ORIGINAL ARTICLE DOI: https://doi.org/10.63050/jpps.21.04.355 JPPS JOURNAL OF PAKISTAN PSYCHIATRIC SOCIETY WWW.JPPS.PK

URBAN-RURAL COMPARISONS OF ATTITUDE TOWARDS MENTAL ILLNESS AMONGST HEALTHCARE UNIVERSITY STUDENTS

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Submitted: March 23, 2024
Accepted: November 07, 2024

ABSTRACT

OBJECTIVE

To examine and compare the differences in attitudes of healthcare university students towards mental illness from urban and rural backgrounds.

STUDY DESIGN

Cross-sectional study

PLACE AND DURATION OF STUDY

The study was conducted at the Liaquat University of Medical & Health Sciences Jamshoro, Sindh, from October to December 2023.

METHOD

Sampling population were undergraduate students registered in different undergraduate healthcare programs (MBBS, BDS, DPT, Pharmacy, Nursing, Biomedical Engineering, BS MLT, BSRT, BS Forensic Chemistry/Biology and other allied departments), aged 18-27 years, of either gender, gave their consent of participation were included in the study. Data were collected with the help of an online questionnaire. Mental Illness Clinician Attitude Scale (MICA-2 and 4) were employed to assess the healthcare student's attitude towards mental illness.

RESULTS

Out of 396 participants, there was female preponderance (n=213) and mean age of subjects was 21.38 years ± SD 1.689. The majority of students lived in urban areas (n=231) vs. Rural areas (n=165). A significant number of participants (n=149) were enrolled in MBBS, while the rest (n=247) were distributed among other departments, including BDS, nursing and pharmacy, etc. A substantial number of students were in final academic year (n=130). The Median MICA score was 52. There was a significant difference between scores of rural and urban students and a statistically significant difference was noted among students from different departments and academic years.

CONCLUSION

Overall attitude of healthcare university undergraduate students towards mental health illness is unsatisfactory. Whereas, the students from rural areas had poor attitude towards mental illness compared with those from the urban areas.

KEYWORDS

Cross-Sectional Studies; Mental Disorders; Mental Health; Students; Universities. Influence; Social Media; Universities; Young Adult.

ABBREVIATIONS

MICA: Mental Illness Clinicians' Attitudes Scale; IBET: Institute of Biomedical Engineering & Technology; BSRT: Bachelor of Science in Radiologic Technology; BSMLT: Bachelor of Science in Medical Laboratory Technology.

INTRODUCTION

Health is defined by WHO as not merely absence of disease but state of complete physical, mental and social wellbeing.[1] Major part of health sector research and investment has always been focused on physical component until recently when importance of mental health was recognised. Mental health is defined by WHO as state of well-being in which the individual realizes his/her abilities, can cope with normal stresses of life, can work productively, and fruitfully, and can make a contribution to his/her community.[2] Burden of mental illness is growing day by day such as suicide have become second leading cause of death among 15-29 year olds and mental illnesses are causing 1 in every 5 years lived with disability.[3]

Spectrum of mental illnesses is wide and includes mood disorders, schizophrenia, phobias, functional syndromes, eating disorders etc.[4] According to WHO in 2019, 1 in every 8 individuals were living with mental illness and this number have raised since then after the COVID-19 pandemic. Globally mental illnesses account for 16% of burden of diseases in age group of 10-19 years.[5] Ever growing burden of psychiatric disorders accounted for 15% of disablity-adjusted life years (DALYs) in 2020.[6]

Mental illness has a component of stigma attached to it, as improper or lack of understanding of mental health and stigma associated with creates a major hindrance in effective management of mental illnesses. Several studies have been conducted on different populations and health professional groups, including medical and healthcare university students in different regions and localities.[9–11] Understanding the attitude of healthcare students is important as they are an important resource of society and system and their approach towards mental illnesses will have long-lasting impact.[11,12] However, the majority of these studies aimed at understanding the attitude of healthcare university students towards mental illnesses are meager.[5,12,13]

