ISSN: 0976-3031

Available Online at http://www.recentscientific.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 14, Issue, 10, pp.4247-4255, October, 2023

International Journal of Recent Scientific Research

DOI: 10.24327/IJRSR

Research Article

EXPLORING THE RELATIONSHIP BETWEEN STIGMA AND KNOWLEDGE OF MENTAL HEALTH IN MEDICAL STUDENTS: A CROSS-SECTIONAL STUDY

Dr. Astha Singh[1] , Dr. Haseeb Khan[2], Dr. Sudhir Kumar [2], Dr. Neha nilakh[3], Dr. Mohit shahi[4] and Dr. Rakesh saxena[5]

[1]Associate Professor Department of Psyhiatry Hind Institute of Mecial Sciences, Barabanki UP India
[2]Professor Department of Psyhiatry Hind Institute of Mecial Sciences, Barabanki UP India
[3]Junior Resident Department of Psyhiatry Hind Institute of Mecial Sciences, Barabanki UP India
[4]Senior Resident Department of Geriatric Mental Health KGMU
[5]Assistant Professor Department of Psyhiatry Hind Institute of Mecial Sciences, Barabanki UP India

DOI: http://dx.doi.org/10.24327/ijrsr.20231410.0798

ARTICLE INFO

Article History:
Received 6th September, 2023
Received in revised form 21st September, 2023
Accepted 11th October, 2023
Published online 28th October, 2023

Keywords:
Stigma, psychiatric illness, medical students

ABSTRACT

Context: The National Mental Health Survey 2015-16 found that 140 million Indians suffer from mental illnesses, but 70% (100 million) of them do not receive treatment due to the prevailing stigma. Raising awareness about mental illness could alleviate this stigma and contribute to improved mental healthcare. **Aim:** To assess the relationship between mental health awareness and stigma among medical students. Settings and Design: Cross-sectional study at Tertiary Care Centre of north India. **Methods and Material:** We surveyed medical students using Google Forms, employing a simple random sampling technique. The 188 participants were categorized into two groups: 1st and 2nd-year MBBS students and the other comprising 3rd-year, 4th-year, and intern students, based on their exposure to psychiatry as a subject in the MBBS curriculum. We utilized the Mental Illness: Clinicians' Attitudes (MICA) and Mental Health Knowledge Questionnaire (MHKQ) to evaluate their attitudes and knowledge concerning mental illness. **Statistical analysis used**: Chi-Square test, Pearson correlation, and log regression were used to measure the association between variables. **Results:** Group 1 comprised of 96 participants, including third-, fourth-, and final-year students as well as interns. Group 2, which included first- and second-year students, had 92 participants. The findings indicate that there are statistically significant differences between the less advanced students (first and second year) and the more advanced students (third, fourth, final, and interns) in terms of both clinical attitudes toward mental illness and mental health knowledge. Compared to the less advanced students, group 2, the more advanced students, or group 1, typically had lower clinical attitudes regarding mental disease but higher Knowledge of mental health. According to regression analysis, the negative coefficient for "Years of MBBS" implies that there is a statistically significant decline in stigma towards mental illness as the number of years of medical school (MBBS) grows. **Conclusions:** Medical students with better knowledge of mental health & illness, experienced less stigma associated with mental illness.

INTRODUCTION

According to the National Mental Health Survey (2015–16), around 10.6% of the total population, approximately 14 crores, were diagnosed with some form of mental disorder. [1] However, this number only scratches the surface, as it represents individuals who have been officially diagnosed. [2] In reality, the true extent of the issue remains largely hidden, with the majority of cases going undetected. Among those who are diagnosed, a staggering 70% do not receive treatment, resulting in a treatment gap that averages around 80%. Our analysis of previous studies has indicated that a significant factor contributing to this treatment gap is the stigma associated with mental illness. [3] The prevalence of mental illness continues to rise each year, with the pressure on individuals becoming increasingly intense. Surprisingly, the data shows that one student commits suicide every hour, according to the National Crime Records Bureau (NCRB) in 2022. Between 1995 and 2021, we lost 2 lakh students to suicide. [4] These tragic losses could have been prevented if these individuals had received the help they needed promptly. Despite the urgent need for awareness and support, India lags

