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FREQUENCY OF DEPRESSION, ANXIETY AND STRESS AMONG MEDICAL STUDENTS EXPOSED TO CYBERBULLYING AT BIPBS/BMC QUETTA BALOCHISTAN: A CROSS SECTIONAL STUDY

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ABSTRACT

Introduction: Associated withsignificant negative mental, social, and physical outcomes, technological advances have increased adolescents' use of socialmedia, and online communication platforms have exposed students to another mode of bullying cyberbullying. The effects of cyberbullying have been predominantly explored in the area of adolescents' mental health concerns. **Objective:** To determine the frequency of depression, anxiety and stress among medical students exposed to cyberbullying at BIPBS/BMC Quetta Balochistan. **Study design:** Cross sectional study. **Study setting:** Study was conducted at BIPBS/BMC, Quetta Balochistan. **Duration of study:** Study period was 25-11-20 to 25-11-21. **Methodology:** Data was prospectively collected from patients after taking a verbal consent. 139 patients who met the diagnostic criteria were included. Quantitative data was presented as simple descriptive statistics giving mean and standard deviation and qualitative variables was presented as frequency and percentages. Effect modifiers were controlled through stratification to see the effect of these on the outcome variable. Post stratification chi square test was applied taking p-value of ≤ 0.05 as significant. **Results:** A total of 139 medical students were included in this study. Meanage in our study was 22.14±1.41 years. 69 (49.6%) were male and 70 (50.4%) were female. Out of 139 medical students, 12.9%, 23.7% and 39.6% had depression, anxiety and stress. **Conclusion:** Findings from the current study shows high prevalence of depression, anxiety and stress among cyberbullied medical student requiring attention from health care professionals, educators, and caring parents for effective management.

KEYWORDS: Cyberbullying, medical students, cyber victim, cyberbully victim, mental health, psychological well being, socialsupport, depression, anxiety and stress.

INTRODUCTION

Bullying is a multifaceted form of mistreatment, mostly seenin schools and the workplace. It is characterized by the repeated exposure of one person to physical and/or emotional aggression including teasing, name calling, mockery, threats, harassment, taunting, hazing, social exclusion or rumour.[1] Rates of bullying vary across studies (from 9% to 98%). A meta-analysis of 80 studies analyzing bullying involvement rates (for both bullying others and being bullied) for 12-18 year old students reported a mean prevalence rate of 35% for traditional bullying involvementand 15% for cyber bullying involvement.[2] The use of online technology is exploding worldwide and is fast becoming a preferred method of interacting among young people.[3] Due to theproliferation, expansion, and dissemination of Internet and digitalcommunication tools, the offline or face to face bullying has now extended to the virtual world.[4] The Internet and social media tools providing an attractive platform to youth to communicate with their peers, to establish social ties, and bringing new opportunities for learning.[5] Hence, these also raised concerns about the ethical use of technology and exposed students to counterproductive and unsafe interactions that set their mental health and well-being athigh risk.[6]

Cyberbullying may occur in different forms, such as, sendingabusive, offensive or derogatory messages, dissemination of hateful rumors online, posting embarrassing or sensitive information, photos, or videos of someone on the Internet, tricks the victim into disclosing personal, secret or embarrassing information and then share it publicly with others, creating fake online identity to harass someone, breaking into someone‟s account and then communicating with others pretending to be that user.[7-8] Similar to the offline bullying, cyberbullying could be observed easily by repeated harassment, degrading posts and nasty messages.[9] However, empirical evidence supports that negative mental health effects of cyberbullying on victims were significantly higher than those of offline bullying.[10] This is because of the few distinct features of cyberbullying that make it more harassing.[11] For instance, perpetrator can maintain anonymity; an act of cyberbullying can readily be shared with wider audience; and it is very difficult to escape from cyberbullying as there is no geographical boundary and perpetrator can send obnoxious and mean messages to victim‟s mobile, email and social media accounts, wherever he can access the victim, 24 hours, 7 days

a week.[12-15] A pilot study done on 50 medical students found depression, anxiety and stress among medical students and foundthe prevalence to be 10%, 16% and 34% respectively.

