

Improved attitudes of interns versus undergraduate medical students towards patients with mental illness in Saudi Arabia

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Abstract

Background: The attitudes of medical students towards mental illness are important since these students will be providing care to this group in the future.

Aims: To assess the beliefs and attitudes of undergraduate medical students regarding mental illness and to compare students at different levels.

Methods: This descriptive, cross-sectional study was conducted among undergraduate medical students in the College of Medicine, Majmaah University, Saudi Arabia, during the 2018–2019 academic years. Male students were included from Years 3–5 (25 from each year) and 25 male interns using the proportionate stratified random sampling method. The participants responded to the Beliefs about Mental Illness (BMI) Scale and the Attitudes towards Mental Illness Questionnaire (AMIQ).

Results: Bonferroni post hoc tests were used to conduct between-group comparisons of the year 3 group, who were at the beginning of their psychiatric training, with the other groups with more training. This revealed significant differences in scores for 11 of 21 items on the BMI Scale ($P < 0.05$). All questions regarding the 4 vignettes of the AMIQ (substance abuse, depression, psychosis, and obsessive compulsive disorders) showed a significant difference between students in year 3 and those in the other groups who had more psychiatric training ($P < 0.05$).

Conclusions: The current medical psychiatric training positively improved the beliefs and attitudes of medical students towards patients with mental illnesses.

Keywords: impact of training; attitude; mental illness; social stigma; psychiatric care

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Introduction

Pre-existing negative beliefs and attitudes can result in closed-mindedness and biased interactions with people. Mental illness carries a negative social stigma, and many affected people are reluctant to seek medical or psychiatric help for this reason. Psychiatric disorders are believed to be associated with supernatural powers and religious beliefs, and various moral and mystic approaches are taken to treat these illnesses (1). Negative attitudes towards mental illness can be caused by low literacy and educational status, as well as lack of knowledge and awareness about psychiatric illnesses (2).

Health professionals' beliefs and attitudes towards mental illness are of particular importance; for example, negative attitudes can result in diagnostic overshadowing, where a physical symptom experienced by a mentally impaired person may be wrongly attributed to the mental impairment (3). Medical students may have preconceived beliefs, ideas and attitudes about their profession and the patients with whom they will be working. A lack of contact or familiarity with patients and a lack of access to accurate information about mental illness may result in negative attitudes among medical graduates, which

could be detrimental to patient care and have wider implications for the future of health care and society (4).

Studies from around the world have shown both negative and positive attitudes among undergraduate medical students (5,6). Proper undergraduate training and exposure to psychiatric patients during internship training are associated with positive outcomes in terms of the attitudes of medical students towards mental illness, and may even influence students to choose psychiatry as their specialization (5). A study from Indiana University, United States of America (USA) has shown that 6–8 weeks of junior clerkship in psychiatry improved the attitudes of undergraduate medical students, who subsequently agreed less with the idea that mental illness cannot be cured and more readily accepted interactions with family members of psychiatric patients (7). Therefore, the positive attitudes of medical students towards mental illness appear to be strongly influenced by education and patient exposure. A study from Abha investigated the attitudes of medical students in Saudi Arabia, which showed that innovative undergraduate psychiatric training that comprised voluntary, active and problem-based learning (rather than conventional passive learning based on simple memorization) was

effective in instilling a positive attitude towards mental illness. This voluntary active learning approach in Saudi Arabia was implemented as per the recommendation of Saudi Arabia's Scientific Committee for Mental Health. In February 1986, the Committee convened a meeting at the Ministry of Health in Riyadh, inviting psychiatry representatives from medical schools in Saudi Arabia to analyse this issue. After 1 year, a new elective subject called introduction to psychosomatic medicine was introduced for medical students, which included training in general hospitals in Saudi Arabia. This course facilitated voluntary and active learning using a problem-based approach rather than relying on conventional passive learning that simply required memorization (8).

A study from India revealed a lack of empathy and feelings of fear and hatred towards psychiatric patients among undergraduate medical students, which could jeopardize the future of the healthcare system (9). The authors attributed this finding to clear gaps in the students' knowledge about mental illness and the various available treatment options owing to the absence of psychiatric training during undergraduate training.

The mental healthcare system of Saudi Arabia is serviced by 27 mental health hospitals. The updated Saudi Ministry of Health Mental and Social Health Atlas signifies the integration of mental health care in primary healthcare centres. There are > 2259 primary healthcare centres in Saudi Arabia, where general practitioners (GPs) are responsible for the identification of mental illness and referral to mental health or teaching hospitals. There is a high demand for psychiatric care in Saudi Arabia, and the Ministry of Health recognizes the role of GPs and their continuous psychiatric training programmes to enhance their ability to identify and manage mental illness at primary healthcare centres, which are the first contact points for citizens in the healthcare system (10). There is a lack of literature regarding the accurate estimation of mental illness among the Saudi population, and there is a definite need for improving the skills and knowledge of healthcare professionals, with the latest evidence and research in psychiatry (11,12).

