Original Article

The level of the stigma of medical students at King Saud bin Abdulaziz University for Health Sciences, towards mentally ill patients

Meshal Alaqeel[1,2,3], Afaf Moukaddem[2,3], Reema Alzighaibi[2,3], Ahoud Alharbi[2,3], Manar Alshehry[2,3], Danah Alsadun[2,3]

[1]Department of Psychiatry, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Saudi Arabia, [2]College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia, [3]King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

Abstract

Aim: The study aimed to measure the level of the stigma of medical students at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh campus, towards mentally ill patients. **Material and Methods:** A cross-sectional survey was conducted in King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh. The data collection was started in July 2017 till March 2018. The students completed a self-administered questionnaire consisting of sociodemographic data and the Community Attitudes toward the Mentally Ill (CAMI) Scale. **Results:** The sample size was realized as 274 participants. There were no significant differences in all CAMI subscales for the different academic years except for Authoritarianism which showed a significant increase in the level of stigma (P-value = 0.04). Male gender, previous psychiatric treatment, and having a relative with psychiatric illness were associated with higher Authoritarianism and Social Restrictiveness scores and lower Benevolence and CMHI scores. **Discussion:** More stigma was observed among the 4th year students and it might be due to insufficient academic preparation as well as more exposure to psychiatric rotations. **Conclusion:** The results support the importance of implementing anti-stigma programs throughout the medical program to improve the healthcare provided to mentally ill patients.

Keywords: Medical students, mental illness, mentally ill, stigma

Introduction

Mental diseases are a group of diseases characterized by cognitive, behavioral, and psychological abnormalities.[1] The lack of knowledge about mental illness among the public is a significant burden.[2] Mentally ill patients do not only suffer from disease complications but also other people's perceptions of their condition.[3] For example, the public tends to exclude mentally ill patients from work, education, and social involvement.[3] The concept can be referred to as stigma.[4] The World Health Organization defined stigma as "A mark of shame, disgrace, or disapproval which results in an individual being rejected, discriminated against, and excluded from participating in several different areas of society."[5]

A study at Chicago University stated that the public tends to have a more positive attitude toward socially active and mentally ill individuals. People's attitude towards mentally ill patients has a significant impact on the diagnosis, treatment, and recovery

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from mental disease.[6-9] Primary healthcare (PHC) clinics are the initial destination where most mentally ill patients are seen.[10] Those patients come with physical complaints rather than mental health problems.[11] Therefore, PHC staff from certified physicians to in-training medical students should be vigilant to recognize, assess, and manage those patients probably.[12] Stigma against mentally ill patients among PHC physicians is dangerous, especially when it is negatively reflected on the provided management plan.[13] Some studies reported that PHC physicians tend not to refer patients with mental health problems presenting with physical complaints when required.[14-16] Such an attitude might be a result of the expected noncompliance of such patients among PHC physicians.[13]

Medical students encounter mentally ill patients during the training process in the medical program.[17] They are provided with basic psychological knowledge throughout their academic years.[17] Several studies investigated medical students' perceptions of mentally ill patients.[17,18] A study conducted in Malaysia indicated that most of the medical students had a more supportive attitude towards mentally ill patients.[19] However, another study conducted in Portugal showed that 28% of the medical students experienced difficulties in dealing with mentally ill patients.[20]

The level of stigma is associated with several factors. A study conducted in Great Britain involving 760 medical students reported that having a family member who is mentally ill decreases the level of stigma as well as the type of mental illness.[21] Another study conducted in Portugal reported that having a family member with mental illness is associated with less stigmatizing attitudes.[22] The Malaysian study also found that 70% of medical students stated that schizophrenia patients are unstable.[19] The same study stated that 1st-year medical students had a negative attitude towards mentally ill patients whereas final year medical students had a significant decrease in the level of stigma.[19] However, a study conducted at Tehran University in Iran showed that even with increased exposure to mentally ill patients, the negative attitude did not improve.[23] A study conducted in Singapore in 2017 assessing the stigma towards mental illness amongst medical students, showed that students who had completed a clinical attachment had more stigmatization when compared to those who had not completed a psychiatric clinical attachment.[24] This evidence suggests that culture may also play a significant role in stigmatizing mentally ill patients, not only medical knowledge. Tanta University in Egypt compared the level of stigma among medical, pharmaceutical, and science students using Beliefs towards Mental Illness (BMI) scale. Science students showed more positive attitudes towards psychiatric disorders, followed by medical students then pharmaceutical students.[25]

