 *illness/mental ill-health, education, stigma and students*. What then followed was a thorough
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25 search trying different terms, which yielded a mixture of results. When specifically using the
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27 term ‘healthcare related’, no specific hits were obtained. Conversely, omitting this yielded a
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29 range of what is referred to within this paper as ‘healthcare related’. This included a mix of
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31 studies pertaining to nursing, occupational therapy, psychology, social work, pharmacy and
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33 medicine. Further to this a manual examination of reference lists and previously published
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35 reviews (Dalky, 2012, Yamaguchi *et al.*, 2011, Giralt Palou *et al.*, 2019) enabled further
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37 identification of research. Studies were included if they met the following inclusion criteria: (a)
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39 limited to research publications in English, (b) included healthcare related undergraduate
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41 students, (c) explored the attitudes/perceptions of students towards mental illness following an
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43 educational event.
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51 52 **Search Results:**

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54 The combined review included 24 studies that all appeared to focus on mental health *anti-*
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56 stigma education and its impact on student attitudes. The selected works were eclectic, revealing
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58 a variety of methodological approaches. Interestingly the majority of the studies were of a
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quantitative design ($n=19$), with five of these studies being Randomised Control Trials, whilst the remainder were a qualitative design. ($n=5$). The collective works adopted an international perspective, although the country of origin where most of the research had been conducted was Australia ($n = 6$) then USA ($n = 5$), UK ($n = 3$), Saudi Arabia (1), Turkey ($n = 1$), Greece ($n = 1$), South Africa ($n=1$), Malaysia ($n=1$), India ($n=1$), Nepal ($n=1$), Taiwan ($n=1$), Canada ($n = 1$) and Italy ($n = 1$).

Overview of Selected Studies:

The studies utilised a range of educational interventions, which included traditional biomedically framed lectures and teaching methods ($n=6$), role play and the reading from first person narratives ($n=3$), placements ($n=1$) and finally contact-based sessions that were either face to face or by the use of video ($n=0$). Some of the above utilised a combination of approaches. The evaluation of attitudes in the selected studies were collected through a range of tools, some already validated and established for the gathering of evidence. For example, studies by Clement *et al.*, (2013), Witt *et al.*, (2016), Pingani *et al.*, (2021) used scales specifically for examining attitudes. The former using the Mental Illness: Clinicians Attitudes Scale (MICA) and the latter in part included Community Attitudes Towards Mental Illness Scale (CAMI). In addition, some studies utilised a Social Distance Scale (SDS) which measures attitudes to a range of factors (Wood and Wahl, 2006, Roberts *et al.*, 2008, Economou *et al.*, 2012 Burns *et al.*, 2017, Alhajri and Alghamdi, 2018). Some developed and adapted instruments specific to their project (Altindag *et al.*, 2006, Wood and Wahl, 2006, Mammar and Himelein, 2008, Happell *et al.*, 2014; Boucher and Campbell, 2014; Bannatyne and Stapleton, 2015). One study incorporated a tool for the consideration of physician empathy (Friedrich *et al.*, 2012) and whilst not an attitude is considered an essential 'quality' for healthcare workers to cultivate for a caring and compassionate workforce.

Critical Appraisal:

Gough (2007 p.213) has suggested, research that engages in knowledge and theory development has many tensions and complexities, along with challenges to both the appraisal and assimilation of knowledge. With this in mind it is important to consider what he refers to as the 'weight of evidence framework' when considering the overall quality. Initial scrutiny of the papers, indicated the potential strength of the findings. What followed was a process of becoming familiar with the papers which was assisted by adopting the preview, question, read and summarize (PQRS) system as suggested by Cohen (1990). This enabled an introductory overview and provided the first steps to what is hoped a rigorous critique of content (Cronin *et al.*, 2008). It is deemed necessary within such a review to carefully consider the quality, rigour and limitations of each paper selected.

For this review it has not been considered that one methodology holds greater value over another and has therefore critiqued a mix of studies with different research design styles. Arguably, this may be viewed as a both a challenge and strength to the synthesis of the findings (Broome, 2000; Gough 2007). Consideration was given to the most appropriate appraisal tool for consistency and established ones were applied throughout (Aveyard, 2014, Polit and Hungler, 1999). The Critical Appraisal Skills Programme (2021) CASP appraisal tools were utilized, according to the nature of the identified study. For papers that were not explicit regarding their study design a generic framework developed by Aveyard (2014) was employed.

Results:

The results, from this critical review are offered under the following themes: *Positive and negative attitudinal changes towards mental illness; Student views of the educational event; Empathy and perspective transformation.*

Positive and negative attitudinal changes towards mental illness:

The majority of the studies' outcomes suggest a positive change in attitudes, among the varied student bodies involved. Matteo (2013) conducted an exploratory study with a sample of undergraduate psychology students from 3 introductory psychology classes. A pre-intervention test indicated students harboured negative associations toward mental illness with some believing these attitudes were cultivated at school. For example, one student reflected on how some children with mental health problems at their school were the subject of ridicule. Post intervention findings revealed attitudinal changes in a number of areas, most notably those linked to the so called 'attributions' or stereotype of someone with mental illness.

