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RESEARCH ARTICLE

Attitude towards mental illness and seeking professional help among pharmacy students in Yemen

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Abstract

Background: People with mental illnesses (MIs) often encounter stigmatising attitudes. The main aim of this study was to assess pharmacy students' attitudes toward MIs, people with MIs, seeking help for mental health, and knowledge of the causes of MIs. **Methods:** A cross-sectional survey was conducted from May 2021 to July 2021 in Yemen. Logistic regression, chi-square test, and student's t-test were used for statistical analyses. **Results:** Multivariate logistic regression analysis showed that female gender was independently associated with a positive attitude towards MIs (adjusted odds ratio, aOR 1.85, 95% confidence interval, CI 1.14–2.99) and knowledge (aOR 3.04, 95% CI 1.85–5.02). Also, having a patient with MI in family was associated with knowledge (aOR 2.69, 95% CI 1.03–6.99). **Conclusion:** The current study revealed negative attitudes and stigma towards MIs and seeking professional help. Campaigns should be carried out among pharmacy students to reduce stigma.

Introduction

Mental illness is a severe medical condition that affects individuals' thoughts, feelings, moods, and behaviours (Duckworth, 2013). According to the World Health Organisation (WHO), mental health is "a state of mental well-being that enables people to cope with the stresses of life, realise their abilities, learn well and work well, and contribute to their community" (Almusma, Sharifi & Alshahrani, 2020). Mental illness contributes highly to the worldwide disease burden. According to WHO, MIs affect around 25% of the global population in both developed and developing countries (WHO, 2011; WHO, 2013). Based on WHO expectations, mental illness will rise by 50% among teenagers by 2020 (Tesfamariam *et al.,* 2018). Mental health and well-being are crucial to individuals' quality of life and community productivity (WHO, 2005). Stigma and discrimination are the major hurdles to the realisation of positive mental health and well-being, which can affect all parts of individuals' lives (Byrne, 2000). In previous studies, stigma has been linked to a delay in seeking treatment (Wang *et al.,* 2005; Morgan & Fearon, 2007). Thornicroft and colleagues (2007) defined stigma as an overarching term that encompasses three major elements: knowledge (ignorance), problems of attitude (prejudice), and problems of behaviour (discrimination). People with mental illnesses face stigma and prejudice in many aspects of their lives, including jobs, social activities, personal relationships, housing, marriage, and so on (Stuart, 2008; Thornicroft *et al.,* 2009; Webber *et al.,* 2014; Corker *et al.,* 2015). Stigma and discrimination around mental disorders are not only barriers to obtaining treatment (Al-Darmaki, Thomas & Yaaqeib, 2016), but they can also delay the healing process of people with mental disorders (Oexle *et al.,* 2018) and prevent them from realising their social rights and fully participating in community life. Moreover, the public often blames family members of people with mental disorders (Tawiah, Adongo & Aikins, 2015). According to empirical evidence, families of people with mental illnesses are more prone to ignore the problem when their members are discriminated against: they may hide them from public life, delay seeking therapy, or even refuse professional care. Such attitudes and behaviours

may determine a pejorative illness course and enhance the psychological and financial burdens on families (Ohaeri & Fido, 2001; Shibre *et al.,* 2001; Larson & Corrigan, 2008). With respect to the treatment of Mis, there are currently different effective treatments for mental illnesses, but many people still do not receive sufficient therapy (Patel *et al.,* 2010). Even those who receive care and help from mental health services often tend to show a significant delay between the onset of symptoms and seeking treatment, which can deteriorate their conditions and raise psychological and financial burdens (Girma & Tesfaye, 2011).

