

## EVALUATION OF MENTAL HEALTH OF STUDENTS RELATED TO MEDICAL FIELDS IN QUETTA, PAKISTAN: A CROSSECTIONAL STUDY

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### ABSTRACT

#### OBJECTIVE

To determine the mental health profile of students related to medical fields in Quetta, Pakistan.

#### STUDY DESIGN

A questionnaire-based, cross-sectional study

#### PLACE AND DURATION OF STUDY

The study was carried out from January to September 2014 in Bolan medical college, Nursing school and University of Balochistan Quetta.

#### SUBJECTS AND METHODS

A total of 614 students of MBBS & BDS, BSN and Pharm-D Programs were enrolled. To assess mental health Self Reporting Questionnaire (SRQ-20) developed by WHO was used. Descriptive statistics were used to demonstrate participant's demographic characteristics. Inferential statistics (Chi-square test,  $p < 0.05$ ) was used to assess the statistical significance among study variables

#### RESULTS

Overall 58.3% scored above the cut off level, so considered to have poor mental health. Results demonstrated that female students are more prone to poor mental health as 62.4% female students have poor mental health. Significant difference was calculated by chi-square test, which showed there was no significant difference between all demographics and mental health.

#### CONCLUSION

This study presented compromised mental health profile of students related to medical fields in Quetta. Moreover, these findings may serve as a stimulus for future studies to identify the factors that may contribute to poor mental health and for developing a program for minimizing the effect of those factors to improve the mental health for achieving optimal patient outcomes.

#### KEY WORDS

Mental health, Students, Mental illness

### INTRODUCTION

Mental health is a process of perceiving the world and how an individual control important events in their lives<sup>1</sup>. Mental illness involves the disorders of mood, behavior and thought process which may be due to psychological or biological pathology or due to some external factors<sup>2</sup>. An individual's health is a state of complete physical, mental and social well-being which allows people to lead a productive life<sup>3</sup> which indicates that there is no health without mental health<sup>4</sup>. Factors external mainly Medical colleges and universities are well known to enforce such factors that contribute in the disturbance of mental health of medical students<sup>5-8</sup>.

Through an extensive literature review regarding the mental health of medical students in Pakistan, poor mental health was reported in many studies conducted in some medical colleges of Pakistan<sup>9-11</sup>. Factors that contribute to poor mental health of health professionals could be responsible for negative effect on patient care there for they should be recognized and eliminated to improve students' mental health<sup>12</sup>.

There is no published study up till now regarding to the assessment of mental health of students related to medical fields in Quetta, so bearing this in mind this study is intended to evaluate the mental health of students related to medical fields which includes students of MBBS, BDS, Pharm-D and BSN in Quetta Pakistan. This study may contribute in recognizing factors for students' mental health and for developing any program for minimizing the effect of those factors on student's mental health to improve their mental health for achieving optimal patient outcomes.

### SUBJECTS AND METHODS

The study was designed as a questionnaire-based, cross-sectional analysis; the STROBE guideline was used to illustrate the data<sup>13</sup>. Questionnaire based study was selected because this is most convenient, most cost effective and least time consuming method to evaluate the overall mental health. 800 students were chosen randomly to be included in the sample. MBBS and BDS students were chosen from Bolan medical college, Quetta, Pharm-D students were recruited from University of Balochistan and BSN students were taken from Bolan nursing school Quetta and Provincial nursing school at Civil Hospital Quetta. 614 students responded back.

#### Instruments

Self-reporting questionnaire SRQ-20, a 20-item questionnaire, designed by

WHO, was used to determine medical student's health profile<sup>14</sup>. Demographic information such as age, marital status, family monthly income, pocket money was also obtained. These questions were answered in the present study considering the past 30 days. Each response was recorded as 'Yes' and 'No'. Every yes answer indicates the presence of symptom while no for the absence of symptom. A cut-off level of <7 was considered as good mental health while ≥ 7 was regarded as poor mental health.

**Procedure**

The permission to conduct research was approved by the Director General Health Balochistan, Principal Bolan Medical College, Principal Nursing School BMC and Faculty In charge of Pharmacy and Health Sciences University of Balochistan.

Ethical Standards of Human Experimentation of the National Bioethics Committee were followed during the study and care was taken as not to violate any of the standard set forth by the committee. According to the standards, consent was taken in form of signature from participants prior to data collection and they were assured of their privacy and confidentiality.

Statistical analyses was performed by using SPSS version 2015. Descriptive statistics were used to demonstrate participant's demographic characteristics. Categorical variables were measured as percentages while continuous variables were expressed as mean ± standard deviation. Descriptive statistics (mean, standard deviation and percentage) were used to summarize data. Inferential statistics (Chi-square test, p<0.05) was used to assess the statistical significance among study variables.