There are few studies in Saudi Arabia or the Middle East measuring medical students' level of stigma towards mentally ill patients. The effect of culture and medical knowledge on medical students' level of stigma towards mentally ill patients is also under-researched. Therefore, this study aimed to measure the level of stigma in medical students at King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS), in Riyadh providing evidence for the development of extra curriculum anti-stigma programs to minimize the effect of stigma related to mentally ill patients.

Methodology

A cross-sectional survey was conducted in KSAU-HS, Riyadh. The ethical approval was given for 1 year to finish the data collection. The data collection was started in July 2017 till March 2018. The study included Stream 1 and 2 medical students (male and female) at KSAU-HS, Riyadh campus.

- Stream 1 students: Students who entered the College of Medicine (COM) after high school.
- Stream 2 students: Students who entered COM with a bachelor's degree in another health profession.

The total number of students in COM (male and females, Stream 1 and 2) was 948; 305 females (32%) and 643 males (68%).

Using a Raosoft Online calculator, the required sample size with a margin of error (MOE) 5%, confidence interval (CI) 95% was 274. For the female population, 32% of the required sample size (274) constituted 88 females, depending on the proportion of each year [Table 1]. For the male population, 68% of the required sample size (274) constituted 186 males, depending on the proportion of each year [Table 2].

The MOE was 5%, CI was 95%. A *P* value of less than 0.05 was considered statically significant. Written informed consent was signed by all the participating students. The proposal was approved by King Abdullah International Medical Research Center (KAIMRC). According to the medical curriculum at KSAU-HS, Medical Psychiatry lectures are presented in all levels, but concentrated in the 2nd year with the Neurosciences course. The first 2 years are considered preclinical and focus primarily on basic sciences. The next 2 years are considered clinical, and students are exposed to patients. The 1st -year medical students receive only introductory Medical Psychology lectures. At the beginning of the 2nd year, the psychiatry lectures accompanying the Neurosciences block, are presented over 2 weeks with a total of nine lectures focusing on affective disorders and psychosis including schizophrenia. In the 3rd and the 4th medical years, the students have medical rotations in different departments at King Abdulaziz Medical City in Riyadh.

The questionnaire was published in 2015 titled: "Stigma and Attitudes towards Psychiatric Patients in Portuguese Medical Students," and they used The Community Attitudes towards the Mentally Ill Scale (CAMI). The scale was created by Taylor and Dear in 1981, and it consists of 40 statements, each requires a rating of the participant's degree of agreement/disagreement on a five-point Likert scale (1 = strongly disagree and 5 = strongly

Table 1: Female participants (*n*=305)			
Medical year	Frequency	%	Required sample size:88
1st, batch 13	102	33	29
2nd, batch 12	95	31	27
3rd, batch 11	63	21	19
4th, batch 10	45	15	13
Total	305	100	88

Table 2: Male participants (*n*=643)			
Medical year	Frequency	%	Required sample size:186
1st, batch 13	225	35	65
2nd, batch 12	192	30	56
3rd, batch 11	118	18	33
4th, batch 10	108	17	32
Total	643	100	186

agree). The scale results in four attitude factor scores, calculated by adding the 10 items and divide by 10, to obtain a mean score for each factor. A high factor score indicates a better attitude. The reliability for the total scale was (0.75). The subscales measure four different attitudes:[20,26]

1- Authoritarianism which reflects inferiority towards the mentally ill.
2- Benevolence which reflects sympathy towards the mentally ill.
3- Social reflectiveness reflecting the dangerousness of the mentally ill.
4- Community mental health ideology (CMHI) reflecting the recognition of the therapeutic value of the community and acceptance of the deinstitutionalized curve.