The present study aimed to examine the current beliefs and attitudes towards mental illness among university medical students, who will be future GPs. Few studies in Saudi Arabia, have assessed students' attitudes towards mental illness and psychiatric training. This study assessed undergraduate medical students' and interns' beliefs and attitudes toward mental illness and compared these between students at different levels.

Methods

Settings and participants

This was an observational cross-sectional study conducted among medical undergraduate students at the College of Medicine, Majmaah University, Saudi Arabia during the 2018–2019 academic years. All participants were men, as this medical school only began enrolling female can-

didates 3 years ago and students have only reached their 3rd year of study and there are no corresponding samples at higher levels of study. The sample size was calculated using the formula $n = z^2 \times \sigma^2 / d^2$, where n = sample size to be estimated, $z = 1.96$, σ = standard deviation of 5 and d = desired sampling error 1. Each year, 20–30 students are enrolled in the College. From the total student population of 134 in years 3–5, and interns, the sample size was calculated using this formula: $1.96^2 \times 5^2 / 1^2$ with confidence level of 95% and precision interval of 1% (13). A proportionate, stratified, random sampling technique was used to define 4 groups of 25 students from years 3–5 and interns (year 6). The study assessed the changes in the beliefs and attitudes regarding mental illness as the participants received more psychiatric training. Since psychiatric training starts from year 3 of undergraduate medical training and extends until internship, only participants from year 3 to internship were included, and students from years 1 and 2 were excluded. The study details were explained to the participants, and questionnaires were distributed after receiving written informed consent for participation. No personal identification details were collected.

Instrument development and data collection methods

Participants completed the Beliefs about Mental Illness (BMI) Scale and the Attitudes towards Mental Illness Questionnaire (AMIQ) (14). In a primary validity study conducted in Virginia, USA, Cronbach's α was high among American (0.89) and Asian (0.91) students, showing promising evidence of validity (15). The BMI is a 21-item questionnaire that assesses 3 dimensions including dangerousness, poor social/interpersonal skills, and incurability regarding mental illness. The AMIQ is a brief, self-completion questionnaire with good psychometric properties that can be used in most situations; it has been already translated into Arabic and has a reliability of 0.79 (16,17). Respondents read a short vignette describing an imaginary patient and answered 5 questions. We used substance abuse, depression, psychosis, and obsessive compulsive disorder (OCD) vignettes, as these were more relevant in the study area. All names were changed and replaced by Mr. A. A copy of the modified questionnaire is available as a supporting file. Individual questions were scored on a Likert scale, ranging from 0 (completely disagree) to 5 (completely agree). The total score for each vignette ranged from 0–25, where lower scores indicated more positive attitudes towards mental illness.

Statistical analysis

The collected data were analysed using SPSS version 23 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarize the data and calculate the standard deviation and mean. Between-group comparisons for BMI and AMIQ were performed using analysis of variance and further analyses using Bonferroni correction, where scores were compared between year 3 students, who were at the beginning of their psychiatric training,

and other student groups with higher levels of training. Statistical significance was considered when P was < 0.05 .

Results

The BMI Scale scores for the 4 study groups are presented in Table 1. For 12 of the 21 questions regarding the general nature of mental illness and the dangerousness of mentally ill persons, there was a significant difference in scores between the study groups ($P < 0.05$). However, for 9 of the 21 questions regarding social/interpersonal skills and incurability of mental illness, there was no significant difference in the scores between the study groups.

The AMIQ scores among the study groups for the 4 vignettes, including substance abuse, depression, psychosis, and OCD, are presented in Table 2. For the 5 questions in all 4 vignettes, there was a significant

difference in the scores between the study groups ($P < 0.05$).

Between-group comparisons of the year 3 group, who were at the beginning of their psychiatric training, and the other groups, who had more training, showed significant differences in the scores ($P < 0.05$) for 11 items of the BMI Scale, while 10 items showed no significant difference (Table 3).

All questions in AMIQ in the 4 vignettes (substance abuse, depression, psychosis, and OCD) showed a significant difference between the year 3 and other groups that had more psychiatric training, particularly in interns ($P < 0.05$) (Table 4).