Further to this Matteo (2013) indicated that students' engagement provided a safe space and catalyst for self-disclosure and discussion around their own personal experiences of mental ill health. This finding was revealed in some of the other studies where students felt this change in understanding initiated the formation of new insights (Bizub and Davidson, 2011; Bryne *et al.*, 2013; Muzyk *et al.*, 2017; Tergeson *et al.*, 2021). O'Reilly, Bell and Chen (2012) adopted a co-operative approach that explored the views of 11 pharmacy students alongside 12 service user/educators and sought to determine the self-reported effects of service user led education on attitudes, again revealing attitudinal improvements.

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3 In the qualitative study by Bizub and Davidson (2011), contact interventions were implemented
4 through psychology students befriending someone with the lived experience of mental illness.
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6 Arguably, despite a small sample size, findings suggested, a positive effect on participants
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8 thinking as a result of having space for reflection on the activity. Pre-test attitudes showed some
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10 anxiety, in particular around the association of mental illness to ‘unpredictability’ and
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12 ‘aggression’. Post-test, one student expressed guilt for their negative thoughts and how the
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14 learning experience allowed space to reflect on attitudes giving way to more positive feelings.
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22 A randomised control study by Roberts *et al.*, (2008) sought to establish whether one off role-
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24 play activities had an impact on attitudinal change and found there to be no notable difference
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26 between either the control or intervention group. Clearly, it may be gleaned that the study
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28 design is an important factor for consideration as bio-medically framed studies were not very
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30 impactful on changing attitudes (Boucher and Campbell, 2014; Muzyk *et al.*, 2017). Videos
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32 which included service user accounts show attitude improvement (Galletly and Burton, 2011;
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34 Clements *et al.*, 2012; Tergesen *et al.*, 2021). However, the former had some contradiction as
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36 the study by Galletly and Burton, (2011) indicated positive change for students watching a
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38 video of someone with Schizophrenia whereas in the study by Tergesen *et al.*, (2021) there was
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40 no change in a video that included elements of psychosis.
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47 The findings by Altindag *et al.*, (2006) showed improvement in attitudes relating to social
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49 distance. Notably more of the sample in the intervention group showed a positive shift post
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51 event, in relation to criteria such as a willingness to accept as peers within the workplace and as
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53 neighbours. Other studies revealed similar findings (Kassam *et al.*, 2013; Wood and Wahl,
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55 2006; Burns *et al.*, 2017; Ma and Hseih, 2020). Bharathy *et al.*, (2016) evaluated medical
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57 student’s perceptions following an eight week ‘chat and connect’, where students interacted on
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3 an equal basis with service users, with the results revealing some beneficial effects. The more
4 recent study by Witt *et al.*, (2019) of medical students at year 5 and 6 of their undergraduate
5 studies revealed a significant improvement in attitudes following a 7 week rotation, with female
6 students demonstrating more positive attitudes.
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14 Conversely, some papers revealed no significant impact on student attitudes. For example, the
15 study by Altindag *et al.* (2006) surveyed medical students' attitudes towards the condition
16 'schizophrenia' within their first year of training. The study suggests slight positive changes
17 were apparent to perceptions toward social distance, but these seemed to then decline at a one-
18 month follow up. Moreover, studies focussing on medical students in a psychiatric placement
19 with the exception of Witt *et al.*, (2019) revealed an increase in stigmatising attitudes.
20 (Economou *et al.*, 2012; Alhajri and Alghamdi, 2018). Economou *et al.*, (2012) found negativity
21 to be notable in relation to beliefs about 'dangerousness' and variables associated with gender
22 appeared to also have some bearing, as female participants seemed to harbour greater negative
23 attitudes. However, this finding conflicted with the studies by Poreddi *et al.*, (2015), Witt *et al.*,
24 (2019); Pingani *et al.*, (2021), which revealed that the female participants were less likely to be
25 stigmatising. Notably for some of the studies group characteristics revealed a higher percentage
26 of female participants risking potential bias.
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47 **Student opinions of the educational event:**