The WHO has encouraged countries to incorporate mental health services into their primary care systems to decrease the treatment gap and give more consistent and accessible mental health services. Nevertheless, negative attitudes towards mental illnesses among the general population are likely to represent an impediment to the development of strong community mental health services (Kohls *et al.,* 2017). In addition, the general public could play a major role in rehabilitating the mentally ill through significant social engagement and more acceptance of mental illnesses. This task is not easy because people with mental illnesses have often been labelled as "violent" and "dangerous", and the attitudes of the general public may help exacerbate the conditions of people with mental illnesses (Corrigan & Watson, 2002). The lack of accurate mental health awareness has been reported to be one of the leading factors that may contribute to categorizing people with mental illnesses (Girma & Tesfaye, 2011). Although several studies have assessed attitudes towards people with mental illness and knowledge about MIs (Alsahali, 2021; Hammoudi *et al.,* 2022), data from Yemen are scarce. Therefore, the primary objective of this study was to assess pharmacy students' attitudes toward Mis, people with MIs, and seeking help for mental health. The secondary objective was to assess the knowledge of the causes of MIs among pharmacy students. The relationships between knowledge, attitudes and sociodemographic characteristics were also evaluated. Results from this study could yield some applications: first, it could help design programmes that would reduce public stigma against mental disorders; second, it could guide the government to undertake further strategic actions.

Methods

Study setting

The study was conducted at Sana'a Pharmacy College and Alrwad medical College, Yemen.

Study design and the study population

A cross-sectional study was conducted using a self-administrated Likert-based questionnaire distributed to all students on campus. The study period was three months (from May to July 2021). The target population comprised all pharmacy students in the last two years of their study at Sana'a Pharmacy College and Alrwad medical college (480 students). Only 294 students responded to the survey yielding a response rate of 61.3%.

Data collection tool

The self-administered questionnaire consisted of three main sections in addition to the sociodemographic data.

Development of the questionnaire:

The first section of the questionnaire assessed attitudes towards people with Mis; it was adapted from the Hirai and Clum scale (Hirai & Clum, 2000). The second and third domains evaluated attitudes towards seeking help and the level of knowledge of the causes of MIs and were inspired by similar studies in the literature (Abolfotouh *et al.,* 2019; Alsahali, 2021). The draft of the questionnaire was examined for validity (content and face) and reliability. For content validity, the first draft was presented to a panel of three local experts, who independently examined the content, question format, sequencing, and clarity. No modifications were suggested. The questionnaire was administered to 15 participants to examine the face validity. The time taken to complete the questionnaire, difficulties in patient comprehension and the extent of patient acceptance were recorded. No comments were made by the participants. Upon completion, each question and the questionnaire as a whole was considered clear and meaningfully relevant by at least 7 of the 15 respondents in this pilot group (Chan, Fabb & Hazlett, 2002). The questionnaire was administered to the same 15 participants to test the reliability. Cronbach's alpha was 0.79, indicating that the alpha coefficient is within the recommended value (≥ 0.70) (Bland & Altman, 1997).

Scoring and grading of participants' responses

The 21 attitude-based statements of Beliefs towards Mental Illness (BMI) scale represented common negative views toward patients with mental illness and focused on three factors and views toward mental illness, i.e., dangerousness, poor interpersonal and social skills, and incurability. The statements were rated on a six-point Likert scale ranging from "completely disagree" (0) to "completely agree" (5). The range of possible total scores was from 21 to 105, in which a

higher score reflected a high level of negative views toward people with MIs. Using mean scores (63) means ≤ 63 were classified as positive attitudes and means >63 were considered negative attitudes. The percentage of participants who agreed/completely agreed was combined and reported for each statement to summarise the results.

Regarding the second part of the questionnaire, which consisted of five hypothetical statements to assess the attitudes toward seeking help, the responses were measured on a five-point Likert scale (from strongly agree = 5 to strongly disagree =1). For the negative statements, the score of the Likert scale was reversed and graded using "strongly disagree" with five points and "strongly agree" with one point. The attainable score ranged from 5 to 25 points. For this scale, a higher score reflected a high level of positive attitudes towards seeking help. Using mean scores of 15.23 means ≤ 15.23 were considered negative attitudes and means >15.23 were classified as positive attitudes.

The third part of the questionnaire consisted of eight questions and assessed students' knowledge of the causes of MIs. A score of 1 was awarded for each correct answer, while incorrect answers and "I do not know" received a score of 0. The score ranged from 0 to 8 points. Scores ≥ the mean were categorised as good knowledge, while scores less than the mean were categorised as poor knowledge.