To overcome gaps in mental health, it is essential to comprehend the views of healthcare university students from both urban and rural origins. It is possible to customise educational programs, educate policy, and improve cultural competency by comparing attitudes. Interventions to enhance mental health outcomes are informed by this study, which also guarantees that aspiring healthcare professionals will be prepared to deliver quality treatment in a variety of contexts. So, it is important to understand the attitude of healthcare university students towards mental illnesses to effectively address the lacking of understanding of mental health among masses. Keeping in view the importance of this aspect, this study was designed with an objective to examine and compare the differences in attitudes of healthcare university students towards mental illness from urban and rural backgrounds.

METHOD

This cross-sectional study was conducted for a period of three months (October-December 2023) among the students at the Liaquat University of Medical & Health Sciences (LUMHS) in Jamshoro Sindh, Pakistan. Ethical approval was sought from the Research Ethics Committee LUMHS prior to the study (LUMHS/REC/-84).

The sampling population were undergraduate students registered in different undergraduate healthcare programs (MBBS, BDS, DPT, Pharmacy, Nursing, Biomedical Engineering, BS MLT, BSRT, BS Forensic Chemistry/Biology and other allied departments), aged 18-27 years, of either gender, gave their consent of participation were included in the study. Those who refused to participate, returned incomplete questionnaire or missed entries were excluded from the study.

A sample size of 396 was obtained using the Open Epi. Online sample size calculator, taking expected prevalence of positive attitude approximately 50% at 95% confidence level and 5% margin of error. Keeping in view the scarcity of data in this setting, the anticipated prevalence of 50% was considered in order to obtain a higher sample size. For obtaining information from the students, a web-based link of Google forms to the eligible candidates was distributed through e-mails, social media groups, university and departmental WhatsApp groups between the study duration targeting a population of approximately 500 undergraduate students of different healthcare departments of university. A covering letter, including informed voluntary consent in simple language and sufficient information about the study and its purpose, was provided to the candidates prior to filling the questionnaire.

A pre-designed questionnaire was used to evaluate the socio-demographic information (Age, gender, marital status, registered program and year of study) of the study participants. Whereas Mental Illness Clinician Attitude Scale (MICA-2 and 4) were employed to assess the healthcare student's attitude towards mental illness. MICA-2 is used for medical students and MICA-4 is used for allied health sciences students, these scales have established internal consistency and validity. [13,14,15] Both MICA-2 and MICA-4 have 16 items which are scored on 6 point-Likert scale, items 3,9,10,11,12,16 are scored as (Strongly agree=1, Agree=2, Somewhat Agree=3, Somewhat disagree=4, Disagree=5, Strongly disagree=6) while rest of items are scored in reversed manner as (Strong disagree=1 to strongly agree=6) total score range from 16 to 96, high score signify more negative attitude towards mental illness. The collected information was entered and analysed in IBM SPSS Version 26. The qualitative data was measured and presented as frequency and percentages while quantitative data presented as mean and standard error.

The Kruskal-Wallis H test, Mann Whitney U test were used for comparison attitude between urban and rural students. Dunn's post hoc analysis was used to compare differences between different departments. Spearman correlation was conducted to assess the relationship between age and MICA score. Significance level was set at p-value <0.05.

RESULTS

A total of 408 students responded to the questionnaires, out of which a total of 396 participants filled them out completely and correctly and were included in the final analysis. Out of 396 participants, there was female predominance, with (n=213) females and (n=181) males, and 0.5% (n=2) chose not to disclose their gender. The mean age of participants was 21.38 years ± SD 1.689 (range = 17-26), and the median age was 21 years (range = 17-26). Among all participants, the majority (n=149) belonged to MBBS while the distribution of participants among other departments was as shown in Table1.

Department of Study: Among all participants, the majority (n=149)belonged to MBBS, while distribution of participants amongother departments were as in Table 1.

Table 1
Distribution of Participants according to Department of Study (n=396).