Discussion

In the present study, we used questionnaires to analyse the beliefs and attitudes of undergraduate medical stu-

Table 1 Beliefs about Mental Illness Scale mean scores for the 4 study groups of 25 participants

		Mean	Standard deviation	F	P
A mentally ill person is more likely to harm others than a normal person	Year 3	2.28	1.62	7.700	< 0.001
	Year 4	1.64	2.23		
	Year 5	1.04	2.03		
	Interns	0.04	0.20		
	Total	1.25	1.88		
Mental disorders would require a much longer period of time to be cured than other general diseases	Year 3	3.16	1.21		
	Year 4	1.52	1.78		
	Year 5	1.88	2.30		
	Interns	0.44	0.768		
	Total	1.75	1.87		
It may be a good idea to stay away from people who have a psychological disorder because their behaviour is dangerous	Year 3	2.00	1.66	5.864	0.001
	Year 4	1.80	1.80		
	Year 5	1.04	1.79		
	Interns	0.36	0.64		
	Total	1.30	1.66		
The term psychological disorder makes me feel embarrassed	Year 3	1.88	1.86	2.303	0.082
	Year 4	1.72	1.67		
	Year 5	1.80	2.16		
	Interns	0.76	1.01		
	Total	1.54	1.76		
A person with a psychological disorder should have a job with only minor responsibility	Year 3	2.56	1.96	4.296	0.007
	Year 4	1.88	1.71		
	Year 5	1.48	1.98		
	Interns	0.84	1.18		
	Total	1.69	1.82		
Mentally ill people are more likely to be criminals	Year 3	2.92	1.19	7.450	< 0.001
	Year 4	1.76	1.64		
	Year 5	1.68	2.21		
	Interns	0.76	1.23		
	Total	1.78	1.77		

Table 1 Beliefs about Mental Illness Scale mean scores for the 4 study groups of 25 participants (continued)

		Mean	Standard deviation	F	P
Psychological disorders are recurrent	Year 3	1.56	1.42	1.941	0.128
	Year 4	1.76	1.48		
	Year 5	1.20	1.87		
	Interns	0.80	1.22		
	Total	1.33	1.54		
I am afraid of what my boss, friends and others would think if I was diagnosed as having a psychological disorder	Year 3	1.48	.96	2.329	0.079
	Year 4	1.88	1.59		
	Year 5	1.80	2.14		
	Interns	0.84	1.25		
	Total	1.50	1.58		
Individuals diagnosed by mental illness suffer from its symptoms throughout their life	Year 3	2.32	1.55	3.390	0.021
	Year 4	1.72	1.72		
	Year 5	1.40	1.94		
	Interns	0.88	1.27		
	Total	1.58	1.69		
People who have once received psychological treatment are likely to need further treatment in the future	Year 3	2.44	1.53	3.865	0.012
	Year 4	1.96	2.09		
	Year 5	1.76	2.15		
	Interns	0.76	1.27		
	Total	1.73	1.87		
It might be difficult for mentally ill people to follow social rules such as being punctual or keeping promises	Year 3	1.28	1.31	1.954	0.126
	Year 4	1.40	2.00		
	Year 5	1.92	2.36		
	Interns	0.68	1.41		
	Total	1.32	1.85		
I would be embarrassed if people knew that I am in relationship with a person who once received psychological treatment	Year 3	2.16	1.65	1.604	0.194
	Year 4	1.80	1.94		
	Year 5	2.04	2.35		
	Interns	1.08	1.61		
	Total	1.77	1.93		
I am afraid of people who are suffering from a psychological disorder because they may harm me	Year 3	2.96	1.81	4.850	0.003
	Year 4	1.80	1.78		
	Year 5	1.84	2.29		
	Interns	0.96	1.49		
	Total	1.89	1.97		
A person with a psychological disorder is less likely to function well as a parent	Year 3	2.80	1.87	3.616	0.016
	Year 4	1.72	1.74		
	Year 5	2.20	2.40		
	Interns	1.08	1.55		
	Total	1.95	1.99		
I would be embarrassed if a person in my family became mentally ill	Year 3	2.16	1.72	2.543	0.061
	Year 4	1.64	1.68		
	Year 5	2.16	2.29		
	Interns	0.96	1.31		
	Total	1.73	1.82		

Table 1 Beliefs about Mental Illness Scale mean scores for the 4 study groups of 25 participants (concluded)