This study is to determine the frequency of depression, anxiety and stress among medical students exposed to cyberbulling in order to establish the local perspective as this would be the first study on this topic in our country. The tradition and culture of families in Pakistan is important for the development of the younger generations' social and mental well-being, which may be adversely affected due to the long-term effects of cyber-bullying. The parents are worried on a daily basis due to change in behavior of their children as a result of online bullying. Socially also, these students are not able to enjoy or relax, due to preoccupation with advancedtechnologies. Cyberbullying can lead to suicidal ideation. Our study would help in identifying medical students at risk. Understanding the psychological impact of the cyberbullying among medical students is crucial in guiding policies and interventions to maintain their psychological wellbeing.

METHODOLOGY

This Cross sectional study was conducted at Bolan Medical College/ BIPBS, Quetta **total 139** medical students included sample technique was Non-probability consecutive sampling. INCLUSION CRITERIA were applied as, Medical students enrolled at Bolan Medical College/ BIPBS Quetta was included in the study, Either gender, Age 18-25 years. Non consenting patients medical students with history of hypothyroidism or hyperthyroidism, medical students with history of mania, bipolar effective disorder as per DSM-5 criteria, medical students with history of depression ortaking anti depressant treatment and medical students with history of other systemic illness e.g hypothyroidism, SLE or rheumatoid arthritis.

The study was conducted after approval from College of Physicians and Surgeons Pakistan. Medical students studying at Bolan Medical College/ BIPBS, Quetta exposed to cyberbulling as per operational definition, meeting inclusion criteria were enrolled in the study. Permission from the institutional ethical review committee was taken prior to conduction of study. Informed consent was obtained from all the medical students for assigning them to sample and using their data in research. Brief history of demographic information (age, gender and ethnicity) was taken. The researcher herself provided DASS-21 questionnaire to the medical students and then will tabulate DASS-21 score of depression, anxiety and stress of each medical student and label them as having it as per operational definition. The findings of

quantitative variables (age, depression DASS-21 score, anxiety DASS-21 score and stress DASS-21 score) and qualitative variable (gender, ethnicity, socioeconomic status, academic year of medical student, smoking status, depression anxiety and stress were entered in proforma.

Data was analyzed on SPSS Version 23.0 version. Mean and standard deviation was calculated for quantitative variable like age, depression DASS-21 score, anxiety DASS-21 score and stress DASS-21 score. Frequency and percentages was calculated for qualitative variables like gender, ethnicity, socioeconomic status, academic year of medical student, smoking status, depression, anxiety and stress. Effect modifiers was controlled through stratification of age, gender, ethnicity, socioeconomic status, academic year of medical student and smoking status to see the effect of these on the outcome variable (depression, anxiety and stress). Post stratification chi square test was applied taking p-value of ≤ 0.05 as statistically significant.

RESULT

A total of 139 medical students who met the inclusion and exclusion criteria were included in this study. Out of 139 patients minimum age of the patient was 18 while maximum age of the patients was 25 years. Mean age in ourstudy was 22.14±1.41 years. As shown in Table 1.

Out of 139 medical students, 18 (12.9%) and 121 (87.1%)had and did not have depression. As shown in Figure 1.

Out of 139 medical students, 33 (23.7%) and 106 (76.3%)had and did not have anxiety. As shown in Figure 2. Out of 139 medical students, 55 (39.6%) and 84 (60.4%)had and did not have stress. As shown in Figure 3. Out of 139 medical students, 69 (49.6%) were male and 70 (50.4%) were female. As shown in Figure 4. Frequency distribution of age showed that out of 139 medical students, 47 (33.8%) and 92 (66.2%) were in age group <22 years and >22 years respectively. As presented in Figure 5. Frequency distribution of ethnicity status showed that out of 139 medical students, 27 (19.4%), 31 (22.3%), 69 (49.6%), 08 (5.8%) and 04 (2.9%) were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. As presented in Figure 6.

Frequency distribution of academic status showed that out of 139 medical students, 62 (44.6%), 28 (20.1%), 28 (20.1%), 14 (10.1%) and 07 (5%) were first, second, third, fourth

and fifth academic year respectively. As presented in Figure 7. Frequency distribution of smoking status status showed that out of 139 medical students, 20 (14.4%) and 119 (85.6%) smoked and did not smoke respectively. As presented in Figure 8.