Data analysis

Data were analysed using the Statistical Package for Social Sciences Software (SPSS, version 21, SPSS, Chicago, IL, U.S.A.). Descriptive and inferential analyses were applied. Descriptive statistics were computed in the form of frequency and percentage. Logistic regression was used to predict factors affecting knowledge and attitudes. The Chi-square test and student's *t*-test were used to assess the association between dependent and independent variables. The association was considered significant if $p<0.05$. Kolmogorov-Smirnov test was used to test for the normal distribution of the continuous variables before performing inferential statistical tests.

Results

Participants' demographic characteristics

The survey forms were distributed to 480 students in different pharmacy colleges in Sana'a city. Only 294 participants completed the questionnaire yielding a response rate of 61.3%. The majority of participants were female (61.9%). More than half belonged to the age group of ≥22 years. Only 31 (10.5%) had a family member with a mental illness. Table I shows the sociodemographic details of the participants.

Table I: Participants' demographics information

Characteristic		N (%)
Gender	Male	112 (38.1)
	Female	182 (61.9)
Age	<22	127 (43.2)
	≥22	167 (56.8)
	Mean (±SD)	22±1.8
Patient in Family	No	263 (89.5)
	Yes	31 (10.5)

Participants' attitudes toward people with MIs

Regarding attitude statements, more than half of the participants (64.3%) believed that a mentally ill person is more likely to harm others, and 71.4% considered that people with MIs tend to be criminals. Only 38.4% of the respondents reported being afraid of people with mental illness. More than half (61.2%) answered that they would feel embarrassed if a person in their family was mentally ill. Moreover, 69.0% of the participants believed that people with psychological illnesses displayed unpredictable behaviours. About 48% of the respondents believed that mental disorders are unlikely to be cured. In addition, slightly more than half (55.1%) of the respondents reported that mentally ill people are unlikely to live independently because they are unable to assume responsibilities. More than three-quarters of the participants (77.6%) did not trust the work of mentally ill individuals. Table II shows students' responses in detail to attitude statements.

The total attitude score towards people with MIs was 105 (63±14.8). The high scores reflect negative attitudes toward people with MIs. T-test showed a statistically significant difference in mean attitude between males (65.6±17.6) and females (61.4±12.6), p=0.018. Regarding age groups and those who had or did not have a patient in the family, there were no significant differences in the mean attitude scores. According to Chi-square analysis, a statistically significant association was only found between attitude and gender table 3. More than half of the participants (60.9%) reported positive attitudes toward people with MIs, and 39.1% reported negative attitudes.

Table II: Participants' attitude toward mental health people

Statement	Positive attitude	Negative attitude
1. A mentally ill person is more likely to harm others than a person without mental illness.	105 (35.7)	189 (64.3)
2. Mental disorders would require a much longer period of time to be cured than other general diseases.	108 (36.7)	186 (63.3)
3. It may be a good idea to stay away from people who have psychological disorders because their behaviour is dangerous.	114 (38.8)	180 (61.2)
4. The term "psychological disorder" makes me feel embarrassed.	124 (42.2)	170 (57.8)
5. A person with a psychological disorder should have a job with only minor responsibilities.	167 (56.8)	127 (43.2)
6. Mentally ill individuals are more likely to be criminals.	84 (28.6)	210 (71.4)
7. Psychological disorder is recurrent.	194 (66.0)	100 (34.0)
8. I am afraid of what my boss, friends, and others would think if I were diagnosed with a psychological disorder.	163 (55.4)	131 (44.6)
9. Individuals diagnosed as mentally ill suffer from its symptoms throughout their life.	152 (51.7)	142 (48.3)
10. People who have received psychological treatment once are likely to need further treatment.	80 (27.2)	214 (72.8)
11. It might be difficult for mentally ill individuals to follow social rules such as being punctual or keeping promises.	122 (41.5)	172 (58.5)
12. I would be embarrassed if people knew that I dated a person who once received psychological treatment.	55 (18.7)	239 (81.3)
13. I am afraid of people who are suffering from psychological disorders because they may harm me.	181 (61.6)	113 (38.4)
14. A person with a psychological disorder is less likely to function well as a parent.	93 (31.6)	201 (68.4)
15. I would be embarrassed if a person in my family became mentally ill.	114 (38.8)	180 (61.2)
16. I believe that psychological disorders can never be completely cured	152 (51.7)	142 (48.3)
17. Mentally ill individuals are unlikely to be able to live by themselves because they are unable to assume responsibilities	132 (44.9)	162 (55.1)
18. Most people would not knowingly be friends with a mentally ill person.	134 (45.6)	160 (54.4)
19. The behaviour of people who have psychological disorders is unpredictable.	91 (31.0)	203 (69.0)
20. Psychological disorder is unlikely to be cured regardless of treatment.	134 (45.6)	160 (54.4)
21. I would not trust the work of a mentally ill person assigned to my work team.	66 (22.4)	228 (77.6)

