The Egyptian Journal of Neurology, Psychiatry and Neurosurgery

RESEARCH

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Medical student attitudes toward mental illness: a cross-sectional study from the Gaza Strip, Palestine

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Abstract

Background Mental illness is highly stigmatized compared to physical illness, often due to false beliefs and a lack of knowledge. Negative attitudes harbored by healthcare providers reflect on the care they provide and impact their patients' outcomes and may tailor their future preferences away from the psychiatric practice. This cross-sectional study used a stratified, randomized sampling method to survey the beliefs and attitudes of students at a Palestinian medical school toward mental illness using the Beliefs Toward Mental Illness (BMI) scale.

Results Overall, 79.1% of 282 participants demonstrated positive attitudes toward mentally ill patients (BMI score < 43). The highest mean score (more negative attitude) was received by the 'dangerousness' domain (2.75 ± 0.75), while the 'poor social and interpersonal skills' domain received the lowest mean score (2.47 ± 0.82). Male sex ($p = 0.031$) and having a friend ($p = 0.035$) or a family member ($p = 0.035$ and $p = 0.033$, respectively) suffering from a mental illness predicted a more positive attitude toward mental illness. At the same time, age, study level, and having undergone the clinical psychiatry rotation did not impact attitude significantly.

Conclusions The study shows that medical students in the Gaza Strip are not absolved from the negative stereotypes of their community toward mentally ill patients, which should be addressed systematically by health educators and medical schools in the country.

Keywords Social stigmas, Attitude of health personnel, Mental illness, Discrimination, Low-income countries

Background

Mental illness is a significant public health concern globally. It affects approximately 25% of the world's population at some point in their lives, with an estimated one billion people suffering from some form of mental illness in the year 2019 [1]. In 2022, there were an estimated 24765 mentally ill patients in the Gaza Strip, with a ratio of 11.3/1000 population [2]. Further, a psychological condition survey in November of 2022 showed that depressive symptoms were common among Palestinian adults (18 years and over), with a higher prevalence rate in the Gaza Strip than in the West Bank (50% and 71%, respectively) [3]. Post-traumatic stress disorder is also more common in the Gaza Strip compared to the West Bank, according to the Palestinian Central Bureau of Statistics (PCBS) [4].

Stigma is defined as "the process by which the reaction of others spoils normal identity."[5] It implies intolerance and exclusion. Negative attitudes and beliefs about mentally ill patients are common, often

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due to false stereotypes and a lack of knowledge and understanding of mental illness [6–8]. False beliefs and myths about mental illness can also lead to patients being viewed as outcasts or "bewitched" [6, 9, 10]. Although the first hospitals in the history of psychiatry were built circa the eighth century in Baghdad, Cairo, and Fes [11, 12], stigma toward mental illness represents a significant issue in the modern Middle East compared to other regions and higher-income countries [13].

The stigma associated with mental illness can have significant negative consequences for individuals with mental health conditions, including structural discrimination, social isolation, limited access to healthcare services, and propagation of self-stigmatization [14]. The impact of stigma extends beyond individuals to affect their families, who may report feeling ashamed of a relative's mental illness or suffer from discrimination by the community. Family members may also reflect stigmatizing beliefs against their kin, discouraging help-seeking [13]. Stigmatization can also affect healthcare professionals' ability to provide high-quality care to patients with mental health conditions and impact patients' accessibility. As future providers of healthcare services, medical students' attitudes towards mental illness and mentally ill patients are crucial and could shape how they interact with their patients and the quality of the care they will provide through the course of their careers.

Several studies have examined the attitudes of medical students from different regions and cultures towards mental illness, with varying findings. Nonetheless, there is a dearth of literature on this issue among Palestinian medical students. Medical schools should impart proper attitudes toward mental illness and psychiatric patients and practice. This is especially significant because negative attitudes conveyed by healthcare professionals may impact how well they relate to, communicate with, and care for their patients [15, 16] and may hinder patients' efforts to get help [17]. Additionally, harboring such negative attitudes may result in prolonged waiting times, subpar treatment, verbal or physical abuse [18], and worse prognoses [19]. Therefore, this study aimed to assess the attitudes of Palestinian medical students toward mental illness and to identify factors influencing their attitudes.