Corresponding author:* **Dr.Astha Singh
Associate Professor Department of Psyhiatry Hind Institute of Mecial Sciences, Barabanki UP India

behind developed countries in providing care for individuals with mental disorders. Thornicroft et al. defined stigma as a multifaceted issue encompassing problems of knowledge(ignorance), attitude(prejudice), and behavior (discrimination). [5] Lack of accurate knowledge about mental health has been identified as a leading factor contributing to the stereotyping of individuals with mental disorders.[6]

Globally, only a small number of medical graduates choose psychiatry as a specialty, and this negative attitude towards psychiatry significantly impacts mental healthcare provision. [7] Research consistently shows that a majority of students hold unfavorable attitudes towards psychiatry. [8] [6] Even before beginning their medical training, novice medical students often view this field negatively.[9] Reports have shown that psychiatry is rated the lowest and most disparaged among other medical disciplines, being considered the least useful, scientific, and theoretically sound specialty.[10] In India, where diverse attitudes and prejudices regarding psychiatry and individuals with mental illnesses prevail, there has traditionally been limited emphasis on psychiatry during undergraduate training.[9] Interestingly, it has also been observed that physicians with better knowledge of mental health issues may harbor more negative attitudes toward mental disorders. [11]Public stigma, involving stereotyping, prejudice, and discrimination against people with mental illness, is prevalent. Healthcare providers (HCPs) who treat individuals with mental illness may themselves hold stigmatizing attitudes, potentially impacting their practice. [1] [12] India's Ministry of Health and Family Welfare Services has sought private sector cooperation to meet the healthcare demands of its ever-growing population, increasing the number of private medical colleges.[13] However, it remains uncertain whether merely expanding the number of doctors will change the attitudes of these medical professionals, particularly about mental illness. Therefore, to identify areas for improvement, it is crucial to assess the current attitudes and knowledge of these prospective doctors. In this context, our study aims to explore the association between the level of knowledge regarding mental health and the stigma towards mental illness among medical students.

SUBJECTS AND METHODS

We conducted a cross-sectional survey at the North Indian Institute tertiary care center, following ethical approval (vide no. HIMS/IHEC/05-23 dated. 30/05/2023) and obtaining informed consent from MBBS students, aged 18 to 27 years. Students who refused to provide informed consent were excluded. All eligible students, including those from different academic years (MBBS I, II, III, IV, and interns), were included in the study. Data collection was carried out using Google Forms, ensuring that no questions revealing the respondents' identities were asked to maintain confidentiality. Participants were provided with concise information about the study's nature, purpose, the scales used, and instructions for completing the survey. Contact information for the lead investigator was also shared for any study-related queries. Data collection spanned 20 days, and the sample size was determined using Cochran's formula, resulting in a required sample of 179 participants. After adjusting for an expected response rate of 90%, the final estimated sample size was 196 participants.

OBSERVATION AND RESULTS

The majority of respondents (97.4%) expressed their willingness to participate in the survey, while a small minority (2.6%) declined participation. Among the participants, a significant proportion (87.8%) falls within the age range of 18-25 years, while a smaller group (12.2%) is above 25 years old. Gender distribution among respondents is nearly balanced, with 46.8% identifying as male and 53.2% as female. Respondents are fairly evenly distributed in terms of their MBBS year, with 48.9% in the categories of the third year, fourth year, final year, and interns, and 51.1% in the first and second-year categories. A significant majority of participants (81.9%) reside in urban areas, while a smaller portion (18.1%) come from rural backgrounds. (Table 1)

Table 1 Frequency distribution of students according to their demographic profile (n=188)

		MBBS Year			
		Third-year, Fourth year, Final-year, and Interns		**First-year and second-year**	
		No.	**(%)**	**No.**	**(%)**
Do you want to participate in this survey	Yes	92	100.0	96	100.0
	No	0	0.0	0	0.0
Age in years	18-25	74	80.4	91	94.8
	> 25	18	19.6	5	5.2
Gender	Male	37	40.2	51	53.1
	Female	55	59.8	45	46.9
Place of residence	Urban	77	83.7	77	80.2
	Rural	15	16.3	19	19.8
Have you or your family members ever suffered from any psychiatric illness?	Yes	22	23.9	28	29.2
	No	70	76.1	68	70.8
Do you feel comfortable sharing your mental health issues with someone close or family members?	Yes	59	64.1	60	62.5
	No	17	18.5	17	17.7
	Maybe	16	17.4	19	19.8
Does any of your family members practice as a psychiatrist, psychologist, or mental health worker?	Yes	9	9.8	5	5.2
	No	83	90.2	91	94.8