Frequency distribution of socioeconomic status showed that out of 139 medical students, 07 (5%), 07 (5%), 83 (59.7%), 14 (10.1%) and 28 (20.1%) belonged to lower income group, lower middle income group, middle income group, upper middle income group, upper income group respectively. As presented in Figure 9.

Stratification for age with respect to depression showed that 08 (44.4%) and 10 (55.6%) students who were in age group < 22 years and > 22 years had depression respectively. Whereas 39 (32.2%) and 82 (67.8%) students who were in age group < 22 years and > 22 years did not have depression respectively. P- value was 0.22. As presented in Table 2. Stratification for gender with respect to depression showed that 11 (61.1%) and 58 (47.9%) who were in male group had and did not have depression respectively. Whereas 07 (38.9%) and 63(52.1%) who were in female group had and did not have depression respectively. P-value was 0.21. As presented in Table3.

Stratification for ethnicity status with respect to depression showed 03 (16.7%), 03 (16.7%), 10 (55.6%), 02 (11.1%) and 00 (00%) had depression in students who were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. Whereas, 24 (19.8%), 28 (23.1%), 59 (48.8%), 06 (5%) and 04 (3.3%) did not have depression in students who were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. P-value was 0.70. As presented in Table 4.

Stratification for academia year with respect to depression showed 10 (55.6%), 03 (16.7%), 02 (11.1%), 03 (16.7%) and 00 (00%) had depression in students who were in first, second, third, fourth and fifth academic year respectively. Whereas, 52 (43%), 25 (20.7%), 26 (21.5%), 11 (9.1%) and 07 (5.8%) did not have depression in students who were in first, second, third, fourth and fifth academic year respectively. P-value was 0.48. As presented in Table 5.

Stratification for smoking status with respect to depression showed that students who smoked, 02 (11.1%) and 18 (14.9%) had and did not have depression respectively. Whereas students who did not smoke, 16 (88.9%) and 103 (85.1%) had and did not have depression respectively.

P-value was 0.50. As presented in Table 6.

Stratification for socioeconomic status with respect to depression showed 01 (5.6%), 01 (5.6%), 10 (55.6%), 01 (5.6%) and 05 (27.8%) had depression in students who belonged to socioeconomic group of lower income group, lower middle income group, middle income group, upper middle income group, upper income group respectively. Whereas, 06 (5%), 06 (5%), 73 (60.3%), 13 (10.7%) and 23 (19%) did not have depression in students who belonged to socioeconomic group of lower income group, lower middle income group, middle income group, upper middle income group, upper income group respectively. P-value was 0.78. As presented in Table 7.

Stratification for age with respect to anxiety showed that 10(30.3%) and 23 (69.7%) students who were in age group < 22 years and > 22 years had anxiety respectively. Whereas 37 (34.9%) and 69 (65.1%) students who were in age group < 22 years and > 22 years did not have anxiety respectively. P-value was 0.39. As presented in Table 8.

Stratification for gender with respect to anxiety showed that 19 (57.6%) and 50 (47.2%) who were in male group had and did not have anxiety respectively. Whereas 14 (42.4%) and 56 (52.8%) who were in female group had and did not have anxiety respectively. P-value was 0.19. As presented in Table 9.

Stratification for ethnicity status with respect to anxiety showed 06 (18.2%), 04 (12.1%), 20 (60.6%), 02 (6.1%) and 01 (3%) had anxiety in students who were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. Whereas, 21 (19.8%), 27 (25.5%), 59 (46.2%), 06 (5.7%) and 03 (2.8%) did not have anxiety in students who were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. P-value was 0.54. As presentedin Table 10.

Stratification for academia year with respect to anxiety showed 19 (57.6%), 02 (6.1%), 08 (24.2%), 03 (9.1%) and 01 (3%) had anxiety in students who were in first, second, third, fourth and fifth academic year respectively. Whereas, 43 (40.6%), 26 (24.5%), 20 (18.9%), 11 (10.4%) and 06 (5.7%) did not have anxiety in students who were in first, second, third, fourth and fifth academic year respectively. P-value was 0.15. As presented in Table 11.