Methods

Study design

This descriptive, cross-sectional study surveyed the beliefs and attitudes of Palestinian medical students toward mental illness.

Target population and setting

This study surveyed undergraduate medical students at our institution from June to July 2022. It included students from the first to sixth academic levels. The total number of the target population was 994 at the time of data collection. Using the Raosoft free sample size calculator (http://www.raosoft.com/samplesize.html), the sample size needed to secure a confidence interval of 95% was 278 participants. An additional 30 students were added to account for anticipated non-responders.

Students were sampled using the stratified random sampling method. Students were divided into strata based on sex and academic level. Depending on the number of students in each stratum, the number of participants was calculated as a proportion of the final sample size. Then, lists, including the students' names in each stratum, were ordered alphabetically and numbered. Finally, random numbers representing participants' numbers were generated for each list using an online randomization application (www.randomizer.org/). Data collection sheets were prepared in English, printed, and handed to the selected participants during the breaks between classes.

Study instrument

The study instrument consisted of two parts. The first part included six questions about sociodemographic data (e.g., age, sex, academic level) (Table 1), and seven questions about each participant's experience with psychiatry and mental illness (e.g., if any family member or a friend

Table 1 Socio-demographic data of medical students

Variable		*n*	%
Age	Range 18–25 Mean 20.66 ± 1.62		
Sex	Male	151	53.5
	Female	131	46.5
Governorate	Rafah	21	9.3
	Khanyounis	62	22.0
	Middle Governorate	45	16.0
	Gaza	130	46.1
	North Gaza	30	10.6
Type of residence	City	222	78.7
	Refugee Camp	43	15.2
	Village	17	6.0
Academic level	First year	52	18.4
	Second year	49	17.4
	Third year	52	18.4
	Fourth year	49	17.4
	Fifth year	49	17.4
	Sixth year	31	11.0
Study phase	Basic (years 2 or 3)	152	53.9
	Clinical (years 4–6)	130	46.1

has a mental illness, if they had previously dealt with mentally ill patients) (Table 2). The second part of the instrument employed the Beliefs Toward Mental Illness (BMI) Scale [20]. Developed by Hirai and Clum, BMI measures negative stereotypes about mental illness, and it includes 21 items distributed into three domains [dangerousness (five items), poor social and interpersonal skills (10 items), and incurability (six items)]. The BMI uses a six-point Likert scale ranging from zero (completely disagree) to 5 (completely agree). Higher scores represent a more negative attitude toward mental illness. Previous studies from different cultures and countries reported that BMI was a valid and reliable scale [20–26]. The Cronbach's alpha result for the scale was 0.845.

Ethical and administrative considerations

Ethical approval for the study was obtained from the research ethics committee at the institution. Written consent was obtained before data collection, and participant anonymity was maintained throughout data collection and analysis. Students were assured that their academic records would not be impacted if they declined to participate.

Data analysis

After data entry and data cleaning, data analysis was performed using the Statistical Package for Social Sciences (SPSS) software. Descriptive statistics were used to describe variables, while t-test and ANOVA were used for inferential statistics. To determine the attitude toward mental illness, scores ranging between 0 and 42 were considered positive attitudes, while scores of 43 and above were considered negative. Statistical significance was set at $p \leq 0.05$.

Table 2 Participants' experience with psychiatry and mental illness

Variable		*n*	%
Studied the clinical psychiatry course	Yes	107	37.9
	No	175	62.1
A family member suffers from a mental illness	Yes	26	9.2
	No	256	90.8
A relative suffers from a mental illness	Yes	50	17.7
	No	232	82.3
A friend suffers from a mental illness	Yes	64	22.7
	No	218	77.3
Suffered from a mental illness personally	Yes	47	16.7
	No	235	83.3
Visited a psychiatrist for counseling or treatment	Yes	16	5.7
	No	266	94.3
Interacted with mentally ill patients	Yes	120	42.6
	No	162	57.4

Results

Socio-demographics of participating students

A total of 282 medical students returned the completed questionnaires. Table 1 depicts the participants' demographic data and other related information. The age of participants ranged between 18 and 25 years (mean 20.66 (± 1.62) years. Just above half of the participants were males (53.5%, $n = 151$).