		Mean	Standard deviation	F	P
I believe that psychological disorders can never be completely cured	Year 3	1.40	1.83	2.315	0.081
	Year 4	1.68	1.77		
	Year 5	2.28	2.39		
	Interns	0.92	1.32		
	Total	1.57	1.90		
Mentally ill people are unlikely to be able to live by themselves because they are unable to assume responsibilities	Year 3	2.20	1.83	2.056	0.111
	Year 4	1.84	1.80		
	Year 5	2.40	2.31		
	Interns	1.16	1.60		
	Total	1.90	1.93		
Most people can be friends with a mentally ill person without knowing	Year 3	3.16	1.55	8.485	< 0.001
	Year 4	2.20	1.94		
	Year 5	2.24	2.42		
	Interns	0.60	1.15		
	Total	2.05	2.02		
The behaviour of people who have psychological disorders is unpredictable	Year 3	2.24	1.45		
	Year 4	2.16	1.93		
	Year 5	2.28	2.34		
	Interns	0.84	1.37		
	Total	1.88	1.89		
Psychological disorders are unlikely to be cured regardless of treatment	Year 3	1.64	1.82	2.749	0.047
	Year 4	2.36	2.08		
	Year 5	2.16	2.25		
	Interns	0.92	1.53		
	Total	1.77	1.99		
I do not trust the work of a mentally ill person assigned to my team	Year 3	2.08	1.73	2.443	0.069
	Year 4	2.16	2.06		
	Year 5	2.25	2.35		
	Interns	0.96	1.51		
	Total	1.86	1.97		

dents at Majmaah University towards mental illness. We also compared the beliefs and attitudes between medical students in year 3, who had started their psychiatric training, and students in years 4 and 5, as well as interns who had more psychiatric training. The present study demonstrated that there were significant differences in BMI Scale scores between the year 3 group and the other groups concerning the nature and dangerousness of mental illness, while no differences were found regarding social/interpersonal skills and incurability of mental illness. This gives a clear indication regarding the beliefs of medical students. Factors such as social customs, traditional beliefs, and religious beliefs are deeply imprinted in the mind and cannot be easily changed by modern education. Other factors such as economic factors and exposure to social media could also play a role. A similar result was reported by a study from Nigeria, which concluded that psychiatric training favourably changed

students' attitudes but could not change beliefs that were deeply rooted in their society (18). This was reflected in their response after training as they still believed that psychiatric patients were unpredictable and that mental illnesses were related to supernatural forces.

Regarding attitudes towards mental illness, interns showed a significant difference to year 3 students, as indicated by the AMIQ responses to the 4 vignettes of substance abuse, depression, psychosis, and OCD. This could be attributed to the duration of psychiatric training, which starts from year 3 and extends until internship, thereby positively influencing attitudes towards mental illness. Presently, at Majmaah University, students have a module about the basics of psychology and behaviour in year 3, accounting for 41 contact hours and 2 credit hours, as well as a module comprising lectures and clinical training regarding psychiatric illness in years 4 and 5, accounting for 142 contact hours

Table 2 Comparison of mean test scores of Attitudes towards Mental Illness Questionnaire between the student groups

	Substance abuse case vignette					Depression case vignette					Psychosis case vignette					OCD case vignette				
	Mean	SD	F	P		Mean	SD	F	P		Mean	SD	F	P		Mean	SD	F	P	
Do you think this would damage Mr. A's career?	Year 3	2.68	1.68	14.45	< 0.001	3.04	1.59	24.99	< 0.001	3.20	1.71	13.11	< 0.001	3.24	1.56	23.68	< 0.001			
	Year 4	1.72	2.15			0.96	1.49			1.64	2.14			1.36	1.47					
	Year 5	0.44	1.12			0.44	0.96			1.28	1.93			1.08	1.32					
	Interns	0.28	0.46			0.32	0.85			0.24	0.52			0.28	0.54					
	Total	1.28	1.77			1.19	1.66			1.59	1.98			1.49	1.67					
Would I be comfortable if Mr. A was my colleague at work?	Year 3	2.36	1.11	21.00	< 0.001	2.68	1.38	22.34	< 0.001	2.52	1.58	6.60	< 0.001	3.12	1.24	13.53	< 0.001			
	Year 4	0.84	1.28			1.00	1.00			1.56	1.96			1.80	1.94					
	Year 5	0.60	0.71			0.84	0.85			1.64	2.02			1.20	1.44					
	Interns	0.36	0.70			0.44	0.87			0.44	0.77			0.68	0.90					
	Total	1.04	1.25			1.24	1.34			1.54	1.80			1.70	1.68					
Would I be comfortable about inviting Mr. A to a dinner party?	Year 3	2.44	1.33	8.63	< 0.001	2.52	1.56	12.34	< 0.001	3.24	1.76	12.61	< 0.001	3.52	1.61	17.32	< 0.001			
	Year 4	1.44	1.73			1.52	1.36			1.64	2.04			1.56	1.42					
	Year 5	1.12	1.27			0.88	0.93			1.32	1.55			1.68	1.65					
	Interns	0.56	0.92			0.56	0.96			0.52	0.82			0.68	0.95					
	Total	1.39	1.49			1.37	1.43			1.68	1.87			1.86	1.75					
How likely do you think it would be for Mr. A's wife to leave him?	Year 3	2.96	1.24	14.75	< 0.001	3.28	1.43	18.21	< 0.001	2.52	1.26	7.38	< 0.001	3.04	1.10	8.08	< 0.001			
	Year 4	1.72	1.65			1.68	1.41			1.64	2.00			1.96	1.81					
	Year 5	1.24	1.36			1.28	1.24			1.44	1.53			2.24	1.79					
	Interns	0.56	0.92			0.68	1.11			0.56	0.92			1.00	1.04					
	Total	1.62	1.57			1.73	1.61			1.54	1.62			2.06	1.63					
How likely do you think it would be for Mr. A to get in trouble with the law?	Year 3	3.68	1.15	18.73	< 0.001	2.52	1.66	7.53	< 0.001	3.76	.88	22.06	< 0.001	4.08	.70	22.25	< 0.001			
	Year 4	2.00	2.00			1.48	1.71			1.60	1.87			1.60	1.56					
	Year 5	1.48	1.74			1.36	1.66			1.56	1.58			2.28	1.72					
	Interns	0.56	0.92			0.48	0.92			0.64	1.08			1.16	1.25					
	Total	1.93	1.88			1.46	1.67			1.89	1.80			2.28	1.75					

