ORIGINAL RESEARCH

Nonpsychiatric Healthcare Professionals' Attitudes Toward Patients with Mental Illnesses in Makkah City, Saudi Arabia: A Cross-Sectional Study

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Purpose: Most patients exhibiting psychiatric manifestations often remain undetected, misdiagnosed, and inappropriately managed. This cross-sectional study aims to ascertain the level of knowledge of mental illnesses among nonpsychiatric healthcare workers and their attitudes toward patients with mental illness in Makkah, Saudi Arabia.

Patients and Methods: A cross-sectional study was conducted in four public hospitals in Makkah from November 2017 to February 2018. A total of 407 participants were involved. A self-reported structured questionnaire was used, and data were collected electronically.

Results: Of 407 respondents, 183 (45%) were females and 244 (55%) were males. The majority of respondents were physicians with medical specialties 116 (28.5%), followed by physicians with surgical specialties 99 (24.3%). More than half 229 (56.3%) of the respondents had work experience of >10 years. Although 128 (31.4%) of the participants lacked adequate knowledge of mental illnesses, only 104 (25.6%) had relevant knowledge.154 (37.8%) respondents displayed favorable (good) attitude, whereas 82 (44.7%) displayed an unfavorable (poor) attitude toward mentally ill patients.

Conclusion: The study revealed that nearly one-fourth of the participants appear to have adequate knowledge of mental disorders. However, 44.7% have an unfavorable attitude toward patients with mental illnesses. Hence, respondent professionals markedly correlated with both knowledge and attitude toward patients with mental illnesses, and the positive attitude strongly correlated with having adequate knowledge.

Keywords: mental disorders, nonpsychiatric healthcare workers, knowledge

Introduction

Mental disorders comprise a wide array of symptoms that are broadly manifested as a combination of abnormal thoughts, emotions, behavior, and correlations with others; however, most of these disorders can be successfully managed.[1] Although in some disorders, the manifestations could occur only once in a lifetime, these could be continuous and persistent in other conditions, with symptoms appearing intermittently. In the literature, many psychiatric disorders have been categorized according to signs and symptoms, which are widely variable.[2,3]

Globally, approximately 450 million people are suffering from mental illnesses that account to 14% of the global burden of diseases.[4] The World Health Organization considers mental illness as the leading cause of disability across the world and has estimated that approximately 25% of the total world population is living with mental illness.[4,5] In the United States, Canada, and Western Europe, mental illness accounts

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for nearly 25% of all disabilities. A large number of patients visiting healthcare facilities suffer from psychiatric illnesses, with figures in the range of 15%–50%.[6] For example, 26.5%–60% of patients in general medical and surgical inpatient clinics suffer from psychiatric disorders.[7,8] Many of these patients are handled by nonpsychiatric staff, which leads to the majority of mentally ill patients going unrecognized, leading to unnecessary clinical investigations, inconveniences, and financial losses. The inability to correctly identify psychiatric illnesses is compounded by the social stigmas attached to mental illnesses and is considered a major factor in this regard.[9] Other healthcare workers are also involved in the care of these patients, either directly or indirectly. Studies demonstrate that professionals with adequate knowledge of mental disorders have decreased social distance with mentally ill patients. Lack of knowledge among healthcare professionals leads to stigma and discrimination and also creates serious barriers to treatment access and recovery, as well as poorer quality physical care for people with mental illnesses.[10–13] Stigma also impacts the help-seeking behaviors of health providers themselves and negatively impacts their work environment.[14–17] Irrespective of society, whether developed or developing, mental illnesses are often attached to the social stigma.[18–20]

This cross-sectional study aims to assess the knowledge level among nonpsychiatric healthcare workers about mental illnesses, their attitudes toward patients with mental illnesses, and determine if a correlation between attitudes and knowledge levels exists.