Department of study	n	Percentage
BDS	44	11.1%
BSMLT	6	1.5%
BSRT	7	1.8%
DPT	37	9.3%
Forensic Chemistry/Biology	37	9.3%
IBET	30	7.6%
MBBS	149	37.6%
Nursing	48	12.1%
Others	9	2.3%
Pharmacy	29	7.3%

The majority of participants (n=130) were studying in 5th year, while the distribution among other academic years was as in shown in Table 2

Table 2
Distribution of Participants according to the Year of Study (n=396).

Year of study	n	Percentage
1st year	37	9.3%
2nd year	112	28.3%
3rd year	62	15.7%
4th year	55	13.9%
5th year	130	32.8%

Residence: Among all (n=216) participants lived in hostel, (n=163) in their hometown and (n=17) mentioned other areas. Majority of participants (n=231) belonged to urban area and n=165 belonged to rural area.

For the ease of participants, the definitions of urban and rural areas were included in the questionnaire as: An urban area is defined by Pakistan Bureau of Statistics or the area with at least 100,000 population having all basic facilities (educational institutes, hospitals, transport, electricity and gas etc.) available with well-developed infrastructure. Rural areas include villages, settlements, or far-flung areas, where there is no well-developed infrastructure and neither basic facilities are available.

MICA score: Median MICA score was 52 (range=71-28) and the mean score was 51.93± SD 8.785 (range=71-28).

MICA score & Gender: There was no significant difference between the mean score of both genders (female mean rank=192.81, male mean rank=203.01) as indicated by results of (U= 18278.5, p=0.375).

MICA score & Area of Residence: Results of Mann Whitney U test demonstrated that difference between scores of students from rural areas (mean rank=220.10), versus students from urban areas (mean rank=183.07) was statistically significant (U=15493.0, p=0.01).

MICA score & Department of Study: Kruskal-Wallis H test showed that there was a statistically significant difference among scores of students from different departments $H^{(2)}$ =41.475, p=0.000. The mean ranks of different departments are depicted in Table 3.

Table 3
Kruskal-Wallis H test findings - MICA scores of Participants from Different Departments (n=396).

Department of study	n	Mean Rank
BDS	44	197.13
BSMLT	6	299.00
BSRT	7	353.14
DPT	37	191.35
Forensic Chemistry/Biology	37	220.18
IBET	30	177.57
MBBS	149	166.74
Nursing	48	237.41
Others	9	200.94
Pharmacy	29	243.59

In Dunn's post-hoc analysis pairwise comparison between different departments revealed that mean score of MBBS is significantly less than Nursing, Pharmacy & BSRT (MBBS-Nursing p=0.009, MBBS-Pharmacy p=0.042, MBBS-BSRT p=0.001) and scores of BSRT are significantly higher than scores of IBET, DPT & BDS as shown in Table 4.

Table 4
Pairwise Comparisons of MICA scores of Different Departments of Study.

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
MBBS-Nursing	-70.661	18.984	-3.722	.000	.009
MBBS-Pharmacy	-76.841	23.216	-3.310	.001	.042
MBBS-BSRT	186.398	44.237	4.214	.000	.001
IBET-BSRT	175.576	48.013	3.657	.000	.011
DPT-BSRT	161.792	47.146	3.432	.001	.027
BDS-BSRT	-156.018	46.545	-3.352	.001	.036

Note: Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

MICA score & Academic Years: Distribution of MICA score across different academic years was significantly different, as revealed by results of Kruskal-Wallis H test $H^{(2)}$ =28.990 p=0.000. The mean ranks of all academic years were as follows: 1st year=221.16, 2nd year=235.96, 3rd year=192.82, 4th year=205.70, 5th year=159.44. Dunn's post-hoc analysis showed scores of 5th year are significantly lower compared to 1st year and 2nd year (Table 5).

Table 5
Pairwise Comparisons of MICA scores of Different Years of Study.

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
5th year-1st year	61.720	21.313	2.896	.004	.038
5th year-2nd year	76.513	14.747	5.189	.000	.000

Note: Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

MICA score & Age: A Spearman's rank-order correlation was conducted to examine the association between age and MICA scores. Results showed a weak but statistically significant negative correlation ($r_s = -0.176$, $p < 0.001$).