The original questionnaire was used with no changes as the participants are fluent in English. The questionnaire was paper-based for all the medical students except the 4th-year male medical students due to rotations in different hospitals across the city. They completed an electronic questionnaire.

Statistical analysis was performed with the SPSS for the Windows software package. Descriptive data are presented in absolute frequencies, percentages, and median scores. A comparison of socio-demographic variables between the different years was performed using the Kruskal-Wallis and Mann-Whitney test. All descriptive results were presented as frequency and percentage using IBM SPSS Statistics, version 23, (IBM corporation, Armonk, New York, United States).

Results

The sample included 274 medical students; the majority were Saudi males (67.5%), with higher proportions in the 1st (33.6%) and 2nd -year (31%). The majority (87%) were Stream 1 students. The demographic variables were homogenous when comparing the 4th-year students with the junior years except for having children and their marital status (*P* = 0.005). Other demographic characteristics are shown in Table 3. In terms of previous

exposure to mental illness, a small group (8%) previously received psychiatric treatment and 20% had a relative with a psychiatric illness.

As shown in Table 4, all CAMI subscales had similar median scores across the different academic years, except for Authoritarianism which had the highest score and an improved attitude towards mental illness among 1st-year students: 2.5 (2.7-2.1), a significant difference (*P* = 0.04). The highest decline was shown in Authoritarianism (1st - 4th-year score = 0.35). The best improvement was in the Benevolence subscale (4th -1st year = 0.1) which was not statistically significant (*P* = 0.74).

Concerning the comparison of the CAMI subscales to various predictors [Table 5], Authoritarianism scores were found to be higher in students who were male, received no psychiatric treatment, had no psychiatric illnesses in relatives, and no contact with psychiatric patients (*P* < 0.001). Regarding Benevolence, higher scores were significantly associated with female gender, receiving prior psychiatric treatment, having psychiatric illness in relatives, and having contact with psychiatric patients (*P* < 0.001). In terms of Social Restrictiveness, predictors were male gender (*P* < 0.001), no relative with psychiatric illness (*P* = 0.03), and having no contact with mentally ill patients (*P* < 0.001). CMHI scores were significantly higher in females (*P* = 0.02) and participants in contact with mentally ill patients (*P* = 0.003).

Discussion

Stigma towards mental illnesses is considered a burden in the community, especially affecting mentally ill patients.[17] Stigma among medical students is a major concern since they are part of the medical team and will become healthcare providers. The impact of stigma on healthcare is supported in the literature. A systematic review reported that mentally ill patients receive less effective treatment in cardiovascular disease, HIV, cancer, and diabetes.[27] Stigma can affect medical practitioners' practice and care for the patients.[27,28]

In this study, there was no significant change in the median score across the different academic years except for Authoritarianism which was less in 1st-year medical students. In the 1st year, students are not exposed to psychiatric content or patients, so the positive attitude reflected mainly their cultural background. The increase in Authoritarianism in the 4th-year medical students was possibly due to more exposure to psychiatric patients during their clinical rotations in psychiatry. It can also be due to a lack of interest in psychiatry as there is not sufficient emphasis on its importance for the community. From a curriculum perspective, there were insufficient teaching techniques or anti-stigma programs to prevent or overcome stigma towards the mentally ill.

There was a significant association between a positive attitude towards mentally ill patients and having a previous psychiatric treatment. Besides, having a relative with psychiatric illness reflected a better attitude in Benevolence, and this might be due

to close contact with the mentally ill family member and having the opportunity to understand the nature of the disease and its circumstances. Previous studies showed that having a family member with a psychiatric illness reflects a better attitude than those with no family history.[23,28]