Table III: General characteristics of the included studies

Characteristic	Positive N (%)	Negative N (%)	*p*-value
Gender			0.012
Male	58 (51.8)	54 (48.2)	
Female	121 (66.5)	61 (33.5)	
Age groups			NS
<22	78 (61.4)	49 (38.6)	
≥22	101 (60.5)	66 (39.5)	
Patient in family			NS
No	160 (60.8)	103 (39.2)	
Yes	19 (61.3)	12 (38.7)	

Attitudes towards seeking professional help

Based on the analysis of the study outcomes, nearly half (45.9%) of the participants agreed that people with MIs would seek professional help at mental health services, and 44.2% would go for professional help in the case of a severe emotional problem. About 40% of participants disagreed that they would be embarrassed if their friends knew they were seeking professional help for an emotional problem. Slightly more than half (58.5%) of the respondents disagreed that they would perceive professional help as effective. Only 30.3% of respondents would feel comfortable talking about personal problems with a professional (Table IV).

Quality assessment

The total attitude scores toward mental health services and help-seeking were 25, with a mean of 15.23±3.4. The high scores reflect negative attitudes. Neither the *t*-test nor Chi-square could find an association between attitude grades toward health services and help-seeking and demographic characteristics. Overall, slightly more than half of the participants (53.1%) reported positive attitudes to help-seeking behaviour, while 46.9% reported negative attitudes.

Table IV: Participants' responses to statements on attitudes toward seeking professional help

Statement	SA	A	N	D	SD
	N (%)	N (%)	N (%)	N (%)	N (%)
People with mental illness usually seek professional help from mental health services.	80 (27.2)	55 (18.7)	109 (37.1)	40 (13.6)	10 (3.4)
I would seek professional help in the case of a serious emotional problem.	64 (21.8)	66 (22.4)	75 (25.5)	171 (24.1)	18 (6.1)
I would feel comfortable talking about personal problems with a professional.	19 (6.5)	70 (23.8)	80 (27.2)	95 (32.3)	30 (10.2)
I would be embarrassed if my friends knew I was getting professional help for an emotional problem.	39 (13.3)	89 (30.3)	51 (17.3)	94 (32.0)	21(7.1)
I would perceive professional help as effective.	51 (17.3)	53 (18.0)	18 (6.1)	95 (32.3)	77 (26.2)

Knowledge of the causes of mental illness

Regarding the knowledge questions (Table V), nearly half (49.7%) of the respondents agreed that MIs are caused by genetic inheritance, while 55.1% agreed that they are due to substance abuse. Slightly more than half (51.7%) of the respondents believed that MIs were caused by bad things happening to people. About 61% of the participants thought that MIs were due to a brain disease. Moreover, 32.0% and 28.0% of the respondents believed that MIs were due to personal weakness and might result from poverty, respectively. Only 14.6% and 9.2% of the respondents thought that the disease could be caused by spirits or could be God's punishment, respectively.