OCD = obsessive compulsive disorder, SD = standard deviation.

Table 3 Comparison of scores on the Beliefs about Mental Illness Scale between Year 3 and other students

Multiple comparisons Bonferroni dependent variable	Groups		MD	SD	P
A mentally ill person is more likely than a normal person to harm others	Year 3	Year 4	0.64	0.49	1.000
		Year 5	1.24	0.49	0.073
		Interns	2.24	0.49	< 0.001
Mental disorders require a longer period of time to be cured than general diseases	Year 3	Year 4	1.64	0.46	0.003
		Year 5	1.28	0.46	0.038
		Interns	2.72	0.46	< 0.001
It may be a good idea to stay away from a person who has a psychological disorder because their behaviour may be dangerous	Year 3	Year 4	0.20	0.44	1.000
		Year 5	0.96	0.44	0.186
		Interns	1.64	0.44	0.002
The term psychological disorder makes me feel embarrassed.	Year 3	Year 4	0.16	0.49	1.000
		Year 5	0.08	0.49	1.000
		Interns	1.12	0.49	0.144
A person with a psychological disorder should have a job with only minor responsibility	Year 3	Year 4	0.68	0.49	1.000
		Year 5	1.08	0.49	0.183
		Interns	1.72	0.49	0.004
Mentally ill people are more likely to be criminals	Year 3	Year 4	1.16	0.46	0.078
		Year 5	1.24	0.46	0.049
		Interns	2.16	0.46	< 0.001
Psychological disorders are recurrent	Year 3	Year 4	-0.20	0.43	1.000
		Year 5	0.36	0.43	1.000
		Interns	0.76	0.43	0.477
I am afraid of what my boss, friends and others would think if I were diagnosed as having a psychological disorder	Year 3	Year 4	-0.40	0.44	1.000
		Year 5	-0.32	0.44	1.000
		Interns	0.64	0.44	0.884
Individuals diagnosed with a mental illness suffer from its symptoms throughout their life	Year 3	Year 4	0.60	0.46	1.000
		Year 5	0.92	0.46	0.298
		Interns	1.44	0.46	0.015
People who receive psychological treatment are likely to need further treatment in the future	Year 3	Year 4	0.48	0.51	1.000
		Year 5	0.68	0.51	1.000
		Interns	1.68	0.51	0.008
It may be difficult for mentally ill people to follow social rules such as being punctual or keeping promises	Year 3	Year 4	-0.12	0.52	1.000
		Year 5	-0.64	0.52	1.000
		Interns	0.60	0.52	1.000
I would be embarrassed if people knew that I was in a relationship with a person who had received psychological treatment	Year 3	Year 4	0.36	0.54	1.000
		Year 5	0.12	0.54	1.000
		Interns	1.08	0.54	0.290
I am afraid of people who are suffering from psychological disorders because they may harm me	Year 3	Year 4	1.16	0.53	0.181
		Year 5	1.12	0.53	0.217
		Interns	2.00	0.53	0.002
A person with a psychological disorder is less likely to function well as a parent	Year 3	Year 4	1.08	0.54	0.296
		Year 5	0.60	0.54	1.000
		Interns	1.72	0.54	0.012
I would be embarrassed if a person in my family became mentally ill	Year 3	Year 4	0.52	0.50	1.000
		Year 5	0.00	0.50	1.000
		Interns	1.20	0.50	0.116
I believe that psychological disorders can never be completely cured	Year 3	Year 4	-0.28	0.53	1.000
		Year 5	-0.88	0.53	0.592
		Interns	0.48	0.53	1.000