Do you think people with psychiatric illness should be isolated?	Yes	3	3.3	4	4.2
	No	85	92.4	84	87.5
	Maybe	4	4.3	8	8.3
Do you think mental illness is treatable?	Yes	80	87.0	84	87.5
	No	4	4.3	1	1.0
	Maybe	8	8.7	11	11.5
Do you think psychiatric treatment is helpful to most people who receive it?	Yes	74	80.4	76	79.2
	No	5	5.4	2	2.1
	Maybe	13	14.1	18	18.8
Do you think your family would discourage you from entering psychiatry?	Yes	12	13.0	8	8.3
	No	66	71.7	75	78.1
	Maybe	14	15.2	13	13.5
Source of information about mental disorders	Mass media	52	56.5	56	58.3
	Personal encounter	27	29.3	37	38.5
	Other	13	14.1	3	3.1
Would you like to take psychiatry post-graduation?	Yes	28	30.4	29	30.2
	No	24	26.1	14	14.6
	Maybe	40	43.5	53	55.2

Table 2 Frequency distribution of students according to their Mental Health Knowledge (n=188)

		First-year and second-year	**Third-year, Fourth-year, Final-year, and Interns**	
		No.	No.	**Chai square test**
Mental health is a component of health	TRUE	88	91	0.0842, 1, 0.77
	FALSE	5	5	
Mental disorders are caused by incorrect thinking	TRUE	24	30	19.26, 2, 0.001*
	FALSE	49	45	
	Unknown	19	21	
Many people have mental problems but don't realize it	TRUE	82	84	0.63, 2, 0.426
	FALSE	5	7	
	Unknown	5	5	
All mental disorders are caused by external stressors	TRUE	13	21	2.39, 2,0.124
	FALSE	63	66	
	Unknown	16	9	
Components of mental health include normal intelligence, stable mood, a positive attitude, quality interpersonal relationships, and adaptability	TRUE	80	75	12.96, 2, 0.0009*
	FALSE	5	16	
	Unknown	7	5	
Most mental disorders cannot be cured	TRUE	20	19	9.62, 2, 0.014*
	FALSE	53	61	
	Unknown	19	16	
Psychological or psychiatric services should be sought if one suspects the presence of psychological problems or mental disorders.	TRUE	75	70	1.22, 2, 0.27
	FALSE	5	10	
	Unknown	12	16	
Psychological problems can occur at almost any age.	TRUE	82	83	5.76, 2, 0.056
	FALSE	5	5	
	Unknown	5	8	
Mental disorders and psychological problems cannot be prevented	TRUE	15	14	3.06, 2, 0.216
	FALSE	68	64	
	Unknown	9	18	
Even for severe mental disorders (e.g. schizophrenia) medications should be taken for a given period only, there is no need to take them for a long time	TRUE	37	43	0.88, 2, 0.65
	FALSE	30	30	
	Unknown	25	23	

Positive attitudes, good interpersonal relationships, and a healthy lifestyle can help maintain mental health	TRUE	82	81	2.76, 2, 0.096
	FALSE	5	10	
	Unknown	5	5	
Individuals with a family history of mental disorders are at a higher risk for psychological problems and mental disorders.	TRUE	61	46	11.76, 2, 0.003*
	FALSE	12	30	
	Unknown	19	20	
Psychological problems in adolescents do not influence academic grades	TRUE	5	16	
	FALSE	82	71	
	Unknown	5	9	
Middle-aged or elderly individuals are unlikely to develop psychological problems and mental disorders	TRUE	14	16	30.44,2, 0.001*
	FALSE	69	65	
	Unknown	9	15	
Individuals with a bad temperament are more likely to have mental problems	TRUE	49	53	47.32, 2, 0.001*
	FALSE	17	27	
	Unknown	26	16	
Mental problems or disorders may occur when an individual is under psychological stress and facing major life events (e.g. death of family members)	TRUE	82	75	5.76, 2, 0.056
	FALSE	5	11	
	Unknown	5	10	
Have you heard about International Mental Health Day?	Yes	73	67	11.76, 2, 0.003*
	No	10	22	
	Maybe	9	7	
Have you heard about the International Day Against Drug Abuse and illicit drug trafficking?	Yes	51	57	11.76, 2, 0.003*
	No	29	30	
	Maybe	12	9	
Have you heard about the International suicide prevention day?	Yes	79	61	5.76, 2, 0.056
	No	8	27	
	Maybe	5	8	
Have you heard about World Sleep Day?	Yes	52	60	38.33, 2, 0.001*
	No	34	27	
	Maybe	5	9	