Table V: Participants' responses to questions on knowledge of causes of mental disorders

Question	Yes	No	Don't know
	N (%)	N (%)	N (%)
Mental illness is caused by genetic inheritance.	146 (49.7)	97 (33.0)	51 (17.3)
Mental illness is caused by substance abuse.	162 (55.1)	77 (26.2)	55 (18.7)
Mental illness is caused by bad things happening to you.	152 (51.7)	101 (34.4)	41 (13.9)
Mental illness is God's punishment.	27 (9.2)	165 (56.1)	102 (34.7)
Mental illness is caused by brain disease.	180 (61.2)	48 (16.3)	66 (22.4)
Mental illness is caused by personal weakness.	94 (32.0)	141 (48.0)	59 (20.1)
Poverty can be the cause of mental illness.	84 (28.6)	160 (54.4)	50 (17.0)
Mental illness is caused by spirits.	43 (14.6)	159 (54.1)	92 (31.3)

The total knowledge score of the causes of MIs was 8, with a mean of 4.2±1.8. The high scores reflect good knowledge. T-test showed a statistically significant difference in the mean of knowledge scores between males (3.6±1.6) and females (4.5±1.7), $p<0.05$. Regarding age groups and those who had or did not have a patient in the family, no significant differences were found in the means of knowledge scores. Chi-square analysis showed a statistically significant association between knowledge and gender and those who had a patient in the family (Table VI). The majority (62.6%) of participants had good knowledge of the causes of MIs, while 37.4% had poor knowledge. Figures 1 and 2 show participants' knowledge grades according to their attitude toward MIs and help-seeking, respectively.

Table VI: Participants' knowledge grades according to their personal characteristics

Characteristic	Poor	Good	*p*-value
	N (%)	N (%)	
Gender			<0.05
Male	60 (53.6)	52 (46.4)	
Female	50 (27.5)	132 (72.5)	
Age groups			NS
<22	42 (33.1)	85 (66.9)	
≥22	68 (40.7)	99 (59.3)	
Patient in family			0.028
No	104 (39.5)	159 (60.5)	
Yes	6 (19.4)	25 (80.6)	

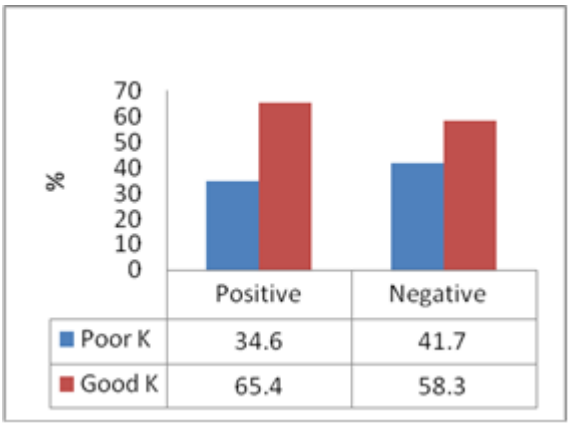

Figure 1: Participants' knowledge grades according to their attitude toward MIs

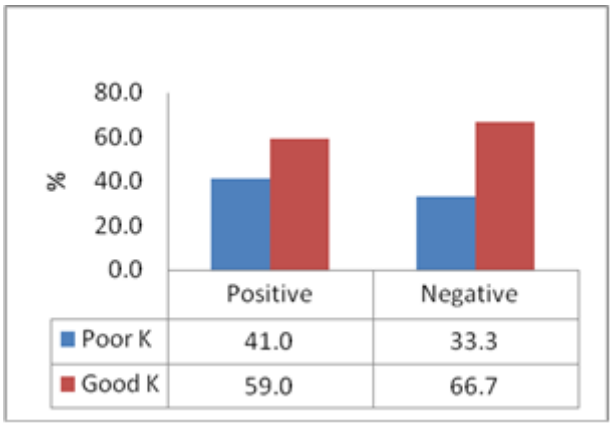

Figure 2: Participants' knowledge grades according to their help-seeking attitude

Multivariate logistic regression analysis

In multivariate logistic regression analysis, gender was independently associated with the attitude towards MIs, while gender and having a patient with MI in the family were independently associated with knowledge. Details of the results are shown in Table VII.