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49 Findings would appear to suggest the most significant change to attitudes occurred when
50 students had contact from those with the lived experience of mental illness. Interestingly, Bryne
51 *et al.*, (2013) found an emergent theme in their study centred on the teaching, which was
52 delivered by an academic with lived experience of mental illness. Students thought having the
53 opportunity to understand this way was powerful for seeing from a fresh perspective and
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3 provided them with a deeper learning experience. Further studies indicated that exposure to
4 service users is an encouraging approach to implement, particularly when planning educational
5 research and practice for future generations of healthcare-related professions (O'Reilly *et al.*,
6 2012; Bryne *et al.*, 2013; Poreddi *et al.*, 2015; Ma and Hseih, 2020; Tergesen, *et al.*, 2021). It is
7 unclear how contact has this effect, but clearly its value for challenging stereotypical attitudes
8 and myths linked to mental illness is apparent in the studies reviewed.
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19 The more statistically framed study by Clement *et al.*, (2012) revealed some of the participant's
20 views on process variables. For example, students who received training via a video reported a
21 greater emotional response compared to those who were given a live contact session.
22 Additionally, students who were given a combination of live contact and video felt a heightened
23 emotional response than those who had a formal lecture setting. In the randomised control trial
24 conducted by Kassam *et al.*, (2013) findings examined the respondent's evaluation of the course
25 and its teaching methods. Medical student's perceptions of the course along with the perceived
26 impact on attitudes and behaviours were measured. In the main contact-based approaches were
27 deemed to be the most effective. There were some contradictions as previously indicated, as the
28 study by Economou *et al.*, (2012) included contact but this only served to intensify negative
29 attitudes.
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47 Student attitudes in the majority of the studies supported the effectiveness of an anti-stigma
48 educational intervention. This appeared to be particularly significant on measured attitudes,
49 taken immediately following the training event. Again the study by Economou *et al.*, (2012)
50 included a placement that ensured contact with service users and despite this results appeared
51 disappointing. As indicated above, one reason purported for this was students had placements
52 within acute mental health settings, where clients were reported to have had greater levels of
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3 distress. It is suggested this influenced negative attitudes and perceptions associated to
4 dangerousness and unpredictability, which propagated more pessimistic ideas relating to
5 recovery from mental illness.
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12 Interestingly, further studies appear to reveal that any initial positive changes do not last, as
13 attitudes measured following a time interval yielded a noticeable negative decline (Altindag *et*
14 *al.*, 2006; Friedrich *et al.*, 2013; Pingani *et al.*, 2021). The study by Roberts *et al.*, (2008)
15 indicated single education sessions did not appear to influence student attitudes. Whilst
16 acknowledging the changes in attitudes, the long term and temporal implications for change
17 need to be considered (Bharathy *et al.*, 2016; Burns *et al.*, 2017; Alhajri and Alghamdi, 2018).
18 However, the more recent study by Ma and Hseih, (2020) indicated the positive effects
19 remained 1 year on from the training. They contend this may be due to a combination of
20 training approaches which included social contact role-play and critical reflection.
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36 **Empathy and perspective transformation:**

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38 Moving now to consider the therapeutic quality of empathy; Bizzi and Davidson (2011), found
39 that providing psychology students with opportunity to have contact with consumers and to be
40 able to talk and listen to their experiences brought about a new realization. This time served to
41 heighten self-awareness, knowledge and empathy for those living with mental illness. It became
42 apparent there appeared to be a shift in attitudes that associate mental illness with notions of
43 hopelessness and danger, to ones of resilience and an increased sense of optimism. Similarly,
44 others also identified this perspective change in their students (O'Reilly *et al.*, 2012; Bryne *et*
45 *al.*, 2013; Friedrich *et al.*, 2013; Clement *et al.*, 2012; Muzyk *et al.*, 2017) in particular, having
46 the space to challenge pre-existing ideas and perceptions, and time for reflection (Bryne *et al.*,
47 2013; Ma and Hseih, 2020) and more compassionate responses (Friedrich *et al.*, 2013). The
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latter paper utilised items from the 'Jefferson Scale of Physician Empathy' with a sample of medical students. A further advantage identified by the participants in the study by Bryne *et al.*, (2013) was a recognition of the need to change current practice to one that embodied a mindful approach, which cultivated a focus on the importance of a therapeutic relationship.

The study by Matteo (2013) led to the self-disclosure of some students who felt able to share their personal stories of mental illness. This enabled greater self-awareness and empathic understanding. Similar findings were revealed in two of the other studies, where students believed this realisation initiated the formation of changed attitudes (Bryne *et al.*, 2012, Bizub and Davidson 2011). O'Reilly *et al.*, (2012) found students thought the learning was an emotive experience that enabled them to feel less judgmental. Furthermore the newly acquired insights led to changes in behaviour and as one student stated, it was like seeing from a new perspective. (Bryne *et al.*, 2012).