Table 3 Comparison of scores on the Beliefs about Mental Illness Scale between Year 3 and other students (concluded)

Multiple comparisons Bonferroni dependent variable	Groups	MD	SD	P	
Mentally ill people are unlikely to be able to live by themselves because they are unable to assume responsibilities	Year 3	Year 4	0.36	0.54	1.000
		Year 5	-0.20	0.54	1.000
		Interns	1.04	0.54	0.336
Most people can be friends with a mentally ill person without knowing	Year 3	Year 4	0.96	0.52	0.396
		Year 5	0.92	0.52	0.468
		Interns	2.56	0.52	< 0.001
The behaviour of people with psychological disorders is unpredictable	Year 3	Year 4	0.08	0.51	1.000
		Year 5	-0.04	0.51	1.000
		Interns	1.40	0.51	0.046
Psychological disorders are unlikely to be cured, regardless of treatment	Year 3	Year 4	-0.72	0.55	1.000
		Year 5	-0.52	0.55	1.000
		Interns	0.72	0.55	1.000
I would not trust the work of a mentally ill person assigned to my team at work	Year 3	Year 4	-0.08	0.55	1.000
		Year 5	-0.17	0.55	1.000
		Interns	1.12	0.55	0.259

MD = mean difference; SD = standard deviation

and 6 credit hours. Various teaching methods are used, including lectures, clinical training, simulated patients, videos, flipped classrooms, group discussions, and field visits. In addition to this, students have 12 contact hours engaged in a problem-based learning approach to mental illness as part of their training in family medicine during the same period. In 2009, the national competence framework for medical schools in Saudi Arabia recommended a biopsychosocial approach to clinical encounters (19). Accordingly, all medical schools in Saudi Arabia have introduced a 3–12-week clinical clerkship. Majmaah University medical students have a 2-month elective clerkship in psychiatry available during internship. Similar results were published in a study using the questionnaire of Balon et al. from Al-Hassa that involved 56 medical students (20). The study showed that participants who had psychiatric training involving 25 hours of lectures and 180 hours of practical training, which add up to 205 contact hours, corresponding to 6 credit hours, had a positive attitude towards mental illness. Regarding the duration of psychiatric training for medical students, a study from Egypt concluded that 3 weeks of psychiatric training resulted in no clear overall trend in attitudes towards mental illness (21). Thus, this length of training may not have been sufficient for students to witness improvement in mental illness after treatment; therefore, it might have negatively reinforced the preconceived idea that mentally ill patients are untreatable.

The present study clearly showed that students with a higher level of training had more positive attitudes towards mental illness compared to their juniors. Similar positive findings were reported in a study conducted among students in their final year of clinical training in China using a 21-item Attitude Towards Psychiatry questionnaire (22). A similar study conducted in India

also revealed that interns demonstrated a significant positive difference in their attitudes towards psychiatric illness compared to other study groups (23). Both studies support the findings of the present study, that students with more psychiatric training at a higher level have a more favourable attitude towards mental illness. We also suggest that voluntary and active learning approaches and innovative teaching methods in psychiatry and in the medical curriculum likely contributed to the positive attitude of undergraduate medical students in the present study.

A similar study using the web-based Attitude Towards Psychiatry-30 (ATP-30) scale among medical students and interns from Umm Al-Qura University, Makkah, Saudi Arabia, revealed a neutral to positive attitude to mental illness (24). A study from Bahrain using the ATP-30 scale showed a moderately positive attitude towards mental illness with female and junior students demonstrating more positive attitudes than male and senior students, which suggests that greater psychiatric exposure did not result in more positive attitudes of medical students towards mental illness (25). Similarly, a number of authors from different countries, including Jamaica, India and Sri Lanka, have observed negative attitudes in nursing and medical students towards psychiatry (26–28). The results of the present study are in contrast with those previous studies. This may be because of the duration of training and effective implementation of teaching modules, cultural background of the participants, the questionnaires used to measure the attitudes, and the student populations studied.