Materials and Methods
Study Design

This cross-sectional study was conducted at four public hospitals: King Abdulaziz Hospital, King Faisal Hospital, Al-Noor Specialist Hospital, and Hera'a General Hospital in Makkah, Saudi Arabia, from November 2017 to February 2018. Ethical approval for this study was obtained from the Institutional Review Board (KAH-1403-2) of the institution. The confidentiality of the anonymously collected data was maintained throughout and after the study. Of note, all data were stored in a secure and safe place only accessible by the researcher. Informed consent was distributed with the questionnaire to all participants.

Participants

The study population included approximately 10,000 participants. The inclusion criteria were as follows: all nonpsychiatric healthcare professionals including doctors, pharmacists, paramedics, nurses, and hospital administrators, of the four public hospitals who volunteered to participate in the study. Conversely, we excluded all healthcare professionals who have been working in mental health services.

Data Collection

Data were collected using a well-structured questionnaire developed for this study (Figure 1). An electronic questionnaire form (on a webpage) was distributed randomly among healthcare professionals at the four designated hospitals. Through the human resource departments in each hospital, the link for the questionnaire was sent to the employees' emails and they were invited to participate. The questionnaire begins with an introduction, instructions, and consent for participation. The first section covers socio-demographic information, including age, gender, marital status, occupation, and experience; personal identification data such as names and employee numbers were not recorded for confidentiality and to ensure that respondents remained unknown such that responses could not be connected to the respondents. The second part composed of 16 questions designated to evaluate the knowledge of mental illnesses among nonpsychiatric healthcare professionals and their attitude (Figure 1). Our study instrument was validated using a pilot study of 40 randomly selected subjects from the hospitals in our study. Results of the pilot study were used to review the questionnaire content and rewording of the questionnaire. Of note, the questionnaire was distributed and collected electronically.

Study Size

The sample size was evaluated using openEpi using the following assumption: the total number of the population near 10,000, confidence interval (CI) 5%, and confidence level 95%. The estimated sample size was 370. Considering a 10% nonresponse rate, the sample size was finalized at 407.

Statistical Analysis

The baseline data were tabulated and analyzed descriptively. Although continuous variables are presented as the mean ± standard deviation, categorical variables are presented as a percentage. In addition, the confidence interval was 95%, and the significance level (P value) was set at ≤0.05. Moreover, categorical variables were tested using the chi-square test, whereas continuous variables

Instructions:
- This health care study aims to aid patients with mental illnesses in hospital settings. Our aims are to assess the level of knowledge that nonpsychiatric healthcare professionals have about mental illness, as well as their attitude towards mental illnesses.
- The questionnaire is to be filled by health care workers only, not by patients
- The confidentiality of the participant fully protected.
- By filling this questionnaire
  - You agree to take part in this study
  - You understand that your participation is voluntary

تعليمات:
- هذه دراسة عن الرعاية الطبية النفسية للمرضى الذي يعانون من أمراض نفسية في المستشفيات العامة غير المختصة بالصحة النفسية. الهدف منها قياس مدى الوعي تجاه لدى العاملين بالحقل الصحي عن الأمراض النفسية وسلوكهم تجاه المرضى.
- الاستبيان يعبأ من قبل العاملين في الحقل الصحي وليس من قبل المرضى.
- خصوصية المشارك بالاستبيان محفوظة ولا يتطلب تعبئة الاستبيان معرفة هوية المشارك.
- الرجاء التأشير على الآتي:
  - أوافق على المشاركة في هذه الدراسة
  - أعلم أن مشاركتي بهذه الدراسة اختيارية

Please choose the suitable answer:
Part 1: Demographics
1. Age [ ]
2. Sex
   o Male
   o Female
3. Marital status
   o Single
   o Married
   o Widowed
   o Divorced
   o Other: ....
4. Educational level:
   o Pre-college education
   o Diploma
   o Bachelor's degree
   o Master's degree
   o PhD
   o Board/Specialty certificate
5. Occupation
   o Physicians (please specify):
     o Medical specialty
     o Surgical specialty
   o Pharmacist
   o Technician
   o Nurse
   o Hospital administrator
   o Other: ....
6. Work experience
   o 1–5 years
   o 6–10 years
   o >10 years