Table 3 Frequency distribution of students according to their Mental Illness Clinical Attitude (n=188)

		First-year and second-year	**Third-year, Fourth-year, Final-year, and Interns**	
		No.	**No.**	**Chai square test**
I just learned about psychiatry because it is in the exam and would not bother reading additional material on it	Strongly disagree	60	53	0.81, 2, 0.367
	Disagree			
	Somewhat disagree	22	34	
	Somewhat agree			
	Agree	10	9	
	Strongly agree			
People with a severe mental illness can never recover enough to have a good quality of life	Strongly disagree	61	47	6.52, 2, **0.011***
	Disagree			
	Somewhat disagree	25	39	
	Somewhat agree			
	Agree	6	10	
	Strongly agree			
Psychiatry is just as scientific as any other field of medicine	Strongly disagree	8	8	7.13, 2, **0.025***
	Disagree			
	Somewhat disagree	17	24	
	Somewhat agree			
	Agree	67	64	
	Strongly agree			

If I had a mental illness I would never admit this to any of my friends for fear of being treated differently	Strongly disagree	37	44	11.46, 2, 0.05
	Disagree			
	Somewhat disagree	39	43	
	Somewhat agree			
	Agree	16	9	
	Strongly agree			
People with severe mental illness are dangerous more often than not	Strongly disagree	19	8	5.14, 2, 0.077
	Disagree			
	Somewhat disagree	52	58	
	Somewhat agree			
	Agree	21	30	
	Strongly agree			
Psychiatrists know more about the lives of people treated for a mental illness than do family members or friends	Strongly disagree	10	8	17.51, 2**, <0.001***
	Disagree			
	Somewhat disagree	33	27	
	Somewhat agree			
	Agree	49	61	
	Strongly agree			
If I had a mental illness I would never admit it to any of my colleagues for fear of being treated differently	Strongly disagree	33	33	1.33, 2, 0.51
	Disagree			
	Somewhat disagree	40	33	
	Somewhat agree			
	Agree	19	20	
	Strongly agree			
Being a psychiatrist is not like being a real doctor	Strongly disagree	78	62	7.58, 2, **0.023***
	Disagree			
	Somewhat disagree	9	28	
	Somewhat agree			
	Agree	5	8	
	Strongly agree			
If a psychiatrist asked me to treat people with a mental illness in a disrespectful manner I would not follow their instructions	Strongly disagree	18	16	5.76, 2, 0.056
	Disagree			
	Somewhat disagree	21	18	
	Somewhat agree			
	Agree	53	62	
	Strongly agree			
I feel as comfortable talking to a person with a mental illness as I do to those with a physical illness	Strongly disagree	10	8	0.33, 2, 0.85
	Disagree			
	Somewhat disagree	28	33	
	Somewhat agree			
	Agree	51	54	
	Strongly agree			
It is important that any doctor supporting a person with a mental illness also assess their physical health	Strongly disagree	6	7	11.28, 2, **0.003***
	Disagree			
	Somewhat disagree	17	12	
	Somewhat agree			
	Agree	72	77	
	Strongly agree			
The public does not need to be protected from people with a severe mental illness	Strongly disagree	34	38	12.6, 2, **0.002***
	Disagree			
	Somewhat disagree	44	33	
	Somewhat agree			
	Agree	14	25	
	Strongly agree			
If a person with a mental illness complained of physical symptoms I would attribute it to their mental illness	Strongly disagree	28	19	1.51, 2, 0.824
	Disagree			
	Somewhat disagree	44	58	
	Somewhat agree			
	Agree	23	19	
	Strongly agree			
General practitioners should not be expected to complete assessments for people with psychiatric symptoms as they can be referred to a psychiatrist	Strongly disagree	23	9	25.04, 2**, 0.001***
	Disagree			
	Somewhat disagree	33	47	
	Somewhat agree			
	Agree	36	40	
	Strongly agree			
I would use the terms ' Crazy', 'nutter', 'mad' etc to describe people with a mental illness who I have seen in my work	Strongly disagree	67	56	2.64, 2, 0.101
	Disagree			
	Somewhat disagree	18	28	
	Somewhat agree			
	Agree	7	12	
	Strongly agree			