Stratification for smoking status with respect to anxiety showed that students who smoked, 02 (6.1%) and 18 (17%) hadand did not have anxiety respectively. Whereas students who didnot smoke, 31 (93.9%) and 88 (83%) had and did not have anxiety respectively. P-value was

0.09. As presented in Table 12.

Stratification for socioeconomic status with respect to anxiety showed 01 (3%), 03 (9.1%), 13 (39.4%), 07 (21.2%) and09 (27.3%) had anxiety in students who belonged to socioeconomic group of lower income group, lower middle income group, middle income group, upper middle income group, upper income group respectively. Whereas, 06 (5.7%), 04 (3.8%), 70 (66%), 07 (6.6%) and 19 (17.9%) did not have anxiety in students who belonged to socioeconomic group of lower income group, lower middle income group, middle income group, upper middle income group, upper income group respectively. P-value was 0.02. As presented in Table 13.

Stratification for age with respect to stress showed that 16 (29.1%) and 39 (70.9%) students who were in age group < 22 years and > 22 years had stress respectively. Whereas 31 (36.9%) and 53 (63.1%) students who were in age group < 22 years and > 22 years did not have stress respectively. P-value was 0.22. As presented in Table 14.

Stratification for gender with respect to stress showed that30 (54.5%) and 39 (47.2%) who were in male group had and did not have stress respectively. Whereas 25 (45.5%) and 45 (53.6%) who were in female group had and did not have stress respectively. P-value was 0.22. As presented in Table 15. Stratification for ethnicity status with respect to stressshowed 10 (18.2%), 14 (25.5%), 24 (43.6%), 04 (7.3%) and 03 (5.5%) had stress in students who were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. Whereas, 17 (20.2%), 17 (20.2%), 45 (53.6%), 04 (4.8%) and 01 (1.2%) did not have stress in students who were Punjabi, Sindhi, Urdu speaking, Pathan and Balouch respectively. P-value was 0.46. As presentedin Table 16.

Stratification for academia year with respect to stress showed 27 (49.1%), 12 (21.8%), 07 (12.7%), 06 (10.9%) and 03 (5.5%) had stress in students who were in first, second, third, fourth and fifth academic year respectively. Whereas, 35 (41.7%), 16 (19%), 21 (25%), 08 (9.5%) and 04 (4.8%) did not have stress in students who were in first, second, third, fourth and fifthacademic year respectively. P-value was 0.53. As presented in Table 17.

Stratification for smoking status with respect to stressshowed that students who smoked, 05 (9.1%) and 15 (17.9%) had and did not have stress respectively. Whereas students who did not smoke, 50 (90.9%) and 69 (82.1%) had and did not havestress respectively. P-value was

0.11. As presented in Table 18. Stratification for socioeconomic status with respect to stress showed 03 (5.5%), 05 (9.1%), 34 (61.8%), 05 (9.1%) and 08 (14.5%) had stress in students who belonged to socioeconomic group of lower income group, lower middle income group, middle income group, upper middle income group, upper income group respectively. Whereas, 04 (4.8%), 02 (2.4%), 49 (58.3%), 09 (10.7%) and 20 (23.8%) did not have stress in students who belonged to socioeconomic group of lower income group, lower middle income group, middle income group, upper middle incomegroup, upper income group respectively. P-value was 0.33. As presented in Table 19.

Table 1: Descriptive statistics.

n=139

Variable	Mean ±sd	Standard deviation	Min-max
Age (years)	22.14	±1.41	18-25

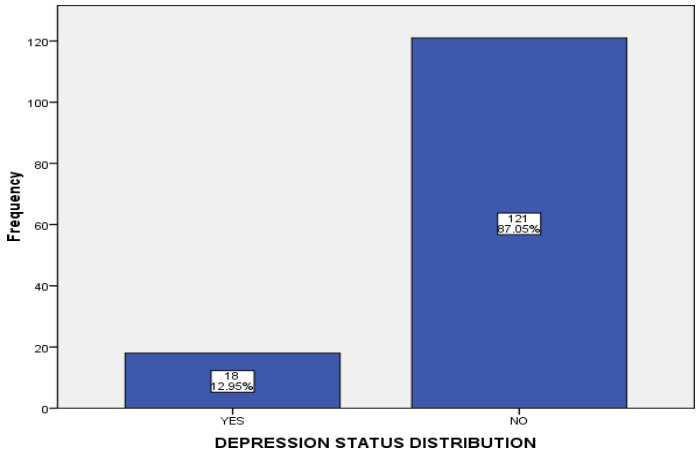

Figure 1: Depression distribution.