الرجاء اختيار إجابة واحدة لكل سؤال
الجزء الأول: المعلومات الشخصية.
7. العمر [ ]
8. الجنس
   o ذكر
   o أنثى
9. الحالة الاجتماعية
   o أعزب/ عزباء
   o متزوج/ متزوجة
   o أرمل / أرملة
   o مطلق/ مطلقة
   o غير ذلك: .....
10. المستوى التعليمي
   o تعليم ما قبل الجامعة
   o دبلوم
   o بكالوريوس
   o ماجستير
   o دكتوراه
   o شهادة البورد / الاختصاص
11. الوظيفة
   o طبيب (الرجاء التحديد):
     o تخصص باطني
     o تخصص جراحي
   o صيدلاني
   o فني / أخصائي غير طبيب
   o ممرض
   o موظف إداري في المستشفى
   o غير ذلك: .....
12. عدد سنوات الخبرة في العمل
   o من سنة إلى 5 سنوات
   o من 6 سنوات إلى 10 سنوات
   o أكثر من 10 سنوات

Part 2: Questions related to the study — الجزء الثاني: أسئلة تخص الدراسة

		Agree(yes) أوافق (نعم)	Neutral محايد	Disagree(no) لا أوافق (لا)
1.	Do you think that you are well informed about psychiatry and psychiatric disorders? ١. هل لديك معلومات كافية عن الطب النفسي والاضطرابات النفسية؟			
2.	Do you think that mental disorders are similar to medical illnesses and can be treated effectively? ٢. هل تعتقد أن الاضطرابات النفسية تتشابه مع الأمراض العضوية والتي يمكن أن تعالج بشكل فعال؟			
3.	Do you think psychiatric medications are effective? ٣. هل تعتقد أن الأدوية النفسية فعالة؟			
4.	Do you think that most psychiatric medications cause addiction? ٤. هل تعتقد أن معظم الأدوية النفسية تسبب الإدمان؟			
5.	Is psychotherapy as effective as the psychotherapy providers claim? ٥. هل تعتقد أن العلاج بالجلسات النفسية (اللادوائية) فعال كما يزعم الممارسون للعلاج النفسي؟			
6.	Are electroconvulsive treatments an effective therapy? ٦. هل العلاج بالجلسات الكهربائية يعتبر طريقة فعالة للعلاج؟			
7.	Do you think that treating psychiatric disorders is cost-effective? ٧. هل تعتقد أن الاستثمار في علاج الاضطرابات النفسية هو صرف للأموال في غير محله بدون فائدة تذكر؟			
8.	Have you ever advised/referred someone to psychiatric services? ٩. هل سبق لك تحويل/ أو نصح شخص بطلب المساعدة من الطب النفسي؟			
9.	Are religious and spiritual people less likely to have psychiatric disorders than non-religious ones? ٩. هل الأشخاص المتمسكين بالدين والأشخاص الروحانيين هم أقل عرضة للإصابة بالأمراض النفسية مقارنة بغير المتدينين؟			
10.	Do you consider a person who has been in a mental hospital as intelligent as an average person? ١٠. هل ترى أن الشخص الذي يزور المستشفى النفسي لديه مستوى ذكاء مساو للأشخاص العاديين؟			
11.	Are people with mental disorders able to have regular jobs and be as successful as others? ١١. هل الأشخاص المصابين باضطرابات نفسية قادرون على العمل في وظائف اعتيادية ويمكنهم النجاح فيها مثل البقية؟			
12.	Do you believe that mentally ill people are aggressive or violent? ١٢. هل توافق أن الأشخاص المصابين باضطرابات نفسية عدوانيون أو عنيفون؟			
13.	Do you believe that psychiatric patients should not be treated in the same health care facilities with other non-psychiatric patients? ١٣. هل توافق أن الأشخاص المصابين باضطرابات نفسية لا ينبغي أن يكونوا موجودين لتلقي العلاج في نفس المستشفيات مع المرضى الآخرين غير النفسيين؟			
14.	Do you believe that referring a person for psychiatric evaluation would have a negative impact on his or her reputation? ١٤. هل تعتقد أن تحويل المريض للتقييم النفسي سوف يؤثر سلبا على سمعته؟			
15.	Would you rather not have a conversation with someone who has a mental disorder if you could avoid it? ١٦. هل تفضل ألا تتحدث مع شخص مصاب باضطراب نفسي إذا استطعت تجنب المحادثة؟			
16.	Would you be uncomfortable if people knew that someone in your family has a mental disorder? ١٦. هل ستشعر بعدم الارتياح إذا عرف الآخرون أن شخصاً من أقربائك مصاب باضطراب نفسي؟			