Discussion:

Review Limitations

The purpose of this review has been to reveal some of the attitudes and opinions of 'healthcare related undergraduate students'. It is recognised that a deeper understanding could be gained from reviewing opinions of non-healthcare undergraduate students, along with learners in other educational contexts, audiences and cultures. Furthermore, this appraisal has revealed the general positive shift in attitudes following education, rather than the exact nature of those attitudes. Moreover, it has been suggested that for any anti-stigma work to be successful 'power issues' (Grant, 2015; Brown, 2015) within the therapeutic encounter need to be acknowledged and is another area pertinent for further research. Interestingly, evidence appears to indicate medical professionals hold greater stigmatising attitudes which become more deeply ingrained

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3 with experience, and resistant to change (Knapp *et al.*, 2007; Fresan *et al.*, 2018) and for this
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5 reason are an important student group to target for training (Moreira *et al.*, 2021).
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10 In addition, culture may be a powerful variable for the shaping of views on emotions and the
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12 response to distress (Helman, 2007). Therefore, whilst the papers here have drawn on an
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14 international perspective, there is scope for greater focus on how mental health is considered
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16 specific to the cultural context. Kleinman (1988) contends that cross culturally there are
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18 different 'explanatory frameworks' from which stem beliefs about the origins of mental illness,
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20 which may have a bearing on the emergence and lasting presence of stigma. A final limitation is
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22 this critical review included published peer-reviewed journal articles in English and also only
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24 ones available in full text within the cited databases used. It is possible that other research that
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26 has attempted to present the impact of education on attitudes to mental illness has been
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28 overlooked.
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35 *Methodological Quality of Existing Research*

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37 The papers reviewed have contributed to the body of knowledge which indicates compelling
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39 evidence to support the role of undergraduate anti-stigma education for changing attitudes. This
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41 provides testimony for the need for ongoing studies to enhance understanding of the topic and
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43 perhaps more importantly contribute to lasting change. Moreover, it is necessary to consider
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45 some of the potential limitations of what appears a sizable contribution of studies adopting an
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47 experimental design which examine the statistical validity for attitude improvement. One would
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49 have to question whether the methodology selected by the predominant studies is best suited to
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51 give depth of detail on some of the subtle dynamics within the educational experience. That
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53 said, more recent studies have begun to offer new insights on this (Witt *et al.*, 2019; Ma and
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55 Hseih, 2020; Tergeson *et al.*, 2021)
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5 Furthermore, some of the papers appeared to lack detail regarding their sampling processes, and
6 such clarity is important to avoid sampling bias. Additionally, when considering issues relating
7 to external validity, factors such as sample size and participants characteristics may have a
8 bearing on the extent to which the findings are generalizable to other areas (Polit and Hungler,
9 1999). It is imperative that a sample is representative of the population at the centre of the
10 inquiry. There also appeared variation in the detail provided in some studies on the data
11 gathering tool used and any piloting processes undertaken. It is important that a rounded
12 explication is presented to ensure reliability, validity and replicability. In relation to qualitative
13 studies the concept and practice of reflexivity is an essential element (Newton *et al.*, 2011,
14 Cousin, 2013, Hosking and Plutt, 2010). It calls for the researcher to be present and situated
15 throughout (Denzin and Lincoln, 2005) as a lack of attention to this may result in researcher
16 bias. The methodological challenges are important considerations, as doubts connected to
17 research trustworthiness, credibility and dependability can seek to undermine research findings.
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37 **Implications for Research and Practice**

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40 The papers reviewed were weighted towards experimental design which arguably may be due to
41 some of the difficulties associated with talking about mental health. However, studies that allow
42 for the generation of theory, may be powerful for elucidating a richer understanding of
43 perceptions towards mental ill-health. Indeed, some highlighted here have contributed towards
44 the much needed depth knowledge that is necessary for this ongoing endeavour (Matteo, 2013;
45 O'Reilly *et al.*, 2012; Bizub and Davidson, 2011; Bryne *et al.*, 2013; Bharathy *et al.*, 2016).
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56 The results indicate, that the more bio-medically orientated mental health courses have less
57 impact on attitude change. With this in mind, curriculum developments need to draw on this
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3 developing evidence base surrounding anti- stigma pedagogy. There is convincing evidence to
4 support the use of individuals with experience of mental ill-health within the educational
5 processes (Repper and Breeze, 2007; Terry 2012). As highlighted by the results of this paper,
6 direct contact with service users living with mental illness appears to be the most compelling
7 educational method for reducing stigma (Yamaguchi *et al.*, 2011; Roussy *et al.*, 2013; Michaels
8 *et al.*, 2014). Furthermore, targeted education could commence early in life when attitudes are
9 cultivated and engrained (Arbanas *et al.*, 2018).