n=139

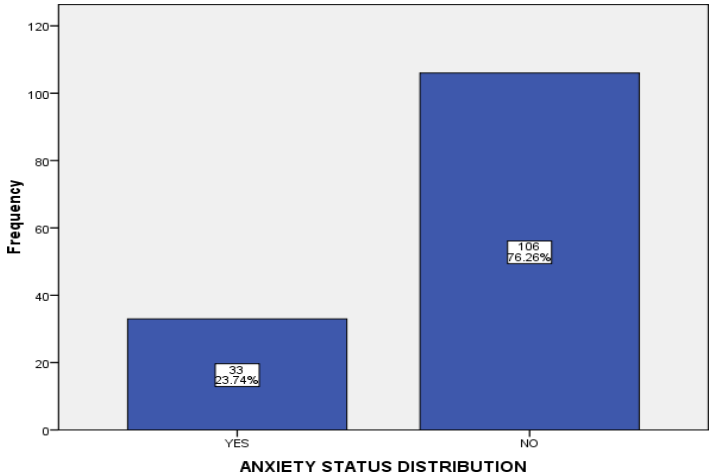

Figure 2: Anxiety distribution.

n=139

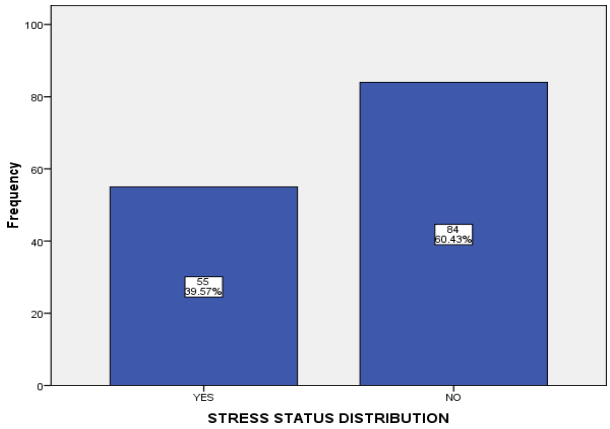

Figure 3: Stress distribution.

n=139

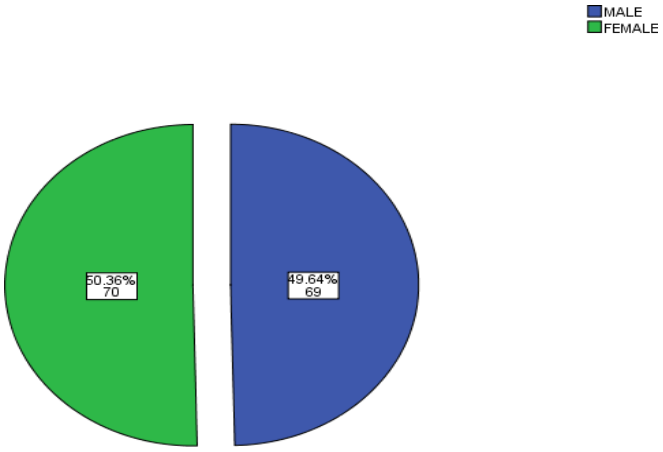

Figure 4: Gender distribution.

n=139

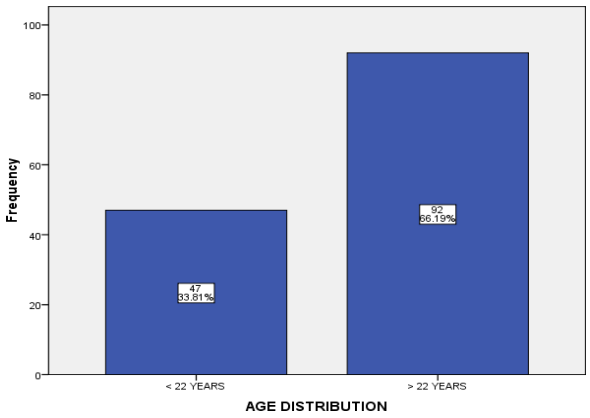

Figure 5: Age distribution.