Table VII: Multivariate logistic regression analysis

Outcome		Attitude			Knowledge		
Factor (N)		**OR**	**95% CI**	***p*-value**	**OR**	**95% CI**	***p*-value**
Gender	Male (112) Female (182)	1.85	1.14–2.99	0.013	3.04	1.85–5.02	<0.001
Age	< 22 (127) ≥ 22 (167)	0.99	0.62–1.62	NS	0.81	0.49–1.34	NS
Having a patient	No (263) Yes (31)	1.00	0.46–2.18	NS	2.69	1.03–6.99	0.043

Discussion

The current study described the attitude towards MIs, people with mental disorders, seeking professional help, and knowledge of the causes of MIs. It also explored the factors associated with attitude and knowledge among pharmacy students in Yemen. The results were compared with other studies that assessed the same. In this study, most participants were younger than 22 years and were females, consistent with other studies conducted in Saudi Arabia and Lebanon (Alsahali, 2021; Hammoudi *et al.,* 2022).

With regards to attitudes, about 60.9% of the study participants had a positive attitude towards mental illness. When compared to other studies, this result was lower than the findings from Nepal (Gurung, 2014), comparable to that of Saudi Arabia (Alsahali, 2021), but higher than what was reported in Addis Ababa (Mariam *et al.,* 2016; Ahmed, Merga & Alemseged, 2019), Nigeria (Gureje et al., 2015), and Kenya (Ndetei *et al.,* 2011). This result could be attributed to the relatively good knowledge of the matter among participants, extensive exposure to mental illness service provision, and cultural variances. The study results showed that having a relative with a mental illness contributes to a positive attitude concerning mental illness, as 61.3% of those who had a relative with a mental illness had a positive attitude. However, no such difference in attitudes was found in a Nepalese study (Nepal *et al.,* 2020), indicating that high-school students have less stigma towards a person with a mental illness. Having a relative with a mental illness might be distressing and embarrassing for a school-level student, resulting in a negative attitude towards mental illness (Tesfamariam *et al.,* 2018). The study results showed differences in attitudes between males and females, as about 66.7% of the female group had a positive attitude towards people with MIs. This finding was consistent with that of the Nepalese study (Nepal *et al.,* 2020) but not in line with previous studies conducted in Saudi Arabia (Alsahali, 2021) and Pakistan (Javed *et al.,* 2006). This variation with a study in Pakistan could be due to the fact that it evaluated both university students and

teachers. Attitudes of adults and adolescents might not be the same. In the Nepalese study (Nepal *et al.,* 2020), the data suggested that sociodemographic factors, such as age, sex, educational level, or previous exposure to patients with mental illnesses, were related to attitudes towards mental illness and those suffering from it, as shown in this study as well.

Regarding responses to the individual statement used in assessing attitudes towards people with MIs, the majority of respondents (64.3%) believed that a mentally ill person is more likely to harm others, consistent with findings from India (Jyothi *et al.,* 2015) but contrary to those from Saudi Arabia (Alsahali, 2021). However, only 44.6% of study respondents stated being afraid of what others would think if they were diagnosed with a psychological disorder. This result aligns with that of a Saudi Arabian study, where 43.6% reported the same (Alsahali, 2021), and contradicts Indian findings, where 100% of the participants reported fear of diagnosis with a psychological disorder (Jyothi *et al.,* 2015). Also, 61.2% reported that they would feel embarrassed if a person in their family was mentally ill. However, contrary to the current study findings, only 30.9%% of respondents in the Saudi Arabian study (Alsahali, 2021) would feel embarrassed, while 94% of the respondents in an Indian study (Jyothi *et al.,* 2015) reported feeling embarrassed if a person in their family was mentally ill. Regarding the cure of mental illness, slightly more than half (51.7%) agreed that MIs could be completely cured, while only 28.2% of participants in a Saudi study agreed with a complete cure. However, contrary to the findings, a high proportion of respondents (96%) in an Indian study (Jyothi *et al.,* 2015) believe that MIs have no cure. Moreover, more than two-thirds of the participants (77.6%) did not trust the work of a mentally ill person, which was comparable to the Saudi study (Alsahali, 2021). This study showed that 61.2% of the respondents agreed it is best to avoid anyone who has mental health problems. Similar findings were reported in Nigeria (Gureje *et al.,* 2005; Zever, 2017; Effiong, Idung & Iyanam, 2019), Iraq (Sadik *et al.,* 2010), Ethiopia (Tesfaye *et al.,* 2020), India (Bagchi, Sarkar & Basu, 2020), and Saudi Arabia (Aljedaani, 2019; Alsahali, 2021).