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21 Additionally, the review revealed some interesting findings that link to the temporal nature of
22 the educational event and a need for further work focussing on pedagogical approaches that may
23 have a more sustainable impact. In line with the early work of critical pedagogists such as Freire
24 (1972) and Mezirow (2000), approaches that include work on reflection which offers space for
25 the development of self-awareness would seem valuable elements for creating conditions for
26 new understandings on the detrimental impact negative attitudes toward mental illness confer.
27 Thus, going forward, there is a need for opportunities for ‘emotive’ learning, that enable the
28 students to examine their internal frame of reference towards mental illness, which in turn may
29 confer the development of greater empathy. As healthcare professionals have been identified as
30 a potential source of negative attitudes innovative research is required that takes an international
31 perspective on reducing stigma at the frontline of care (Deb *et al.*, 2019).

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49 Similarly, values of life- long learning are found to be important. Matteo (2013 p. 241) refers to
50 the importance of stigma reduction to be thought of ‘a social development process’. The
51 implementation of mentoring and supervision may enable students in a supportive context to
52 make the transition from graduate to the workplace and contribute to the sustainability of

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3 positive attitudes. This does now appear to be an area of significant interest for newly emerging
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5 research (Fokuo *et al.*, 2016), along with examining the potential for more flexible eLearning
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(Davies *et al.*, 2018).

Conclusion

This review reveals that education is a critical component in the strategies for reducing the stigma associated with mental illness to provide conditions for cultivating a positive attitudinal shift. The nature of the intervention is vital and some papers suggest that contact interventions tend to be more effective in influencing a perspective transformative process amongst students. Clearly, this carries important implications for those involved in the planning and development of research and learning initiatives that contribute to the international drive to eradicate stigma. Indeed, there is an ongoing need to fully understand the mechanisms and conditions required to garner further change. Finally, this review has drawn on what may be considered a strong hierarchy of evidence, therefore supporting the importance for ongoing high quality studies. However, to elucidate deeper understandings of the experience that led to change further qualitative lines of inquiry are required.

References

Alhajri, D. K. and Alghamdi, A. A. (2018), *Medical Students' Beliefs and Attitudes Towards Schizophrenia Before and After Psychiatric Training in Almaarefa Colleges, Riyadh, Saudi Arabia*. The Egyptian Journal of Hospital Medicine. 70 (10), pp. 1752-1760.

Altindag, A., Yanik, M., Ucok, A., Alptekin, K. and Ozkan, M. (2006), *Effects of an anti-stigma program on medical students' attitudes towards people with schizophrenia*. Psychiatry and Clinical Neurosciences. 60, pp. 283-288.

Arbanos, G., Bosnjak, D. and Sabo, T. (2018), *Impact of a Nursing in Psychiatry Course on Students' Attitudes Towards Mental Health Disorders*. Journal of Psychosocial Nursing, 56 (3), pp. 45-51.

Aveyard, H. (2014), *Doing a Literature Review in Health and Social Care: a practical guide*. 3rd edn Open University Press. Berkshire.

Bannatyne, A. and Stapleton, P. (2015), *Educating Medical Students About Anorexia Nervosa: A Potential Method for Reducing the Volitional Stigma Associated With the Disorder*. Eating Disorders, 23(2), pp. 115-133.

Bogardus, E. (1925), *Measuring Social Distance*. Journal of Applied Psychology. (9), pp. 299-308.

Bharathy, A., Foo, P.L. and Russell, V. (2016), *Changing undergraduate attitudes to mental illness*. The Clinical Teacher, 13(1), pp. 58-62.

Bizub, A. and Davidson, L. (2011), *Stigma-Busting, Compeer, and the Psychology Student: A Pilot Study on the Impact of Contact with a Person Who Has a Mental Illness*. The Humanistic Psychologist. 39. (4), pp. 312-323.

Boucher, L. A. and Campbell, D. G. (2014), *An Examination of the Impact of a Biological Anti-Stigma Message for Depression on College Students*. Journal of College Student Psychotherapy, 28(1), pp. 74-81.

1
2
3 Broome, M. E. (2000), '*Integrative literature reviews for the development of concepts*'. Concept
4 development in nursing: foundations, techniques and applications. pp. 231-250.
5
6
7

8 Brown, B. (2015), *Towards a critical understanding of mutuality in mental healthcare:
9 relationships, power and social capital*. Journal of Psychiatric and Mental Health Nursing,
10 22(10), pp.829-835.
11
12
13

14
15 Brown, B. (2016), *Mutuality in health care: review, concept analysis and ways forward*. Journal
16 of Clinical Nursing, 25(9-10), pp. 1464-1475.
17
18
19

20 Bryne, L., Happell, B., Welch, T. and Moxham, L. J. (2013), '*Things you can't learn from
21 books*': *Teaching recovery from a lived experience perspective*. International Journal of Mental
22 Health Nursing. 22. 3, pp. 195-204.
23
24
25

26
27 Burns, S., Crawford, G., Hallett, J., Hunt, K., Chih, H.J. and Tilley P.J. M. (2017), *What's
28 wrong with John? A randomised controlled trial of Mental Health First Aid (MHFA) training
29 with nursing students*. BMC Psychiatry. 17(1), pp. 111.
30
31
32