The present study suggests that institutions should conduct similar surveys that may bring valuable insights and a neutral or negative attitude among medical students toward patients with mental illness, indicating

Table 4 Comparison of scores on the Attitudes towards Mental Illness Questionnaire for substance abuse, depression, psychosis and OCD vignettes between Year 3 and other students

Substance abuse case vignette					
Dependent variable	Groups		MD	SD	P
Do you think that this would damage Mr. A's career?	Year 3	Year 4	0.96	0.42	0.151
		Year 5	2.24	0.42	< 0.001
		Interns	2.40	0.42	< 0.001
Would I be comfortable if Mr. A was my colleague at work?	Year 3	Year 4	1.52	0.28	< 0.001
		Year 5	1.76	0.28	< 0.001
		Interns	2.00	0.28	< 0.001
Would I be comfortable about inviting Mr. A to a dinner party?	Year 3	Year 4	1.00	0.38	0.059
		Year 5	1.32	0.38	0.005
		Interns	1.88	0.38	< 0.001
How likely do you think it would be for Mr. A's wife to leave him?	Year 3	Year 4	1.24	0.37	0.007
		Year 5	1.72	0.37	< 0.001
		Interns	2.40	0.37	< 0.001
How likely do you think it would be for Mr. A to get in trouble with the law?	Year 3	Year 4	1.68	0.43	0.001
		Year 5	2.20	0.43	< 0.001
		Interns	3.12	0.43	< 0.001
Depression case vignette					
Dependent variable			MD	SD	P
Do you think that this would damage Mr. A's career?	Year 3	Year 4	2.08	0.36	< 0.001
		Year 5	2.60	0.36	< 0.001
		Interns	2.72	0.36	< 0.001
Would I be comfortable if Mr. A was my colleague at work?	Year 3	Year 4	1.68	0.30	< 0.001
		Year 5	1.84	0.30	< 0.001
		Interns	2.24	0.30	< 0.001
Would I be comfortable about inviting Mr. A to a dinner party?	Year 3	Year 4	1.00	0.35	0.030
		Year 5	1.64	0.35	< 0.001
		Interns	1.96	0.35	< 0.001
How likely do you think it would be for Mr. A's wife to leave him?	Year 3	Year 4	1.60	0.37	< 0.001
		Year 5	2.00	0.37	< 0.001
		Interns	2.60	0.37	< 0.001
How likely do you think it would be for Mr. A to get in trouble with the law?	Year 3	Year 4	1.04	0.43	0.106
		Year 5	1.16	0.43	0.050
		Interns	2.04	0.43	< 0.001
Psychosis case vignette					
Dependent variable			MD	SD	P
Do you think that this would damage Mr. A's career?	Year 3	Year 4	1.56	0.48	0.009
		Year 5	1.92	0.48	0.001
		Interns	2.96	0.48	< 0.001
Would I be comfortable if Mr. A was my colleague at work?	Year 3	Year 4	0.96	0.47	0.261
		Year 5	0.88	0.47	0.383
		Interns	2.08	0.47	< 0.001
Would I be comfortable about inviting Mr. A to a dinner party?	Year 3	Year 4	1.60	0.46	9.004
		Year 5	1.92	0.46	< 0.001
		Interns	2.72	0.46	< 0.001
How likely do you think it would be for Mr. A's wife to leave him?	Year 3	Year 4	0.88	0.42	0.229
		Year 5	1.08	0.42	0.068
		Interns	1.96	0.42	< 0.001

Table 4 Comparison of scores on the Attitudes towards Mental Illness Questionnaire for substance abuse, depression, psychosis and OCD vignettes between Year 3 and other students (concluded)

Substance abuse case vignette					
Dependent variable	Groups		MD	SD	P
How likely do you think it would be for Mr. A to get in trouble with the law?	Year 4		2.16	0.40	< 0.001
	Year 3	Year 5	2.20	0.40	< 0.001
		Interns	3.12	0.40	< 0.001
OCD case vignette					
Dependent variable			MD	SD	P
Do you think that this would damage Mr. A's career?	Year 3	Year 4	1.88	0.36	< 0.001
		Year 5	2.16	0.36	< 0.001
		Interns	2.96	0.36	< 0.001
Would I be comfortable if Mr. A was my colleague at work?	Year 3	Year 4	1.32	0.40	0.009
		Year 5	1.92	0.40	< 0.001
		Interns	2.44	0.40	< 0.001
Would I be comfortable about inviting Mr. A to a dinner party?	Year 3	Year 4	1.96	0.41	< 0.001
		Year 5	1.84	0.41	< 0.001
		Interns	2.84	0.41	< 0.001
How likely do you think it would be for Mr. A's wife to leave him?	Year 3	Year 4	1.08	0.42	0.069
		Year 5	0.80	0.42	0.355
		Interns	2.04	0.42	< 0.001
How likely do you think it would be for Mr. A to get in trouble with the law?	Year 3	Year 4	2.48	0.39	< 0.001
		Year 5	1.80	0.39	< 0.001
		Interns	2.92	0.39	< 0.001

MD = mean difference; OCD = obsessive compulsive disorder; SD = standard deviation.

the need for re-evaluation of the psychiatric curriculum and its implementation.