Our results are similar to a previous study conducted in Portugal where they experienced worsening of stigma along the medical years,[20] but unlike the Portuguese study, the level of stigma did not improve in the final year in our study. Our study findings are concordant with those of an Egyptian study, that reported

a worsening attitude in medical students after exposure to mentally ill patients in the psychiatry rotation.[28] However, the Egyptian study used another scale, the "Mental Illness Clinical Attitude Scale- 2 MICA-2" and due to the difference in the data collection instrument, it may not be possible to compare the two studies.[29] A study conducted at AlQassim University found a lower stigmatizing attitude among females, whereas our study showed lower stigmatization among males.[30] A study at Harran University in Turkey showed that students who completed an anti-stigma program showed a better attitude compared to the control group.[31]

A major limitation of this study was using both paper-based and online-based surveys. For the 4th-year medical students, an online-based questionnaire was used as it was difficult to reach them due to their clinical rotations in different hospitals. Another limitation of this study is that the study sample came from a single university and the study findings might not apply to other institutions or settings.

Conclusion

This study indicated that various factors play a role in the negative attitude of medical students to mentally ill patients. The factors include insufficient psychiatric knowledge, clinical exposure to psychiatric illness, and the possible effect of the cultural background on students' perception of mental illnesses. Further multicentered studies are recommended to fully explore mental illness-related stigma in medical students. Another recommendation is the development of specific interventions or anti-stigma modules and to evaluate their efficacy. Besides, raising awareness among medical students and the general public

Table 3: Demographic characteristics (*n*=277)

Variable	Frequency (%)
Gender	
Male	187 (67.5)
Year of study	
1st	93 (33.6)
2nd	86 (31.0)
3rd	52 (18.8)
4th	46 (16.6)
Stream	
One	242 (87.4)
Two	35 (12.6)
Marital status	
Single	260 (94.5)
Has children	
No	112 (96.6)
Previous psychiatric treatment	
Yes	23 (8.3)
Psychiatric illness in a relative	
Yes	55 (20.1)

Table 4: CAMI median scores per academic year

CAMI sub-scales	1st year Median (Q1-Q3)	2nd year Median (Q1-Q3)	3rd year Median (Q1-Q3)	4th year Median (Q1-Q3)	*P**
Authoritarianism	2.50 (2.1-2.7)	2.20 (2.0-2.6)	2.30 (2.0-2.6)	2.15 (1.7-2.8)	0.04*
Benevolence	3.90 (3.5-4.2)	4.00 (3.7-4.3)	4.00 (2.5-4.3)	4.00 (3.4-4.5)	0.74
Social Restrictiveness	2.10 (1.73-2.45)	2.10 (1.82-2.45)	2.10 (1.8-2.6)	2.09 (1.6-2.5)	0.93
CMHI[1]	3.60 (3.2-3.9)	3.60 (3.2-4.0)	3.60 (3.2-4.0)	3.65 (3.2-4.2)	0.80

Table 5: Overall CAMI and sub-scale scores with a significant association with predictors

Variable	Authoritarianism Med. (Q1-Q3) Sig.	Benevolence Med. (Q1-Q3) Sig.	SR[1] Med. (Q1-Q3) Sig.	CMHI[2] Med. (Q1-Q3) Sig.
Gender				
Female	2.2 (1.8-2.5) 0.001*	4.2 (3.9-4.4) <0.001*	2.0 (1.6-2.3) 0.001*	3.7 (3.3-4.1) 0.02*
Male	2.3 (2.0-2.7)	3.9 (3.6-4.3)	2.2 (1.8-2.6)	3.6 (3.1-3.9)
Previous Psychiatric treatment				
Yes	2.0 (1.7-2.3) 0.008*	4.3 (3.9-4.5) 0.016*	2.1 (1.7-2.4) 0.273	3.7 (3.2-4.0) 0.75
No	2.3 (2.0-2.6)	4.0 (3.7-4.3)	2.1 (1.7-2.6)	3.6 (3.2-4.0)
Psychiatric illness in relatives				
Yes	2.2 (1.7-2.5) 0.004*	4.3 (3.9-4.5) <0.001*	1.9 (1.6-2.4) 0.03*	3.9 (3.1-4.1) 0.09
No	2.3 (2.0-2.7)	3.9 (3.6-4.3)	2.2 (1.8-2.6)	3.6 (3.2-3.9)
Contact with mentally ill patients				
Yes	2.2 (1.9-2.6) 0.003*	4.1 (3.7-4.4) <0.001*	2.1 (1.6-2.4) 0.001*	3.7 (3.3-4.0) 0.003*
No	2.4 (2.1-2.7)	3.9 (3.5-4.2)	2.3 (1.9-2.6)	3.4 (3.1-3.8)

SR: Social Restrictiveness, CMHI: Community Mental Health ideology

is essential to protect mentally ill patients from suffering as a result of unjustified stigma.