Table 2 shows further information pertinent to the participants' experience with mentally ill patients and mental illness. At the time of data collection, 62.1% ($n = 175$) of the students had not yet studied the clinical psychiatry rotation. The great majority of students had no family members (90.8%, $n = 256$), relatives (82.3%, $n = 232$), or friends (77.3%, $n = 218$) suffering from a mental illness. Furthermore, only 5.7% ($n = 16$) have visited a psychiatrist for counseling or treatment, and only 42.6% ($n = 130$) reported previously dealing with mentally ill patients in any setting.

Beliefs of medical students about mental illness

Table 3 represents the means for BMI scale domains, and the mean for each item ranked in a descending order. The highest mean score was received by the 'dangerousness' domain (2.75 ± 0.75), while the 'poor social and interpersonal skills' domain received the lowest mean score (2.47 ± 0.82). The item "mental disorder would require a much longer time to be cured than would other general diseases" received the highest mean (3.65 ± 1.08) within the 'dangerousness' domain. In contrast, the statement "It may be a good idea to stay away from people who have a psychological disorder because their behavior is dangerous" received the lowest mean (2.01 ± 1.26) in the same domain.

In the 'poor social and interpersonal skills' domain, the item "a person with a psychological disorder is less likely to function well as a parent," received the highest mean (2.98 ± 1.22), and the item "I would be embarrassed if a person in my family became mentally ill" received the lowest mean (1.83 ± 1.58). In the 'incurability' domain, the statement "the behavior of people who have psychological disorders is unpredictable" received the highest mean (3.13 ± 1.13), while the statement "psychological disorder is unlikely to be cured regardless of treatment" received the lowest mean (1.94 ± 1.28). The mean total BMI score was 2.58 (± 0.65).

Most participating medical students (79.1% $n = 223$) demonstrated overall positive attitudes toward mentally ill patients, as they had a total score of less than 42 (Table 3).

Table 3 Mean score for each BMI domain and its individual items, and the overall attitude of medical students toward mental illness

Statement				Mean	Std. Deviation
Dangerousness				**2.75**	**0.75**
1. Mental disorder would require a much longer period of time to be cured than would other general diseases				3.65	1.08
2. A mentally ill person is more likely to harm others than a normal person				3.25	1.16
3. Mentally ill people are more likely to be criminals				2.5	1.18
4. I am afraid of people who are suffering from psychological disorder because they may harm me				2.3	1.33
5. It may be a good idea to stay away from people who have psychological disorder because their behavior is dangerous				2.01	1.26
Poor social and interpersonal skills				**2.47**	**0.82**
1. A person with psychological disorder is less likely to function well as a parent				2.98	1.22
2. A person with psychological disorder should have a job with minor responsibilities				2.93	1.35
3. Most people would not knowingly be friends with a mentally ill person				2.85	1.33
4. It might be difficult for mentally ill people to follow social rules such as being punctual or keeping promises				2.76	1.25
5. Mentally ill people are unlikely to be able to live by themselves because they are unable to assume responsibilities				2.55	1.31
6. I am afraid of what my boss, friends, and others would think if I were diagnosed as having a psychological disorder				2.50	1.57
7. The term "Psychological disorder" makes me feel embarrassed				2.16	1.53
8. I would not trust the work of a mentally ill person assigned to my work team				2.07	1.26
9. I would be embarrassed if people knew that I married a person who once received psychological treatment				2.04	1.56
10. I would be embarrassed if a person in my family became mentally ill				1.83	1.58
Incurability				**2.61**	**0.72**
1. The behavior of people who have psychological disorders is unpredictable				3.13	1.13
2. Psychological disorder is recurrent				3.03	1.26
3. People who have once received psychological treatment are likely to need further treatment in the future				2.74	1.23
4. Individuals diagnosed as mentally ill will suffer from its symptoms throughout their life				2.72	1.27
5. I do not believe that psychological disorder is ever completely cured				2.09	1.46
6. Psychological disorder is unlikely to be cured regardless of treatment				1.94	1.28
Mean Total BMI				**2.58**	**0.65**
Overall attitude	Negative attitude	*n* (%)	Mean score (SD)	*p* value < 0.001	
		59 (20.9%)	59.17 (9.90)		
	Positive attitude	*n* (%)	Mean score (SD)		
		223 (79.1%)	34.92 (8.02)		

Bold values indicate the means of the main domains and of the total score

Factors associated with attitude of medical students toward mental illness

Pearson's correlation test revealed no correlation between participants' age and BMI total scores ($r = 0.027$, $p = 0.696$). However, the results of t-test results (Table 4) showed that sex and having a friend or a family member suffering from a mental illness significantly impacted participants' attitudes toward mental illness. On the other hand, results of the one-way ANOVA test revealed that none of the multivariate variables, including year of study, type of residence, or governorate, impacted students' attitudes toward mental illness (Table 5).