The present study had several limitations that should be noted. First, it had a small sample size and was conducted in a single institution. Second, all participants were men, as an equal sample of female students was not available owing to women only recently being enrolled in the College. Third, only medical students from a single university were included; therefore, the findings can only be extrapolated to male medical students across Saudi Arabia with a similar curriculum. Thus, a multicentre study with a larger sample size involving both male and

female medical students is planned to provide more meaningful insight into this problem.

Conclusions

This study showed that a longer training period and a voluntary active learning approach were effective in moderately improving the beliefs and positive attitudes towards mental illness in undergraduate male medical students in Saudi Arabia.

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Amélioration des attitudes des internes par rapport aux étudiants de premier cycle de médecine à l'égard des patients atteints de maladie mentale en Arabie saoudite

Résumé

Contexte : L'attitude des étudiants en médecine vis-à-vis de la maladie mentale est importante car ils fourniront des soins à ce groupe de patients à l'avenir.

Objectifs : Évaluer les croyances et les attitudes des étudiants en médecine de premier cycle vis-à-vis de la maladie mentale et comparer les étudiants à différents niveaux.

Méthodes : La présente étude transversale descriptive a été menée auprès d'étudiants en médecine de premier cycle de la faculté de médecine de l'Université de Majmaah, en Arabie saoudite, au cours de l'année universitaire 2018-2019. Nous avons inclus des étudiants appartenant au sexe masculin de la troisième à la cinquième année (25 étudiants de chaque année) et 25 internes de sexe masculin en utilisant la méthode d'échantillonnage aléatoire stratifié proportionnel. Les participants ont répondu à l'échelle Beliefs about Mental Illness (BMI) et au questionnaire Attitudes towards Mental Illness (AMIQ).

Résultats : Nous avons utilisé les tests post-hoc de Bonferroni pour effectuer des comparaisons entre le groupe de troisième année, dont les membres étaient au début de leur formation psychiatrique, et les autres groupes ayant une formation plus poussée. Cela a permis de mettre en évidence des différences significatives dans les scores pour 11 des 21 items sur l'échelle BMI ($p < 0,05$). Toutes les questions concernant les quatre vignettes de l'AMIQ (toxicomanie, dépression, psychose et troubles obsessionnels compulsifs) ont montré une différence significative entre les élèves de la troisième année et ceux des autres groupes ayant une formation psychiatrique plus poussée ($p < 0,05$).

Conclusions : La formation psychiatrique médicale au moment de l'étude a permis d'améliorer positivement les croyances et les attitudes des étudiants en médecine vis-à-vis des patients atteints de maladie mentale.

تحسّن اتجاهات الطلاب المتدربين مقارنة بالطلاب الدارسين في كلية الطب تجاه مرضى الاعتلال النفسي في المملكة العربية السعودية

عبد الرحمن الأطرم

الخلاصة

الخلفية: إن مواقف طلاب الطب تجاه الأمراض النفسية مهمة لأنهم سيقدمون الرعاية لهؤلاء المرضى مستقبلاً.

الأهداف: هدفت هذه الدراسة إلى تقييم معتقدات طلاب الطب في المرحلة الجامعية ومواقفهم في ما يتعلق بالأمراض النفسية والمقارنة بين الطلاب في مستويات مختلفة.

طرق البحث: أُجريت دراسة وصفية-مقطعية بين الطلاب في كلية الطب، جامعة المجمعة، بالمملكة العربية السعودية، خلال السنوات الأكاديمية 2018-2019. وأدرجنا الطلاب الذكور في العام الدراسي الثالث حتى الخامس (25 طالباً من كل عام) و25 طالباً متدرّباً باستخدام اختيار عشوائي طبقي متناسب. أجاب المشاركون على مقياس للمعتقدات المتعلقة بالأمراض النفسية واستبيان للمواقف تجاه الأمراض النفسية.

النتائج: استخدمنا اختبارات بونفيروني اللاحقة للمقارنات بين مجموعات العام الدراسي الثالث، الذين كانوا في بداية تدريبهم للصحة النفسية، والمجموعات الأخرى التي حصلت على تدريب نفسي أكثر. وكشف ذلك عن اختلافات كبيرة في درجات 11 من أصل 21 بنداً في مقياس المعتقدات المتعلقة بالأمراض النفسية ($P < 0.05$). وأظهرت جميع الأسئلة المتعلقة بالمشاهد الأربعة لاستبيان المرض النفسي (تعاطي المخدرات والاكْتئاب والذهان واضطرابات الوسواس القهري) فروقاً كبيرة بين الطلاب في السنة الثالثة والطلاب في المجموعات الأخرى الذين حصلوا على تدريب نفسي أكثر ($P < 0.05$).

الاستنتاجات: أدى التدريب الطبي النفسي الحالي إلى تحسين معتقدات طلاب الطب ومواقفهم تجاه المرضى المصابين بأمراض نفسية.

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