Figure 1 The study questionnaire.

were tested using the *t*-independent test. Multiple logistic regression factors associated with the knowledge of mental illnesses among responders and their attitudes toward patients with mental illness were constructed. Furthermore, the odds ratio was calculated to estimate the correlation between independent factors with the knowledge and with the attitude among nonpsychiatric healthcare professionals (dependent factors). In this study, all statistical analyses were performed using the SPSS software (IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp.).

Results
Participants
In this study, we enrolled 407 participants [183 (45%) females, 244 (55%); mean age: 38 ± 8.4 years]; 100% completed the study with no missing data. Regarding the marital status, 285 (70%) were married, 81 (19.9%) were single, 36 (8.8%) were divorced, and only 5 (1.2%) were widowed. Regarding the educational level, 165 (40.5%) had a bachelor's degree, 75 (18.4%) had a board degree (Specialty Certificate), 91 (22.4%) had a master's degree, 56 (13.8%) had a diploma, 6 (1.5%) had a doctorate, and 14 (3.4%) had pre-college education.

Occupation and Work Experience
Most respondents were physicians with medical specialty (n = 116, 28.5%), followed by surgical specialty (n = 99, 24.3%), hospital administrators (n = 66, 16.2%), nursing staff (n = 56, 13.8%), technicians (n = 43, 10.6), and pharmacists (n = 27, 6.6%; Figure 2).

Of all, 57 (14%) had 1–5-year work experience, 121 (29.7%) had >5–10year work experience, and 229 (56.3%) had > 10year work experience (Figure 3).

Knowledge and Attitude of Participants Toward Mental Illnesses
Participants' knowledge about mental illnesses and their attitudes were assessed by 16 close-ended multiple-choice questions. The first nine questions assay were designed to assay mental illness knowledge; the rest of the questions are assayed the respondent's attitude toward mental illnesses (Figure 1). All participants were categorized as having yes, no, or neutral attitude and knowledge based on their response. The results demonstrate that 128 (31.4%) of the participants lacked adequate knowledge of mental illnesses and only 104 (25.6%) had relevant knowledge; 154 (37.8%) respondents displayed favorable (good) attitudes, whereas
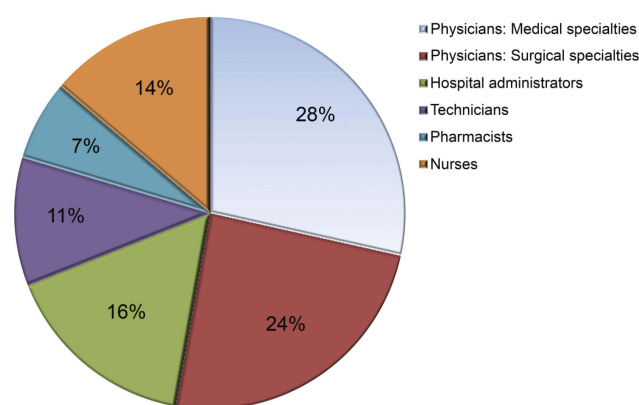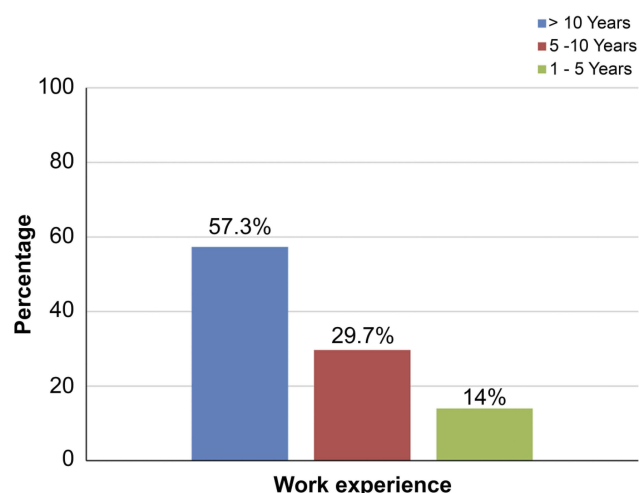
Figure 2 Respondents' occupation.