n=139

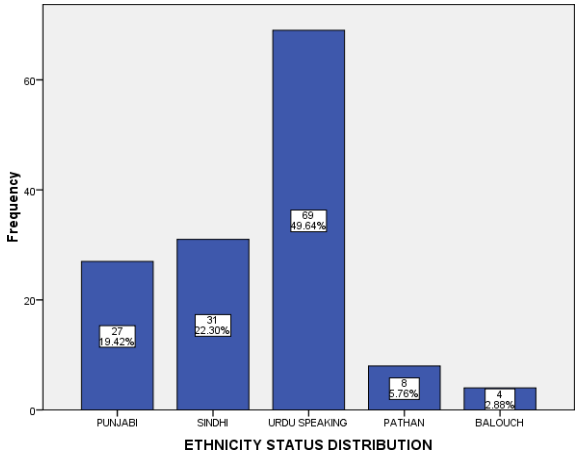

Figure 6: Ethnicity distribution.

n=139

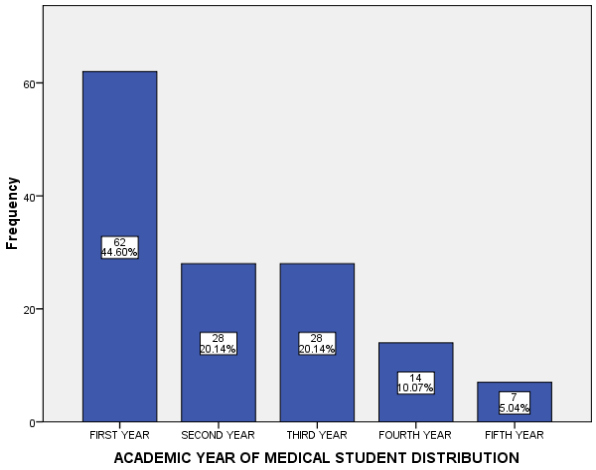

Figure 7: Academic year of medical student distribution.

n=139

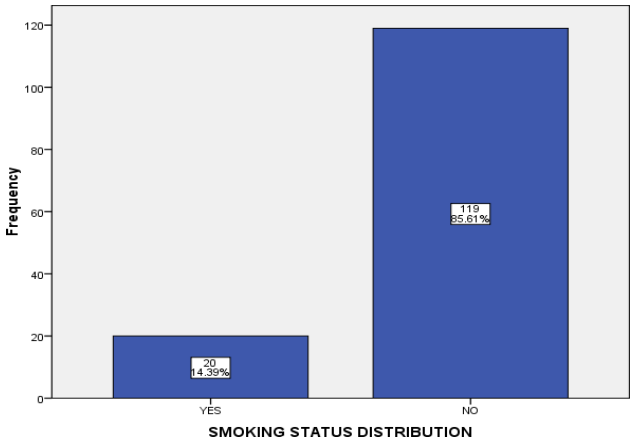

Figure 8: Smoking status distribution.

n=139

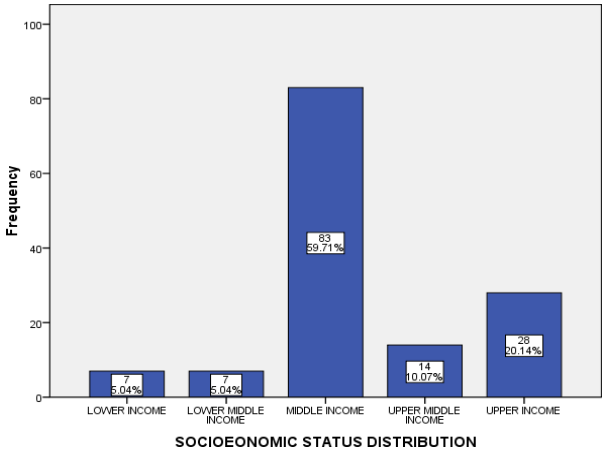

Figure 9: Socioeconomic status distribution.

n=139

Table 2: Depression according to age.

n=139

Age	Depression		Total
	Yes	No	
≤ 22 years	08 (44.4%)	39 (32.2%)	47 (33.8%)
> 22 years	10 (55.6%)	82 (67.8%)	92 (66.2%)
Total	18 (100%)	121 (100%)	139(100%)
P-value	0.22		