Ethical approval

The study was approved by the Institutional Review Board of King Abdullah International Medical Research Center (KAIMARC), with protocol number SP17/127/R.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Key points summary

- The study aimed to measure the level of the stigma of medical students towards mentally ill patients.
- A cross-sectional study was conducted in King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) among 1st to 4th-year medical students.
- The Community Attitudes towards the Mentally Ill Scale (CAMI) questionnaire was used.
- Statistical analysis was performed using the SPSS for the Window software package.
- The sample included 274 medical students.
- All CAMI subscales had similar median scores across the different academic years, except for Authoritarianism which had the highest score and an improved attitude towards mental illness among 1st-year students: 2.5 (2.7–2.1), a significant difference ($P = 0.04$).
- Authoritarianism scores were found to be higher in students who were male, received no psychiatric treatment, had no psychiatric illnesses in relatives, and no contact with psychiatric patients ($P < 0.001$).
- Benevolence, higher scores were significantly associated with female gender, receiving prior psychiatric treatment, having psychiatric illness in relatives, and having contact with psychiatric patients ($P < 0.001$).
- In terms of Social Restrictiveness, predictors were male gender ($P < 0.001$), no relative with psychiatric illness ($P = 0.03$), and having no contact with mentally ill patients ($P < 0.001$).
- CMHI scores were significantly higher in females ($P = 0.02$) and participants in contact with mentally ill patients ($P = 0.003$).

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Conflicts of interest

There are no conflicts of interest.

References

1. Kobau R, Zack MM. Attitudes toward mental illness in adults by mental illness–related factors and chronic disease status: 2007 and 2009 behavioral risk factor surveillance system. Am J Public Health 2013;103:2078-89.

2. Wolff G, Pathare S, Craig T, Leff J. Community attitudes to mental illness. Br J Psychiatry 1996;168:183-90.

3. Rüsch N, Angermeyer MC, Corrigan PW. Mental illness stigma: Concepts, consequences, and initiatives to reduce stigma. Eur Psychiatry 2005;20:529-39.

4. Östman M, Kjellin L. Stigma by association: Psychological factors in relatives of people with mental illness. Br J Psychiatry 2002;181:494-8.

5. Subramaniam M, Abdin E, Picco L, Pang S, Shafie S, Vaingankar JA, *et al.* Stigma towards people with mental disorders and its components–a perspective from multi-ethnic Singapore. Epidemiol Psychiatr Sci 2017;26:371-82.

6. Holmes EP, Corrigan PW, Williams P, Canar J, Kubiak MA. Changing attitudes about schizophrenia. Schizophr Bull 1999;25:447-56.

7. Morrison JK, Cocozza JJ, Vanderwyst D. An attempt to change the negative, stigmatizing image of mental patients through brief reeducation. Psychol Rep 1980;47:334.

8. Penn DL, Guynan K, Daily T, Spaulding WD, Garbin CP, Sullivan M. Dispelling the stigma of schizophrenia: What sort of information is best? Schizophr Bull 1994;20:567-78.

9. Corrigan PW, Edwards AB, Green A, Diwan SL, Penn DL. Prejudice, social distance, and familiarity with mental illness. Schizophr Bull 2001;27:219-25.

10. Munk-Jørgensen P, Fink P, Brevik JI, Dalgard OS, Engberg M, Hansson L, *et al.* Psychiatric morbidity in primary public health care: A multicentre investigation. Part II. Hidden morbidity and choice of treatment. Acta Psychiatr Scand 1997;95:6-12.