33
34 Critical Appraisal Skills Programme (CASP) (2021),
35 *CASP Tools & Checklists* [Accessed 13th September 2021] Available at: [https://casp-
36 uk.net/casp-tools-checklists/](https://casp-uk.net/casp-tools-checklists/)
37
38
39

40
41 Clement, S., van Nieuwenhuizen, A., Kassam, A., Flach, C., Lazarus, A., de Castro M.,
42 McCrone, P., Norman, I. and Thornicroft, G. (2012), *Filmed v. live social contact interventions
43 to reduce stigma: randomised control trial*. The British Journal of Psychiatry. 201. 1, pp. 57-64.
44
45
46

47
48 Cohen, G. (1990), *Memory*. In Roth 1, ed The Open University's Introduction to Psychology
49 Volume 2, Milton Keynes, Lawrence Erlbaum, pp. 570-620.
50
51
52

53
54 Cousin, G. (2013), *Reflexivity: The New Reflective Practice*. The Higher Education Academy.
55 PBLH, Vol 1, Issue 2 pp.3-7.
56
57
58

59 Crawford, P., Brown, B., Kvangarsnes, M. and Gilbert, P. (2014), *The Design of Compassionate
60 Care*. Journal of Clinical Nursing, 23(23-24), pp. 3589-3599.

1
2
3 Cronin, P., Ryan, F. and Coughlan, M. (2008), *Undertaking a literature review: a step-by –step*
4 *approach*. British Journal of Nursing 17, 1, 38-43.

5
6
7 Dalky, H. F. (2012), *Mental illness stigma reduction interventions: review of the trials*. Western
8 Journal of Nursing Research. 34. 4, pp. 520-547.

9
10
11
12 Davies, B., Beever, B. and Glazebrook, C. (2018), *A pilot randomised controlled study of the*
13 *mental health first aid eLearning course with UK medical students*. BMC Medical Education
14 18:45.

15
16
17
18
19 Deb, T., Lempp, H., Bakolis, I., Vince, T., Waugh, W, Henderson, C. and the INDIGO READ
20 study group (2019). *Responding to experienced and anticipated discrimination (READ): anti -*
21 *stigma training for medical students towards patients with mental illness – study protocol for an*
22 *international multisite non-randomised controlled study*. BMC Medical Education 19:41
23 <https://doi.org/10.1186/s12909-019-1472-7>

24
25
26
27
28
29
30 Department of Health, (2012), *No health without mental health: implementation framework*.
31 London: HM Government.

32
33
34
35
36 Denzin, N. and Lincoln, Y. (2005), *Introduction: The discipline and practice of qualitative*
37 *research* in N. Denzin and Y. Lincoln (eds), *Handbook of Qualitative Research*. 2nd edn
38 Thousand Oaks, CA: Sage.

39
40
41
42
43 Economou, M., Peppou, L. E., Louki, E. and Stefanis, C. N. (2012), *Medical students' beliefs*
44 *and attitudes towards schizophrenia before and after undergraduate psychiatric training in*
45 *Greece*. Psychiatry Clinical Neuroscience 66. 1, pp. 17-25.

46
47
48
49
50 Fokuo, J.K., Goldrick, V., Rossetti, J., Wahlstrom, C., Kocurek, C., Larson, J. and Corrigan, P.
51 (2017), *Decreasing the Stigma of Mental Illness Through a Student-Nurse Mentoring Program:*
52 *A Qualitative Study*. Community Mental Health Journal 53: pp. 257–265.

53
54
55
56 Foucault, M. (1988), *Madness and Civilization: A History of Insanity in the Age of Reason*.
57 Vintage Press.

1
2
3 Fresán, A., Robles-García, R., Martínez-López, N., Tovilla-Zárate, C. A and Madrigal, E.
4 (2018), *Stigma and perceived aggression towards schizophrenia in female students of medicine*
5 *and psychology*. SALUD MENTAL 41(5), pp. 207-212. doi: 10.17711/SM.0185-3325.2018.031
6
7
8

9
10 Friedrich, B., Evans-Lacko, S., London, J., Rhydderch, D., Henderson, C. and Thornicroft, G.
11 (2013), *Anti-stigma training for medical students: the Education Not Discrimination project*.
12 *The British Journal of Psychiatry*. 202, pp. 89-94.
13
14

15
16
17 Freire, P. (1972), *Pedagogy of the Oppressed*. Penguin Press.
18

19
20 Galletly, C. and Burton, C. (2011), *Improving medical student attitudes towards people with*
21 *schizophrenia*. Australian and New Zealand Journal of Psychiatry. 45. 6, pp. 473-476.
22
23