Figure 3 Respondents' work experience.

82 (44.7%) displayed unfavorable (poor) attitudes toward mentally ill patients. Table 1 summarizes these results.

Perceived Treatment for Mental Illness

With regard to the types of treatment for mental illnesses and their efficacy, three treatment modalities were assessed: psychotropic medication, psychotherapy, and

Table 1 Knowledge and Attitude of Respondents Toward Patients with Mental Illnesses

Variable		Frequency (%)
Knowledge toward mental illness	Adequate knowledge	104 (25.6%)
	Inadequate knowledge	128 (31.4%)
	Neutral knowledge	175 (43%)
Attitude toward mental illness	Favorable attitude	154 (37.8%)
	Unfavorable attitude	182 (44.7%)
	Neutral attitude	71 (17.4%)

Table 2 Perceived Treatment in Mental Illness Among Responders

Variable	Frequency (%)
Types of treatment	Effectiveness
Psychiatric medications	190 (46.7%)
Psychotherapy	124 (30.5%)
Electroconvulsive therapy	120 (29.5%)

electroconvulsive therapy (ECT). We observe that 190 (46.7%) of the respondents consider psychotropic medication to be effective, 124 (30.5%) of the respondents considered that psychotherapy as effective, and only 120 (29.5%) of the respondents considered ECT is effective. These results are outlined in Table 2.

Factors Related to the Knowledge of Participants

In this study, respondents' age, sex, marital status, education level, and work experience were not statistically significant with the knowledge of mental illness in the multiple logistic regression using the chi-square test (95% CI, $P > 0.05$). However, the professions of respondents were statistically significant in the multiple logistic regressions ($P < 0.005$; Table 3).

Factors Related to the Attitude of Participants

In this study, respondents' age, sex, marital status, education level, and work experience were not statistically significant with the attitude toward patients with mental illness in the multiple logistic regression using the chi-square test (95% CI, $P > 0.05$). Only the profession of respondents was statistically significant in the multiple logistic regressions ($P < 0.005$; Table 4).

Correlation Between Knowledge and Attitude

The correlation test revealed a strong correlation between knowledge in psychiatry and psychiatric disorders and a positive attitude toward patients with mental disorders ($P < 0.001$; Table 5).

Discussion

This study assessed the attitude and determined the correlation between the attitude and level of knowledge. Although various such studies have been conducted around the world, to the best of the author's knowledge, this is the first study that investigates a non-mental healthcare worker population

Table 3 Multiple Logistic Regressions of Factors Associated with the Knowledge of Mental Illnesses Among Responders