DISCUSSION

The present study is concerned with the attitudes and stigma rate towards patients with psychiatric illness among medical students enrolled in LUMHS, Jamshoro. Our study demonstrated that students carry a modestly high stigmatising attitude towards mental illness, as reflected by the high mean MICA score (51.93). A similar stigma rate was reported in the 4th and final year MBBS students by Azad et al

at King Edward University, Lahore that suggested 41% of students carrying MICA score between 41-50.[16] Moroccan (MICA 57.24)[2] and South African (MICA 56.02)[3] Medical students showed slightly more stigmatising attitudes, whereas Medical students from Australia (MICA 36.77), Poland (MICA 41.05), Mexico (MICA 41.34) and France (MICA 46.40) showed contrastingly positive attitudes.[17,22] This difference may stem from better health care system and standard of education in the later countries.

In addition, Psychiatry is only a primitive field of specialisation in Pakistan. Consistent with the primary hypothesis, we found that students from rural background were carrying more negative attitudes towards psychiatric patients as compared to students from urban background. To the best of authors' knowledge, no national or international study has addressed this difference before. Supposedly, the environment, including the cultural and religious norms that children in rural areas are exposed to during their upbringing, makes them less sensitive towards mentally ill patients. The literacy rate is comparatively low in rural areas (54%) then urban areas (71%).[23] Lack of quality education is also one of the root causes of such stigmatising attitudes. This study showed no significant difference in attitudes between different genders. This result is similar to the survey conducted among Australian Medical Students.[19]

In contrast, a cross-sectional study conducted among the dental and medical colleges of Peshawar, Pakistan, the study conducted in Morocco and the worldwide survey among medical students revealed that male students carry more stigmatising attitudes.[17,24,25] Surveys conducted in Poland[5] and University of Bordeaux, France[7] also suggest females are more likely to express a positive judgment. The study also revealed a statistically significant decrease in stigma with increasing age which is in negation of survey conducted in Australia and the worldwide survey displayed no correlation between age and attitudes among students.[19,25] Moreover, the study illustrates that MBBS students have better attitudes than students of other departments. The survey in Poland also supports this result.[20] A study comparing stigma rates between different departments in universities of Chile and Spain demonstrated that students of nursing and MBBS express negative attitudes as opposed to students of psychology.[26] A worldwide survey concluded that nursing students are having the lowest extent of stigmatising attitudes.[25] The study established that students in their final year of medical education have more positive attitudes towards psychiatric illness when compared to 1st and 2nd year students, and the reason for this finding might be two-fold: the final year students are comparably well-versed in medical sciences and second, the psychiatry rotation in 4th year of MBBS.[17] Surveys conducted in Morocco and Poland negate the presence of any significant difference.[17,20]

This study revealed a high stigma rate in medical students that needs immediate attention in order to improve management of psychiatric illnesses in Pakistan. To improve attitudes among students, educational campaign and psychiatric workshops should be introduced and a thorough review of existing curriculum to be made to increase the impact of psychiatry education. Our study is a sole institution based, this along with a limited sample size, may limit the generalisation of this study at large. Further studies are required to establish a generalised result for larger geographical areas and further surveys are needed to elaborate on the various environmental factors that lead to negative attitudes among rural population.

CONCLUSION

Based on findings, the study concludes that overall attitude of healthcare university undergraduate students towards mental health illness is unsatisfactory. Whereas the students from rural areas had poor attitude towards mental illness compared with those from the urban areas. This further depicts that there exists a large gap between approaches of students from different geographic areas. These findings suggest that large scale interventions particularly those aimed at identifying gaps in understanding of and attitude towards mental illnesses should be carried out among different social groups so that resources can be directed to address the same gap thus making the process efficient and increasing over all awareness of mental illnesses.

CONFLICT OF INTEREST

None to declare.

FUNDING

This study was not funded by any institution or organisation.

DISCLOSURE

None

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