Discussion

Attitude is a theoretical construct that describes a person's learned tendency to evaluate or perceive something or someone in a certain way [27]. It has affective, behavioral, and cognitive components rooted in individual experiences and cultural exposures. Medical students' attitudes, accumulated throughout their medical education, shape how they interact with mentally ill patients during their careers and the quality of care they can offer. Negative attitudes toward mentally ill people contribute to their feeling of stigma and discrimination [28], which in turn leads to several unwanted psychological outcomes

Table 4 Means and results of t-test of bivariate variables

Variable		Total score	SD	*p* value
Sex	Male	52.43	12.65	0.031
	Female	56.01	14.68	
Study Phase	Basic	53.87	12.87	0.76
	Clinical	54.36	14.71	
Had the psychiatry course	Yes	55.00	14.88	0.403
	No	53.54	12.98	
A family member suffers from a mental illness	Yes	47.83	15.06	0.033
	No	54.73	13.45	
A relative suffers from a mental illness	Yes	51.48	12.52	0.115
	No	54.66	13.93	
A friend suffers from a mental illness	Yes	50.61	15.32	0.035
	No	55.12	13.08	
Dealt with psychiatric patients during training	Yes	53.78	15.05	0.0744
	No	54.33	12.70	

Table 5 Means and results of one-way ANOVA test of multivariate variables

Variable		Mean	SD	*p* value
Academic Level	First Year	55.67	14.07	0.757
	Second Year	53.41	11.37	
	Third Year	52.62	12.21	
	Fourth Year	53.09	17.22	
	Fifth Year	54.76	14.92	
	Sixth Year	55.55	11.11	
Type of residence	City	54.32	13.21	0.264
	Village	54.94	13.34	
	Camp	52.58	16.46	
Governorate	North of Gaza	54.70	14.14	0.472
	Gaza	53.68	11.96	
	Middle Governorate	55.27	16.80	
	Khanyounis	53.96	14.64	
	Rafah	53.47	14.84	

[29, 30] such as withdrawal behavior [30], low self-esteem [30, 31], increasing levels of depressive symptoms [30, 32], and reducing their self-efficacy [32, 33]. Furthermore, some studies found that stigma leads to delays in seeking treatment [34, 35] and lowers patients' quality of life [31, 36, 37]. Moreover, Pinheiro and colleagues added that mental illness and stigmatization have negative economic effects as are among the leading causes of job loss as they increase the rates of absenteeism, presenteeism, and the number of sick leave days [38].

The current study is the first from Palestine to examine medical students' attitudes toward people with mental illness. The researchers found that four out of five participants fell closer to the positive end of the attitude toward mental illness spectrum. The lack of similar local studies limits the scope for comparisons. Internationally, however, a study from India found that medical students had better attitudes toward mentally ill patients and against separatism and stigmatization than nursing students [39]. Meanwhile, another study from the same country demonstrated neutral attitudes toward psychiatry and mental illness among medical students [27].

On the other hand, other studies from different regions have demonstrated high rates of negative attitudes toward mental illness among medical students. For instance, a recent survey among students of health sciences faculty in Istanbul found high rates of negative beliefs and stigmatization [40]. Another study from southwestern Nigeria also found significant stigmatizing attitudes among medical students towards individuals with mental health conditions [41]. Similarly, Kihumuro [42] and Chukwujekwu [43] reported poor attitudes toward mental illness among medical students in Uganda and Nigeria, respectively. Meanwhile, a comparative study from Qatar and the United States revealed that medical students from Qatar demonstrated less positive attitudes towards mental illness than medical students from the United States who received the same curriculum [44]. Medical schools and health education institutions globally should address this cultural issue and design programs that facilitate a shift towards more favorable attitudes.