Variable	Knowledge		Crude Odds Ratio (95% CI)
	Adequate	**Inadequate**	
Age in years			
25–35	41	47	0.723 (0.2–2.6)
35–45	46	55	0.845 (0.24–2.96)
45–55	12	22	0.907 (0.22–3.69)
>55	5	4	1
Sex			
Male	63	72	1
Female	41	56	0.651 (0.381–1.112)
Marital status			
Divorced	11	8	1.169(0.057–24.1)
Married	76	96	0.928 (0.05–17.19)
Single	16	21	0.519 (0.025–10.73)
Widow	1	3	1
Educational level			
Bachelor degree	45	45	0.699 (0.11–4.4)
Board (Medical specialty) degree	21	25	0.623 (0.08–4.52)
Diploma	7	21	0.435 (0.06–3.12)
Master	28	26	0.702 (0.1–4.82)
PhD	1	3	0.429 (0.01–9.46)
Pre-college education	2	8	1
Occupation			
Hospital administrator	8	28	0.406 (0.12–1.36)
Nurse	9	15	0.655 (0.09–0.23)
Pharmacist	8	8	1.277 (0.34–4.7)
Physician: Medical specialty	58	10	2.203 (0.77–6.24)
Physician: Surgical specialty	13	48	0.580 (0.18–0.85)
Technician	8	19	1
Work experience in years			
Work experience >10	62	79	0.756 (0.25–2.26)
Work experience >5–10	23	35	0.456 (0.17–1.16)
Work experience 1–5	19	14	1

Abbreviation: CI, confidence interval.

Table 4 Multiple Logistic Regressions of Factors Associated with the Attitude Among Responders Toward Patients with Mental Illness

Variable	Attitude		Crude Odds Ratio (95% CI)
	Favorable	**Unfavorable**	
Age in years			
25–35	78	66	2.946 (0.73–11.79)
35–45	73	67	2.792 (0.7–11.13)
45–55	25	17	2.65 (0.55–12.64)
>55	6	6	1
Sex			
Male	78	73	1
Female	107	81	0.874 (0.48–1.58)
Marital status			
Divorced	16	13	0.914 (0.09–8.48)
Married	133	104	1.2 (0.16–8.92)
Single	33	34	1.431 (0.16–12.6)
Widow	0	3	1
Educational level			
Bachelor degree	71	62	0.202 (0.2–1.9)
Board (specialty) degree	34	27	0.252 (0.02–2.82)
Diploma	25	21	0.348 (0.03–3.55)
Master	41	37	0.363 (0.03–3.81)
PhD	4	1	0.177 (0.01–6.79)
Pre-college education	7	6	1
Occupation			
Hospital administrator	34	21	0.479 (0.14–1.57)
Nurse	24	19	0.37 (0.11–1.25)
Pharmacist	15	9	1.02 (0.2–5.15)
Physician: Medical specialty	73	23	1.072 (0.34–3.36)
Physician: Surgical specialty	16	66	0.26 (0.07–0.90)
Technician	14	22	1
Work experience in years			
Work experience >10	96	96	1.744 (0.51–5.92)
Work experience >5–10	72	26	0.49 (0.176–1.36)
Work experience 1–5	14	32	1

Abbreviation: CI, confidence interval.

exclusively across four hospitals in Saudi Arabia. Although our samples do not represent the entire non-mental health-care worker population across the country, this study still provides a reliable account of attitudes and knowledge toward mental health in Saudi Arabia.

In terms of both knowledge and attitude, we did not observe any differences with respect to participants' age, sex, marital status, education level, and work experience, which is consistent with previous studies.[21,22] However, the professions of who responded to the questionnaire were statistically significant in our study. Conversely, in a study conducted in a teaching hospital in Turkey, Aydin et al (2003) investigated the hospital staff attitude toward patients with mental illness and reported that the less educated hospital employees displayed a better attitude than highly educated.[23]

Our study demonstrates that 128 (31.4%) of the participants lacked adequate knowledge of mental illnesses and only 104 (25.6%) had relevant knowledge. We also observe

Table 5 The Correlation Between Knowledge and Attitude Among Responders Toward Patients with Mental Illness