24
25 Giralt Palou, R., Prat Vigué, G. and Tort-Nasarre, G. (2020), *Attitudes and stigma toward*
26 *mental health in nursing students: a systematic review*. Perspectives in Psychiatric Care. Vol 56.
27 Issue 2 pp.243-255.
28

29
30 Goffman, E. (1990), *Stigma: Notes on the Management of Spoiled Identity*. Penguin Books,
31 London.
32
33

34
35
36 Gough, D. (2007), *Weight of Evidence: a framework for the appraisal of the quality and*
37 *relevance of evidence*. Research Papers in Education 22, 2, pp. 213-228.
38
39

40
41 Grant, A. (2015), *Demedicalising Misery: Welcoming the human paradigm in mental health*
42 *nurse education*. Nurse Education Today, 35(9), pp. 50-53.
43
44

45
46 Happell, B., Bryne, L., Platania-Phung, C., Harris, S., Bradshaw, J. and Davies, J. (2014),
47 *Lived-experience participation in nurse education: Reducing stigma and enhancing popularity*.
48 *International Journal of Mental Health*. 23. 5, pp. 427-434.
49
50

51
52
53 Helman, C. (2007) *Culture, Health & Illness*. London: Hodder Arnold.
54

55
56 Horsefall, J., Cleary, M. and Hunt, G.E. (2010), *Stigma in Mental Health: Clients and*
57 *Professionals*. Issues in Mental Health Nursing. 31, pp. 450-455.
58
59
60

1
2
3 Hosking, D. M. and Plutt, B. (2010), *(Re) constructing Reflexivity: A Relational Constructionist*
4 *Approach*. The Qualitative Report Vol 15 No 1, pp. 59-75.

5
6
7
8 Kassam, A., Modgill, G., Vaz, G., Zanussi, L. and Pattern, S. (2013), *Reducing the stigma of*
9 *mental illness in undergraduate medical education: a randomized controlled trial*. BMC
10 Medical Education. 13:141. BMC. Medical Education.

11
12
13
14
15 Kleinmann, A. (1988), *The Illness Narratives: Suffering, Healing & The Human Condition*.
16 USA: Basic Books.

17
18
19 Knapp, M., McDaid, D., Mossialos, E. and Thornicroft, G. (2007), *Mental health policy and*
20 *practice across Europe*. Open University Press.

21
22
23
24
25 Lester, H. and Glasby, J. (2010), *Mental Health Policy and Practice*. 2ndedn. Palgrave
26 Macmillan, United Kingdom.

27
28
29
30 Ma, H. I. and Hsieh, C. E. (2020), *An Anti-Stigma Course for Occupational Therapy Students in*
31 *Taiwan: Development and Pilot Testing*. International journal of environmental research and
32 public health, 17(15), 5599. <https://doi.org/10.3390/ijerph17155599>

33
34
35
36
37 Mann, C. and Himelein, M. (2008), *Putting the person back into psychopathology: an*
38 *intervention to reduce mental illness stigma in the classroom*. Social Psychiatry & Psychiatric
39 Epidemiology. 43. 7, 545-551.

40
41
42
43
44 Masedo, A., Grandon, P., Saldivia, S., Vielma-Aguilera, A., Castro-Alzate, E., Bustos, C.,
45 Romero-López-Alberca, C., Pena-Andreu, J. M., Xavier, M and Moreno-Küstner, B. (2021), *A*
46 *multicentric study on stigma towards people with mental illness in health sciences students*.
47 BMC Medical Education. 21:324 <https://doi.org/10.1186/s12909-021-02695-8>

48
49
50
51
52 Matteo, E. (2013), *A Qualitative Study of Undergraduates' Conceptualizations of Mental*
53 *Illness*. Journal of Prevention & Intervention in the Community. 41. 4, pp. 231-243.

54
55
56
57 Mezirow, J. (2000), *Learning as Transformation: Critical Perspectives on a Theory in*
58 *Progress*. Jossey-Bass Inc, New York.

1
2
3
4
5 Michaels, P.J., Corrigan, P.W., Buchholz, B., Brown, J., Arthur, T., Netter, C. and Macdonald-
6 Wilson, K.L. (2014), *Changing Stigma Through a Consumer-Based Stigma Reduction Program*.
7 Community Mental Health Journal, 50(4), pp. 395-401.
8
9

10
11
12 Moreira, A., Oura, M. and Santos, P. (2021), *Stigma about mental disease in Portuguese*
13 *medical students: a cross-sectional study*. BMC Medical Education. 21:265
14 <https://doi.org/10.1186/s12909-021-02714-8>.
15
16
17

18
19 Muzyk, A. J., Lentz, K., Green, C., Fuller, S., Byron May, D. and Roukema, L. (2017),
20 *Emphasizing Bloom's Affective Domain to Reduce Pharmacy Students' Stigmatizing Attitudes*.
21 *American Journal of Pharmaceutical Education*, 81 (2), Article 35 pp. 1-7.
22
23
24
25