If a colleague told me they had a mental illness I would still want to work with them	Strongly disagree Disagree	6	5	2.75, 2, 0.096
	Somewhat disagree	21	26	
	Somewhat agree			
	Agree	65	65	
	Strongly agree			

Table 4 Comparison of students according to their Mental health knowledge and Mental Illness Clinical Attitude (n=188)

	MBBS Year	No.	Mean	SD	SE	t value	df	p-value
Mental health knowledge	Third-year, Fourth-year, Final-year, and Interns	92	14.90	2.742	0.286	3.213	186	0.002 [S]
	First-year and second-year	96	13.63	2.708	0.276			
Mental Illness Clinical Attitude	Third-year, Fourth-year, Final-year, and Interns	92	54.37	6.230	0.649	-4.422	186	0.000 [S]
	First-year and second-year	96	58.32	6.029	0.615			

Table 5 Regression results of a year of MBBS, Total MHKQ, and MICA total

	Coefficient	Std error	p-value
Years of MBBS	-0.2907	0.013	0.001 [S]
MHKQ Total	0.0097	0.007	0.142
MICA Total	-0.0082	0.003	0.005[S]

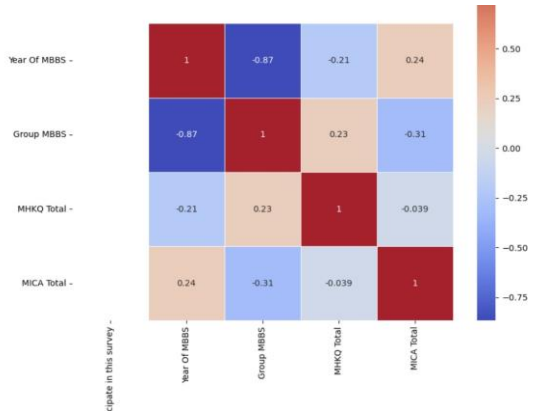

Figure 1 Correlation between Mental health knowledge and Mental Illness Clinical Attitude among medical students

DISCUSSION

Most respondents (97.4%) expressed a keen interest in participating in the survey. This high engagement level underscores the research topic's relevance and importance among the surveyed population. A portion of respondents in both groups reported personal or family experience with psychiatric illness. These responses indicate a certain level of familiarity with the subject matter, potentially influencing their perspectives. Most respondents in both groups expressed a degree of comfort in sharing their mental health issues with someone close or family members, suggesting a degree of openness in discussing mental health matters. Some respondents in both groups had family members practicing as mental health professionals, with a slightly higher percentage in the first-year and second-year groups. (table1) This exposure to mental health professions might influence their perspectives and awareness. The majority in both groups did not believe that people with psychiatric illnesses should be isolated, though a small percentage had uncertain views. Most respondents in both groups believed that mental illness is treatable, with a minority expressing uncertainty. This positive perspective on treatability can have implications for destigmatizing mental health issues. The present study sought to reveal some patterns and tendencies of medical students' attitudes towards psychiatry in a medical college in North India. Although some previous studies have examined the attitudes of medical students toward psychiatry, some important changes in the field of mental health have been witnessed recently. These changes prompted us to carry out a new study. Knowing the attitudes of medical students towards psychiatry is important because they will be involved in the delivery of healthcare. Negative attitudes towards psychiatry will have a negative effect on psychiatric patients. In this study, we observed medical students who knew about psychiatry, experienced less stigma associated with mental illness. In line with previous studies, medical students in this study showed an overall positive attitude toward psychiatry. The possible reasons for this positive attitude may include the enjoyment and personal interest of participants, flexible working hours, academic opportunities, shortage of psychiatrists, and demand for mental health services and financial rewards.