**RESULTS**

A total of 800 questionnaires were distributed and 614 were received with a response rate of 76.7% as shown in Table 1. The gender distribution was dominated by female students with 351 (57.2%) females and 263 (42.8%) of males. Female domination was particularly because the all nursing students were female. Mean age of the study participants was 21.0 ± 2.46 years with 32 (5.2%) married and 579 (94%) were single. 288 (46.9%) participants were living in Quetta, 251 (40.9%) participants were from other cities of Balochistan and 75 (12.2%) were from outside the Province i-e, Punjab and KPK etc. 265 (43.2%) subjects were from Doctor of Pharmacy Program 183 (29.8%) participants were from MBBS and 159 (25.6%) were Nursing students, 72 (27.2%) were studying in 3rd year. 339 (55.2%) guardians income was above 25,000 PKRs, 81 (13.2%) participants were not willing to tell their monthly income. 148 (24.1%) participant's family monthly income was 10,000-25,000 PKR (see table 1 for details).

41.7% (N=256) students have scored below the cut-off level and thus showed good mental health, whereas 58.3% (N=358) students scored above the cut-off level and thus they are indicative to have poor mental health. On one sample t test, statistical significance difference (p< 0.005) was found ( see Table 2).

Association between demographic characteristics and mental health status was found significant on chi square except for gender; female gender was associated with poor mental health (see Table 3).

**Table 1**  
Demographic characteristics of the study respondents

Characters	Frequency N= 614	Percentage
<b>Age (years)</b>		
18-20	319	52.0
21-23	196	31.9
24-26	84	13.7
27-28	06	1.0
Above 28	09	1.5
<b>Gender</b>		
Male	263	42.8
Female	351	57.2
<b>Marital status</b>		
Single	579	94.3
Married	32	5.2
<b>Study Program</b>		
MBBS	183	29.8
BDS	07	1.1
Pharm-D	265	43.2
BSN	159	25.9
<b>Guardian's income</b>		
Less than 5000	11	1.8
5,000-10,000	35	5.7
11,000-25,000	148	24.1
26,000 and above	339	55.2
<b>Guardian's income</b>		
Less than 5000	11	1.8
5,000-10,000	35	5.7
11,000-25,000	148	24.1
26,000 and above	339	55.2
Not applicable	81	13.2
<b>Locality</b>		
Belongs from Quetta	288	46.9
Belongs from outside Quetta	251	40.9
Belongs from outside		
Balochistan but from	75	12.2
Pakistan		

**Table 2**  
Mental Health as per SRQ-20 on one sample t test

Mental Health Status	Frequency	Percentage	P value
Good	256	41.7	
Poor	358	58.3	0.001*

**Table 3**  
Association between Demographics and Mental health Status on chi square

Description	Frequency	Mental health status		p-value
		Poor	Good	
<b>Age (years)</b>				
18-20	319	185	134	
21-23	196	128	68	
24-26	84	36	48	0.111
27 and above	15	09	06	
<b>Gender</b>				
Male	263	139	124	0.015
Female	351	219	132	
<b>Marital Status</b>				
Single	579			
Married	32			
<b>Study Program</b>				
MBBS / BDS	190	108	82	
Pharm -D	205	157	108	0.963
BSN	159	93	66	
<b>Guardian's Income</b>				
Less than 5,000	11	06	05	
5,000 -10,000	35	17	18	0.439
11,000 -25,000	148	91	57	
26,000 and above	339	197	142	
Not mentioned	81	47	34	

## DISCUSSION

The study under consideration reveals that majority of medical students are having poor mental health. In the present study the prevalence of poor mental health is almost equal rather higher than the study conducted in Israel where 55.5% of students reported poor mental health status<sup>16</sup>. Poor mental health's prevalence in pharmacy, MBBS, BDS and BSN students of Quetta is very high from the study done in Iran where 19.4% and 25% of medical students were having poor mental health<sup>17</sup>. During medical, pharmacy or nursing school the students are exposed to demanding and heavy workloads. Study shows that these students are under considerable psychological strains<sup>18</sup>, and their mental health declines during the course of studies<sup>19</sup>. The reason for poor mental health may be due to complex information to be learned, the large work load, academically stressful and competitive environment<sup>20</sup>.

Female students are more prone to poor mental health<sup>21</sup>. Present study also demonstrated female students had high ratio of poor mental health as compared with male medical students. Male medical students were at higher risk for suicide in this study. Prevalence of suicidal thoughts in male medical students is also found higher<sup>22</sup>.

This study demonstrated that all the students either of Quetta city, out of Quetta city or from other provinces equally report the poor mental health. The reason lies behind the fact that the peace

situation in Quetta and Balochistan was not maintained and terror environment significantly affects the mental health<sup>23</sup>.

Overall all health and medicine related students showed poor mental health. With such result future mental health of these professional health care students can be perceived. If mental health not considered to be treated properly, can cause very poor outcomes in terms of poor mental health care professionals<sup>24</sup>.

## CONCLUSION AND RECOMMENDATIONS






This study presented very poor mental health profile of medical students in Quetta. Moreover, these findings may serve as a stimulus for future studies such as to identify the factors that may contribute to bring such level of poor mental health status of medical students.

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