In our study, male sex and having a friend or a family member suffering from mental illness were significantly correlated with better attitudes. The association with sex is not unusual and other studies have previously demonstrated significant correlations with either male [40] or

female sex [45], although others found no such correlations [27]. Similarly, familiarity with mental illness, such as having a personal experience or a friend or relative with a history of mental illness, has also been linked to better attitudes in other studies [45]. This is not unexpected since, as mentioned earlier, personal experiences play a central role in shaping perceptions and modifying attitudes.

The results revealed no significant differences in attitude between students from the basic science versus clinical phases. Also, the results did not show significant differences in medical students' attitudes between students who have had the clinical psychiatry course and those who have not. In this regard, a study from Australia reported a significant decrease in negative views toward mental illness among fourth-year medical students after the psychiatry clerkship [46]. Similar findings were reported in India [45]. On the other hand, a study on 1372 students from 12 Chinese medical schools found that education did not increase non-stigmatizing attitudes among participants [47]. Stigma is a byproduct of the triad of ignorance, discrimination, and prejudice [48]. Medical schools are tasked with ameliorating the third component (prejudice) by addressing the lack of knowledge and the culture of discrimination at the individual and systematic levels. They also have the advantage of instilling positive attitudes in younger generations. The absence of a significant correlation between students having undergone the psychiatry rotation and developing more positive attitudes calls for revising current medical curricula and teaching methods to address this lacune in training.

Mental health is an indispensable aspect of contemporary medical services. Thus, adequate numbers of well-trained and skilled personnel must be available to guarantee high-quality services. In this regard, the Gaza Strip is particularly poorly equipped, as there is a single psychiatric hospital and only a handful of psychiatrists [49, 50]. Stigmatization of mental illness may negatively impact the future preferences of medical students. While a recent meta-analysis of studies from seven Eastern Mediterranean countries found that medical students demonstrated an overall positive attitude towards the psychiatry discipline, psychiatry was absent from the list of preferred specialties for medical doctors and students from Gaza who were surveyed in 2018 [51, 52]. This further underscores the need for a fundamental change, starting with appropriate knowledge and leading to better practice and proper culture.

This study's findings should inspire further studies among other health sciences students and graduate doctors in Palestine to formulate a clearer picture of the prevalence and magnitude of stigma in the country. Subsequently, based on evidence derived from prevalence surveys such as the present study, specific interventions should be implemented, and their impacts should be evaluated regularly. Possible interventions include mental health literacy campaigns, contact-based strategies, and peer support and supervision [53]. Also, to guide such interventions, other studies are encouraged to investigate the cultural, social, and religious beliefs contributing to the negative stereotypes.

The strengths of this study include its stratified random sampling method, large sample size, and meticulous data collection with minimal missing information. Additionally, it is the first such study from Palestine, and it employed a well-validated tool in assessing medical students' beliefs towards mental illness. This study is not without limitations, however. It surveyed students from a single university, limiting the generalizability of the results. Additionally, the cross-sectional design prevents inferring causal associations from the findings.

Conclusion

Medical students are not absolved from the negative stereotypes of the community towards mentally ill patients, and they may carry these convictions into their professional lives. Medical schools should attempt to systematically mitigate this cultural and ethical issue and equip students with the appropriate knowledge and exposure to ensure higher levels of healthy attitudes toward mental illness.

Abbreviations

PCBS Palestinian central bureau of statistics
BMI Beliefs toward mental illness

Acknowledgements

Not applicable.

Author contributions

BA and NA contributed to the study's inception and design. BA, NA, and MA contributed to literature review. All authors contributed to data collection and data entry. NA performed the statistical analysis. All authors contributed to writing and reviewing the final manuscript.

Funding

The authors received no funding for this publication.

Availability of data and materials

Available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

The study was approved by the research ethics committee at the institution. Written consent was obtained from all participants. Confidentiality was maintained throughout the data collection and data analysis stages.

Consent for publication

Written informed consent was obtained from participants upon their enrollment in the study.

Competing interests
The authors declare that there is no competing interests.

Received: 8 April 2024 Accepted: 13 September 2024
Published online: 26 September 2024

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