Variable	Knowledge (%)			P
	Adequate	**Inadequate**	**Neutral**	
Attitude				
Unfavorable	36 (34.6%)	58 (55.8%)	10 (9.6%)	<0.001
Favorable	67 (52.3%)	38 (29.7%)	23 (18%)	
Neutral	79 (45.1%)	58 (33.1%)	38 (21.7%)	

that 154 (37.8%) respondents displayed a favorable attitude, whereas 82 (44.7%) displayed an unfavorable attitude toward mentally ill patients. The negative (unfavorable) attitudes of healthcare professionals worsen patients' mental health problems and can seriously impact their recovery.[24,25] In this study, we observed that positive attitudes toward patients with mental disorders directly correlate with having an adequate knowledge of mental illnesses, which has been previously reported.[26]

Despite a large number of studies demonstrating the effectiveness of psychotropic medications, psychotherapy, and ECT for treating several mental health disorders,[27–29] many healthcare professionals still believe that these treatment options may not be effective.[30] For example, in this study, 190 (46.7%) of the respondents believe that psychotropic medication is effective, 124 (30.5%) of the respondents believe that psychotherapy is effective, and only 120 (29.5%) of the respondents believe ECT is effective. These results demonstrate that the majority of respondents in this study do not agree that these treatment modalities are effective; supporting previous studies.

Adewuya & Oguntade (2007) reported that patients with mental illness were perceived as dangerous.[31] Sathyanath et al (2016) reported that a significant number of faculty members were opposed to the idea of living next door to someone who has mental illness compared with the trainees; however, markedly fewer number of faculty members, compared with trainees, believed that people with a history of mental illness should be disqualified from taking a public office.[32] In Croatia, Filipčić et al (2003) highlighted the existence of stigmatizing attitude toward patients with mental illness primarily because of inadequate information about patients with mental illness.[33] Reportedly, when healthcare professionals display a positive attitude toward mental illness, such approaches contribute toward easing therapeutic care and recovery in patient-centered care.[34] Nevertheless, a comprehensive review of 47 research studies highlighted the need for further research in this field, specifying that researchers must fill gaps in the literature concerning appropriate strategies and techniques to minimize negative attitudes among healthcare providers.[35] Furthermore, education should be initiated to counter misconceptions; these may include awareness campaigns, introduction of basics of mental health in medical education curricula, and ensuring that as many students as possible come into contact with patients with mental illness.[36]

Limitations

The major limitation of this study is that respondents might give a politically correct answer rather than narrating their exact feelings. Another limitation is that the sample size was relatively small. The cross-sectional nature of our data does not allow for a strict causal interpretation of the results and is prone to bias. The questionnaire used in the study (Figure 1) was validated using a pilot study of only 40 randomly selected subjects from the hospitals; therefore, future pre-testing on a larger sample size will add more validity to the questionnaire. An information bias could exist since the participants provide us with the information using a self-reported questionnaire. Further comprehensive studies are warranted to overcome the limitations of this study and validate the findings.

Conclusion

This study reveals that even among professionals in healthcare institutes who are serving a plethora of patients on a daily basis, one-third lack the necessary knowledge in psychiatry, which could imply more stigma and more neglect of patients' needs. In addition, the high percentage of unfavorable attitude toward patients with mental illness correlates with the inadequate knowledge in psychiatry. Thus, awareness could be raised through efforts by official and nonprofit medical organizations as these could reach the healthcare community through educational programs and campaigns. Furthermore, non-mental healthcare workers in the healthcare setting should be more informed of mental health issues and should develop a more positive attitude. Therefore, there is a need to conduct educational programs for all healthcare professionals' for providing basic information and assess mental illness. A better understanding of mental illness would alleviate fear and mistrust about mentally ill patients in the healthcare setting as well as minimize stigmatization. Further studies are warranted, particularly in Saudi Arabia, to fill gaps in the literature regarding the best way to minimize negative attitudes among healthcare providers.

Acknowledgments

Disclosure

The authors report no conflicts of interest in this work.

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