26
27 Newton, B., Rothlingova, Z., Gutteridge, R., LeMarchand, K. and Raphael, J. H. (2011), *No*
28 *Room for Reflexivity? Critical Reflections Following a Systematic Review of Qualitative*
29 *Research*. Journal of Health Psychology: 1-20.
30
31
32

33
34 O'Reilly, C., Bell, J. S. and Chen, T. F. (2012), *Mental health consumers and caregivers as*
35 *instructors for health professional students: a qualitative study*. Social Psychiatry and
36 Psychiatric Epidemiology. 47. 4, pp. 607-613.
37
38
39

40
41 Pingani, L., Evans-Lacko, S., Coriani, S., Ferrari, S., Filosa, M., Galeazzi, G.M., Lorenzini, M.,
42 Manari, T., Musetti, A., Nasi, A.M. and Franceschini, C. (2021), *Time Waits for No One:*
43 *Longitudinal Study on the Effects of an Anti-Stigma Seminar on the Psychology Student*
44 *Population*. International Journal of Environmental Research and Public Health. 18, 5441.
45 <https://doi.org/10.3390/ijerph18105441>
46
47
48
49

50
51 Polit, D. and Hungler, B. (1999), *Nursing Research: Principles and Methods*. 6th edn, J B
52 Lippincott, Philadelphia.
53
54

55
56 Poreddi, V., Thimmaiah, R, and Math, S. B. (2015), *Attitudes towards people with mental*
57 *illness among medical students*. Journal of Neurosciences in Rural Practice, 6(3), pp: 349-354.
58
59
60

1
2
3 Repper, J. and Breeze, J. (2007), *A review of the literature on user and carer involvement in the*
4 *training and education of health professionals*. International Journal of Nursing Studies. 44. 3,
5 pp. 511-519.
6
7

8
9
10 Roberts, L., Wiskin, C. and Roalfe, A. (2008), *Effects of Exposure to Mental Illness in Role-*
11 *Play on Undergraduate Student Attitudes*. Family Medicine. 40. 7, pp. 477-483.
12
13

14
15 Roussy, V., Thomacos, N., Rudd, A. and Crockett, B. (2013), *Enhancing health-care workers'*
16 *understanding and thinking about people living with co-occurring mental health and substance*
17 *use issues through consumer-led training*. Health Expectations, 18(5), pp. 1567-1581.
18
19

20
21 Rusch, N. and Corrigan, P. (2013), *Stigma, discrimination and mental health*.in Knifton, L. and
22 Quinn, N. (eds) *Public Mental Health: Global Perspectives*. The Open University Press.
23
24

25
26 Tergesen, C.L., Gurung, D., Dhungana, S., Risal, A., Basel, P., Tamrakar, D., Amatya, A., Park,
27 L.P., Kohrt, B.A. (2021), *Impact of Service User Video Presentations on Explicit and Implicit*
28 *Stigma toward Mental Illness among Medical Students in Nepal: A Randomized Controlled*
29 *Trial*. International Journal of Environmental Research and Public Health 18, 2143.
30 <https://doi.org/10.3390/ijerph18042143>.
31
32
33
34

35
36 Terry, J. (2012), *Service User Involvement in Pre-registration Mental Health Nurse Education*
37 *Classroom Settings: A Review of the Literature*. Journal of Psychiatric and Mental Health
38 Nursing. 19, pp. 816-829.
39
40

41
42
43 Thornicroft, G. (2006), *Shunned: Discrimination against People with Mental Illness*. Oxford
44 University Press.
45
46

47
48 TNS UK for CSIP, (2014), *Attitudes to mental illness 2014 Research Report*. London: DOH.

49
50 De Witt, C., Smit, I., Jordaan, E., Koen, L., Niehaus, D.J.H. and Botha, U. (2019), *The impact*
51 *of a psychiatry clinical rotation on the attitude of South African final year medical students*
52 *towards mental illness*. BMC Medical Education. 19, 114 [https://doi.org/10.1186/s12909-019-](https://doi.org/10.1186/s12909-019-1543-9)
53 [1543-9](https://doi.org/10.1186/s12909-019-1543-9).
54
55
56
57
58
59
60

1
2
3
4
5
6
7
8
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11
12
13
14
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40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Wood, A. and Wahl, O. (2011), *Evaluating the Effectiveness of a Consumer-Provided Mental Health Recovery Education Presentation*. *Psychiatric Rehabilitation Journal*. 30, 1. 46-52.

Yamaguchi, S., Mino, Y. and Uddin, S. (2011), *Strategies and future attempts to reduce stigmatization and increase awareness of mental health problems among young people: A narrative review of educational interventions*. *Psychiatry and Clinical Neurosciences*. 64, 405-415.