The majority in both MBBS year groups acknowledge that mental health is a component of overall health (True: 88% and 91%). The p-value of 0.77 indicates that this belief does not significantly differ between the two groups. When it comes to the causes of mental disorders, there's a notable difference between the two groups. In the first-year and second-year groups, 30% believe that mental disorders are caused by incorrect thinking, while in the third-year, fourth-year, final-year, and intern groups, only 24% hold this belief. The p-value of **0.001** suggests a significant difference in these perspectives. The majorities in both groups acknowledge that many people have mental problems without realizing it (True: 82% and 84%). The p-value of 0.426 indicates no significant difference in this belief between the two groups. The data reveals a subtle difference in the belief that all mental disorders are caused by external stressors. In the third-year, fourth-year, final-year, and intern groups, 21% hold this belief compared to 13% in the

first-year and second-year groups. While the p-value of 0.124 doesn't indicate a strong significance, there is a trend toward a difference. A significant difference emerges in the belief about the components of mental health. In the first-year and second-year group, 16% believe that components of mental health include normal intelligence, stable mood, a positive attitude, quality interpersonal relationships, and adaptability, while only 5% hold this belief in the third-year, fourth-year, final year, and interns group. The p-value of 0.0009 highlights this notable distinction. When it comes to the belief in the curability of mental disorders, there is a significant difference. In the first-year and second-year groups, 19% believe that most mental disorders cannot be cured, compared to 20% in the third-year, fourth-year, final-year, and intern groups. The p-value of 0.014 shows a significant difference in these perspectives. There's no significant difference between the two groups regarding the belief that psychological or psychiatric services should be sought if one suspects the presence of psychological problems or mental disorders. Both groups exhibit similar perspectives, with a p-value of 0.27. Respondents in both groups believe that psychological problems can occur at almost any age. The p-value of 0.056 suggests a slight trend toward a difference in this belief. A majority in both groups do not believe that mental disorders can be prevented. Belief in the role of positive attitudes, good interpersonal relationships, and a healthy lifestyle in maintaining mental health is consistent between the two groups. A significant difference emerges in the belief that individuals with a family history of mental disorders are at a higher risk for psychological problems and mental disorders. The p-value of 0.003 highlights this notable distinction. The p-value of 0.001 underscores this significant difference in perspective. There's a significant difference in the belief that individuals with a bad temperament are more likely to have mental problems. The p-value of 0.001 highlights this distinction. Both groups have awareness of various mental health awareness days, with some variations. The p-values of 0.003, 0.003 and 0.056 indicate significant differences in awareness levels between two groups. (Table 2)

Table 3 presents the scores on the Mental Illness Clinician Attitude Scale, segmented by different beliefs and attitudes among first-year and second-year MBBS students versus third-year, fourth-year, final-year, and intern students. There is a significant difference in the belief that psychiatry is just as scientific as any other field of medicine. In the first-year and second-year groups, 67% agree with this statement, whereas 64% agree in the third-year, fourth-year, final-year, and intern groups. The p-value of 0.025 suggests a notable difference in perspective. A notable difference is observed in the belief that people with severe mental illness are dangerous. In the first-year and second-year groups, 58% disagree with this notion, compared to 52% in the third-year, fourth-year, final-year, and interns groups. The p-value of 0.077 indicates a trend toward a difference. There is a significant difference in the belief that psychiatrists know more about the lives of people treated for mental illness than family members or friends.The p-value of <0.001 underscores this significant distinction. A significant difference emerges in the belief that the public does not need to be protected from people with severe mental illness. The p-value of 0.002 indicates a notable distinction. There is a significant difference in the belief that general practitioners should not be expected to complete assessments for people with psychiatric symptoms, as they can be referred to a psychiatrist. The p-value of 0.001 highlights this significant distinction. There is no significant difference in the belief that derogatory terms should be used to describe people with mental illness (p-value: 0.101). In a recent survey, it was found that only 13% of the trainee doctors, who perceive stress, seek help of mental health professionals (Grover et al., 2019). It seems that attitude is not translated to practice. Even if medical professionals report a positive attitude, its reflection is not seen in their practice. Stigma might be the hindering factor in reaching to seek help from mental health professionals. Education can create awareness, which in turn may help in combating stigma. In developing countries like India, medical graduates have inadequate exposure to psychiatry. Psychiatry is not a major medical subject in undergraduate examinations; hence focus of medical graduates is likely to go away from it (Kar, 2015).[14]