Table 3: Depression according to gender.

n=139

Gender	Depression		Total
	Yes	No	
Male	11 (61.1%)	58 (47.9%)	69 (49.6%)
Female	07 (38.9%)	63 (52.1%)	70 (50.4%)
Total	18 (100%)	121 (100%)	139 (100%)
P-value	0.21		

Table 4: Depression according to ethnicity.

n=139

Ethnicity	Depression		Total
	Yes	No	
Punjabi	03 (16.7%)	24 (19.8%)	27 (19.4%)
Sindhi	03 (16.7%)	28 (23.1%)	31 (22.3%)
Urdu speaking	10 (55.6%)	59 (48.8%)	69 (49.6%)
Pathan	02 (11.1%)	06 (5%)	08 (5.8%)
Balouch	00 (00%)	04 (3.3%)	04 (2.9%)
Total	18 (100%)	121 (100%)	139 (100%)
P-value	0.70		

Table 5: Depression according to academic year ofmedical student.

n=139

Academia year status	Depression		Total
	Yes	No	
First	10 (5.6%)	52 (43%)	62 (44.6%)
Second	03 (16.7%)	25 (20.7%)	28 (20.1%)
Third	02 (11.1%)	26 (21.5%)	28 (20.1%)
Fourth	03 (16.7%)	11 (9.1%)	14 (10.1%)
Final	00 (00%)	07 (5.8%)	07 (5%)
Total	18 (100%)	121 (100%)	139 (100%)
P-value	0.49		

Table 6: Depression according to smoking status.

n=139

Smokingstatus	Depression		Total
	Yes	No	
Yes	02 (11.1%)	18 (14.9%)	20 (14.4%)
No	16 (88.9%)	103 (85.1%)	119 (85.6%)
Total	18 (100%)	121 (100%)	139 (100%)
P-value	0.50		

Table 7: Depression according to socioeconomic status.

n=139

Socioeconomic status	Depression		Total
	Yes	No	
Lower	01 (5.6%)	06 (5%)	07 (5%)
Lower middle	01 (5.6%)	06 (5%)	07 (5%)
Middle	10 (55.6%)	73 (60.3%)	83 (59.7%)
Upper middle	01 (5.6%)	13 (10.7%)	14 (10.1%)
Upper	05 (27.8%)	23 (19%)	28 (20.1%)
Total	18 (100%)	121 (100%)	139 (100%)
P-value	0.89		

Table 8: Anxiety according to age.

n=139

Age	Anxiety		Total
	Yes	No	
≤ 22 years	10 (30.3%)	37 (34.9%)	47 (33.8%)
> 22 years	23 (69.7%)	69 (65.1%)	92 (66.2%)
Total	33 (100%)	106 (100%)	139 (100%)
P-value	0.39		

Table 9: Anxiety according to gender.

n=139

Gender	Anxiety		Total
	Yes	No	
Male	19 (57.6%)	50 (47.2%)	69 (49.6%)
Female	14 (42.4%)	56 (52.8%)	70 (50.4%)
Total	33 (100%)	106 (100%)	139 (100%)
P-value	0.19		

Table 10: Anxiety according to ethnicity.

n=139

Ethnicity	Anxiety		Total
	Yes	No	
Punjabi	06 (18.2%)	21 (19.8%)	27 (19.4%)
Sindhi	04 (12.1%)	27 (25.5%)	31 (22.3%)
Urdu speaking	20 (60.6%)	49 (46.2%)	69 (49.6%)
Pathan	02 (6.1%)	06 (5.7%)	08 (5.8%)
Balouch	01 (3%)	03 (2.8%)	04 (2.9%)
Total	33 (100%)	106 (100%)	139 (100%)
P-value	0.54		

Table 11: Anxiety according to academic year of medicalstudent.

n=139

Academia year status	Anxiety		Total
	Yes	No	
First	19 (57.6%)	43 (40.6%)	62 (44.6%)
Second	02 (6.1%)	26 (24.5%)	28 (20.1%)
Third	08 (24.2%)	20 (18.9%)	28 (20.1%)
Fourth	03 (9.1%)	11 (10.4%)	14 (10.1%)
Final	01 (3%)	06 (5.7%)	07 (5%)
Total	33 (100%)	106 (100%)	139 (100%)
P-value	0.15		