Previous research has shown that up to 70% of people with MIs do not seek help (Farrer *et al.,* 2008). Early recognition and proper help-seeking would happen only if people with MIs and their supporters were aware of the early changes occurring in mental illnesses, the best kinds of help available, and how to access this help (Dahlberg, Waern & Runeson, 2008). In the current study, 44.2% of participants agreed that they would seek professional help if needed. This result was in agreement with the findings of a study in Saudi Arabia (Abolfotouh *et al.,* 2019) but contrary to another (Alsahali, 2021). However, in the current study, the number of participants who agreed was low compared to 88.2% in Spain, 80.5% in Italy, 56.8% in Belgium, and 65.4% in Germany (ten Have *et al.,* 2010). Only 30.3% of the participants felt comfortable talking about personal problems with a professional compared to 50.2% (Abolfotouh et al., 2019) and 18.2% (Alsahali, 2021) in Saudi Arabia. However, 73.0% of Spanish respondents, 43.4% of Germans, and 67.5% of Dutch reported feeling comfortable talking about personal problems with a professional in a European study (ten Have *et al.,* 2010). About 39.1% of this study participants would not be ashamed if their friends knew they were getting professional help for an emotional problem compared to 27.6% and 23.8% of Saudi respondents (Alsahali, 2021; Abolfotouh *et al.,* 2019), 90.3% of Spanish respondents, 73.1% of Italians, and 81.5% of Belgians (ten Have *et al.,* 2010). The findings of the current study are, to some extent, similar to those from Saudi Arabia, while they widely differ from those generated by studies conducted in Western countries. This difference could be due to cultural and political differences in the contexts between the studied countries. Moreover, 35.3% of the participants agreed about the effectiveness of professional help for severe emotional problems compared to 48.0% and 41.2% in two studies conducted in Saudi Arabia (Abolfotouh *et al.,* 2019; Alsahali, 2021). In Spain, most respondents (61.4%) held the view that professional help was significant or much better than no help. In Italy, 45.2% shared this view, and in other countries, this varied between 15.8% in the Netherlands and 27.7% in France (Smith, Peck & McGovern, 2002).

Some research has focused on the association between positive attitudes and seeking professional help for mental health problems. Having received mental health services was associated with a more positive attitude toward help-seeking (Smith, Peck & McGovern, 2002). More positive attitudes were found among women and younger people (Smith, Peck & McGovern, 2002; Robb *et al.,* 2003; Mackenzie, Gekoski & Knox, 2006; ten Have *et al.,* 2010; Abolfotouh *et al.,* 2019). However, in the current study, the female gender, younger age, and having a patient with MIs in the family were not significant predictors of positive attitudes toward professional help-seeking. In many studies, authors reported that a negative attitude toward MIs and seeking professional help were the main obstacles to achieving an overall healthy and active life (Leung, Cheung & Tsui, 2012; Chen, Xu & Wu, 2019). Furthermore, the fear of discrimination and the family's resistance to help-seeking might increase the negative attitude in the community (National Institutes of Health, 2007). In the current study, knowledge status

was not a predictor of attitudes towards mental health problems. These findings were in agreement with those of an Ethiopian study (Tesfaye *et al.,* 2020). However, in this study, 65.4% and 58.3% had a favourable attitude among those who had good and poor knowledge, respectively. Contrary to the findings, studies conducted in Saudi Arabia, Ethiopia, and Lebanon have shown a positive association between knowledge and attitudes towards people with MIs (Aljedaani, 2019; Benti et al., 2016; Abi Doumit et al., 2019). Previous studies have shown that people who had contact with mentally ill patients tended to have more knowledge and a better attitude towards those with mental disorders (Longkumer & Borooah, 2013; Tang, 2015). This result correlates with the findings as most of the respondents (80.6%) who had a patient with MI in their family had good knowledge of mental disorders, although this had no association with their attitude towards them.