There appears to be some alignment between mental health knowledge and mental illness clinical attitude. For example, students with a better understanding of mental health and its components may be more likely to have positive attitudes toward recovery from mental illness and the scientific nature of psychiatry. This alignment suggests that education and knowledge can influence attitudes and reduce the stigma associated with mental illness. Those who are more knowledgeable about mental health may exhibit more positive attitudes, such as not using stigmatizing language and being willing to work with colleagues who have a mental illness. This suggests that education and knowledge dissemination can contribute to reducing stigma. There is a correlation between mental health knowledge and beliefs about recovery from severe mental illness. The data suggests that there is a correlation between mental health knowledge and certain aspects of mental illness clinical attitude, particularly related to stigma reduction, understanding the scientific nature of psychiatry, and beliefs about recovery. (Figure1) Evidences support that psychiatric education influences the attitude of medical students towards mental illness and psychiatry (Prathaptharyan and Annatharyan, 2001). [15] In recent Indian study, it was found that peer-learning, movies, internet, family, novels as important sources of mental health awareness among medical students (Kar et al., 2019). [16] [17] Another interesting finding of study was, female students showing more positive attitude towards psychiatry than male students. Similar, findings were also reported in an Indian study (Prathaptharyan and Annatharyan, 2001). [18] The negative coefficient for "Years of MBBS" indicates that as the number of years of medical education (MBBS) increases, there is a statistically significant decrease in mental illness clinician attitudes (MICA Total scores). In other words, students in higher years of their MBBS program tend to have more positive attitudes towards mental illness as their stigma has decreased. The coefficient for "MHKQ Total" is positive but not statistically significant ($p = 0.142$). This suggests that there is no clear linear relationship between mental health knowledge (measured by MHKQ Total scores) and mental illness clinician attitudes. In other words, an increase in mental health knowledge does not necessarily lead to more positive attitudes toward mental illness among these medical students, at least as measured by the MICA Total scores. [19] The coefficient for "MICA Total" is negative and statistically significant ($p = 0.005$). This indicates that higher scores on the Mental Illness Clinician Attitude Scale (MICA Total) are associated with more negative attitudes toward mental illness. The most significant finding is that as students' progress through their

MBBS education, their attitudes toward mental illness become more positive. This is a welcome trend, as medical students become more empathetic and informed about mental health as they advance in their education. Contrary to expectations, the level of mental health knowledge (MHKQ Total scores) does not appear to have a significant direct impact on mental illness clinician attitudes (MICA Total scores). [20] This finding suggests that simply increasing knowledge may not be sufficient to improve attitudes; other factors may be at play. The negative coefficient for MICA Total scores indicates that students with more negative attitudes on this scale tend to have lower scores. This highlights the need to address and mitigate negative attitudes among medical students, as these attitudes may affect the quality of care provided to individuals with mental illness. It suggests that efforts to promote positive attitudes and reduce stigma should be integrated into medical curricula, particularly as students' progress in their studies.

Strengths

New instrument MICA-2 scale added a new dimension to understand the role which stigma, plays on students' attitude towards psychiatry.

Limitations

The main limitation of this study is that, medical students were selected only from one institute. Therefore, the results are not generalizable to other medical institutions in India or other countries. Extensive and comprehensive research is required, which should include majority of medical institutions in India and abroad. Another limitation is that the cross-sectional study does not allow causal inference.

CONCLUSION

We found that medical students who had knowledge of psychiatry, experienced less stigma associated with mental illness. In order to lessen stigma of psychiatric illness for better patient care and treatment outcomes, programs aiming at improving knowledge about mental illness & psychiatry should be initiated in MBBS curriculum from first year.

Implications and Future directions

The findings of this study highlight the need for more potent awareness initiatives, workshops, and lectures intended to reduce stigma associated with mental illness among the general public and medical students. This will increase the likelihood that students will seek help in earlier stages of their illness and alleviate academic and social complications. If we incorporate wellbeing programs in medical school curriculum tailored to the sociocultural context and needs of student to take preventive action to encourage students to seek help when they need it. In order to improve the attitudes of aspiring doctors towards patients with mental illnesses and their management, Psychiatric Committees, the Medical Council of India, and the National Medical Commission should emphasize the value of education related to mental health & illness to students starting in their first year of MBBS. Long-term, this will also contribute to raising public understanding of mental health conditions.

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How to cite this article: Astha Singh ., Haseeb Khan., Sudhir Kumar .,Neha nilakh., Mohit shahi and Rakesh saxena, 2023. Exploring the Relationship between Stigma and Knowledge of Mental Health in Medical Students: A Cross-Sectional Study. *Int J Recent Sci Res.* 14(10), pp. 4247-4255.

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