11. Freeling P, Rao BM, Paykel ES, Sireling LI, Burton RH. Unrecognised depression in general practice. Br Med J (Clin Res Ed) 1985;290:1880-3.

12. Murphy J, Olivier D, Monson R, Sobol A, Leighton A. Incidence of depression and anxiety: the Stirling County Study. American Journal of Public Health 1988;78:534-40.

13. Corrigan PW, Mittal D, Reaves CM, Haynes TF, Han X, Morris S, *et al.* Mental health stigma and primary health care decisions. Psychiatry Res 2014;218:35-8.

14. Koroukian SM, Bakaki PM, Golchin N, Tyler C, Loue S. Mental illness and use of screening mammography among Medicaid beneficiaries. Am J Prev Med 2012;42:606-9.

15. Sullivan G, Han X, Moore S, Kotrla K. Disparities in hospitalization for diabetes among persons with and without co-occurring mental disorders. Psychiatr Serv 2006;57:1126-31.

16. Druss BG, Bradford DW, Rosenheck RA, Radford MJ, Krumholz HM. Mental disorders and use of cardiovascular procedures after myocardial infarction. JAMA 2000;283:506-11.

17. Sartorius N. Iatrogenic stigma of mental illness: Begins with behaviour and attitudes of medical professionals, especially psychiatrists. BMJ 2002;324:1470-1.

18. Hill D. Acceptance of psychiatry by the medical student. Br Med J 1960;1:917.

19. Mas A, Hatim A. Stigma in mental illness: Attitudes of

medical students towards mental illness. Med J Malaysia 2002;57:433.

20. Telles-Correia D, Marques JG, Gramaça J, Sampaio D. Stigma and attitudes towards psychiatric patients in Portuguese medical students. Acta Med Port 2015;28:715-9.

21. Crisp AH, Gelder MG, Rix S, Meltzer HI, Rowlands OJ. Stigmatisation of people with mental illnesses. Br J Psychiatry 2000;177:4-7.

22. Oliveira AM, Machado D, Fonseca JB, Palha F, Silva Moreira P, Sousa N, *et al.* Stigmatizing attitudes toward patients with psychiatric disorders among medical students and professionals. Front Psychiatry 2020;11:326.

23. Amini H, Majdzadeh R, Eftekhar-Ardebili H, Shabani A, Davari-Ashtiani R. How mental illness is perceived by Iranian medical students: A preliminary study. Clin Pract Epidemiol Ment Health 2013;9:62-8.

24. Chang S, Ong HL, Seow E, Chua BY, Abdin E, Samari E, *et al.* Stigma towards mental illness among medical and nursing students in Singapore: a cross-sectional studyBMJ Open 2017;7:e018099. doi: 10.1136/bmjopen-2017-018099.

25. Shehata WM, Abdeldaim DE. Stigma towards mental illness among Tanta University students, Egypt. Community Ment Health J 2020;56:464-70.

26. Taylor SM, Dear MJ. Scaling community attitudes toward the mentally ill. Schizophr Bull 1981;7:225-40.

27. Mitchell AJ, Malone D, Doebbeling CC. Quality of medical care for people with and without comorbid mental illness and substance misuse: Systematic review of comparative studies. Br J Psychiatry 2009;194:491-9.

28. El-Din MAA, Amen GR, ElGhamry RH, Mahmoud DAM, Kandel HHAH. Attitude of medical students toward mentally ill patients: Impact of a clinical psychiatric round. Egypt J Neurol Psychiatry Neurosurg 2016;53:6-11.

29. Kassam A, Glozier N, Leese M, Henderson C, Thornicroft G. Development and responsiveness of a scale to measure clinicians' attitudes to people with mental illness (medical student version). Acta Psychiatr Scand 2010;122:153-61.

30. Mohamed Mohamed Tork H. Female students' attitude toward mental illness in Qassim University, KSA. Am J Nurs Sci 2015;4:50.

31. Altindag A, Yanik M, Ucok A, Alptekin K, Ozkan M. Effects of an antistigma program on medical students' attitudes towards people with schizophrenia. Psychiatry Clin Neurosci 2006;60:283-8.