In this study, participants had adequate knowledge, with females having better knowledge than males. The level of knowledge in the current study was not in agreement with that of the studies conducted in Saudi Arabia (Abolfotouh *et al.,* 2019; Alsahali, 2021), while findings about which gender had better knowledge were in line with those of the Saudi studies. Additionally, the current study findings have shown that older participants (age of ≥22 years) were less knowledgeable than younger ones (<22years), consistent with the results from Ethiopian studies (Mariam *et al.,* 2016; Ahmed, Merga & Alemseged, 2019), where younger participants were twice as knowledgeable as older participants. Contrary to the findings of this study, the Nigerian study showed that older participants were more knowledgeable than younger ones (Ndetei *et al.,* 2011). In this study, adequate knowledge about the nature and causes of MIs was reported among all participants. Studies from Western countries have shown that biological (diseases of the brain and genetic factors) and other factors were causal (Angermeyer & Matschinger, 1999; Stuart & Arboleda-Florez, 2001; Gaebel *et al.,* 2002), while in Africa, supernatural causes were widely considered in some studies (Shibre *et al.,* 2001; Gureje *et al.,* 2005; Crabb *et al.,* 2012). In other countries (Crabb *et al.,* 2012; Mojiminiyi, Balogun & Ogunnowo, 2020), the reported cause was drug and alcohol misuse. In Arabic countries, biological and spiritual causes were reported, in addition to bad things (Sadik *et al.,* 2010; Abolfotouh *et al.,* 2019; Almusma, Sharifi & Alshahrani, 2020; Alsahali, 2021). In this study, the most common causes of mental disorders identified by respondents were brain disease (61.2%), substance abuse (55.1%), bad things happening (51.7%), genetic inheritance (49.7%), personal weakness (32.0%), poverty (28.6%), spirits (14.6%), and God's punishment (9.2%). The findings were similar to those from a previous study in Saudi Arabia (Abolfotouh *et al.,* 2019) but not consistent with other findings (Abolfotouh *et al.,* 2019). Generally, many people recognise that a mental illness is a medical condition that needs to be treated just like any other physical disease. The results of this study reflected this opinion as more people had positive attitudes, indicating a decrease in stigmatisation, which could be eradicated if medical professionals give suitable educational programmes to enhance awareness.

This study's results contribute to the literature on attitudes towards mental illnesses using a reliable and valid scale by portraying the possible differences and similarities across cultures and countries. It is anticipated that the media has a vital role to play in launching specific programmes relevant to mental illnesses to reduce the stigmatising attitudes of the community, in general, and students, in particular. These findings are expected to help the Ministry of Health and the Ministry of Education tailor better interventions on attitudes towards mental illnesses among the community as a whole, especially students.

Strength and Limitations

This study is the first to assess the knowledge and attitude of pharmacy students toward MIs. The survey was based on a cross-sectional sampling strategy and self-reported measures, which does not allow for a strict causal interpretation of the results. Although the response rate of the target population was acceptable and the findings were comparable to those of other studies, the sample was not representative of the entire population.

Conclusion

The current study showed that more than half of the respondents had positive attitudes and good knowledge of mental disorders. However, there were some gaps in knowledge related to the causes of mental disorders. Poor knowledge regarding mental health was slightly higher among participants with negative attitudes, although the association was not statistically significant. Knowledge and attitudes were strongly associated with some personal characteristics, such as gender and having a patient with MI in the family. Health professionals should educate the community on the causes, symptoms, effects, and appropriate treatment options to increase positive attitudes, improve knowledge, and foster help-seeking if needed.

For college students, adding mental health-related content to their courses might help improve their knowledge about mental disorders and guide patients and their families to seek help at specialised centres.

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Ethical Considerations

The research was approved by the Ethics Committee of Medical Research in the Al-Rowaad Medical College, Sana'a, Yemen (protocol code A-21-35 and approved on the 19th of April 2021). Verbal consent was obtained from the participant.

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