Table 12: Anxiety according to smoking status.

n=139

Smokingstatus	Anxiety		Total
	Yes	No	
Yes	02 (6.1%)	18 (17%)	20 (14.4%)
No	31 (93.9%)	88 (83%)	119 (85.6%)
Total	33 (100%)	106 (100%)	139 (100%)
P-value	0.09		

Table 13: Anxiety according to socioeconomic status.

n=139

Socioeconomic status	Anxiety		Total
	Yes	No	
Lower	01 (3%)	06 (5.7%)	07 (5%)
Lower middle	03 (9.1%)	04 (3.8%)	07 (5%)
Middle	13 (39.4%)	70 (66%)	83 (59.7%)
Upper middle	07 (21.2%)	07 (6.6%)	14 (10.1%)
Upper	09 (27.3%)	19 (17.9%)	28 (20.1%)
Total	33 (100%)	106 (100%)	139 (100%)
P-value	0.02		

Table 14: Stress according to age.

n=139

Age	Stress		Total
	Yes	No	
≤ 22 years	16 (29.1%)	31 (36.9%)	47 (33.8%)
> 22 years	39 (70.9%)	53 (63.1%)	92 (66.2%)
Total	55 (100%)	84 (100%)	139 (100%)
P-value	0.22		

Table 15: Stress according to gender.

n=139

Gender	Stress		Total
	Yes	No	
Male	30 (54.5%)	39 (46.4%)	69 (49.6%)
Female	25 (45.5%)	45 (53.6%)	70 (50.4%)
Total	55 (100%)	84 (100%)	139 (100%)
P-value	0.22		

Table 16: Stress according to ethnicity.

n=139

Ethnicity	Stress		Total
	Yes	No	
Punjabi	10 (18.2%)	17 (20.2%)	27 (19.4%)
Sindhi	14 (25.5%)	17 (20.2%)	31 (22.3%)
Urdu speaking	24 (43.6%)	45 (53.6%)	69 (49.6%)
Pathan	04 (7.3%)	04 (4.8%)	08 (5.8%)
Balouch	03 (5.5%)	01 (1.2%)	04 (2.9%)
Total	55 (100%)	84 (100%)	139 (100%)
P-value	0.46		

Table 17: Stress according to academic year of medicalstudent.

n=139

Academia year status	Stress		Total
	Yes	No	
First	27 (49.1%)	35 (41.7%)	62 (44.6%)
Second	12 (21.8%)	16 (19%)	28 (20.1%)
Third	07 (12.7%)	21 (25%)	28 (20.1%)
Fourth	06 (10.9%)	08 (9.5%)	14 (10.1%)
Final	03 (5.5%)	04 (4.8%)	07 (5%)
Total	55 (100%)	84 (100%)	139 (100%)
P-value	0.53		

Table 18: Stress according to smoking status.

n=139

Smokingstatus	Stress		Total
	Yes	No	
Yes	05 (9.1%)	15 (17.9%)	20 (14.4%)
No	50 (90.9%)	69 (82.1%)	119 (85.6%)
Total	55 (100%)	84 (100%)	139 (100%)
P-value	0.11		

Table 19: Stress according to socioeconomic status.

n=139

Socioeconomic status	Stress		Total
	Yes	No	
Lower	03 (5.5%)	04 (4.8%)	07 (5%)
Lower middle	05 (9.1%)	02 (2.4%)	07 (5%)
Middle	34 (61.8%)	49 (58.3%)	83 (59.7%)
Upper middle	05 (9.1%)	09 (10.7%)	14 (10.1%)
Upper	08 (14.5%)	20 (23.8%)	28 (20.1%)
Total	55 (100%)	84 (100%)	139 (100%)
P-value	0.33		

DISCUSSION

Our study included a total of 139 medical students. Mean age in our study was 22.14±1.41 years. 69 (49.6%) were male and 70 (50.4%) were female. Out of 139 medical students, 12.9%, 23.7% and 39.6% had depression, anxiety and stress.

A widely distributed body of literature indicates that the prevalence of mental distress is increasing among students studying medicine. It is evident that mental health problems are prevalent in the whole society, but university students are significantly more affected than the general population. This mightbe due to numerous challenges that university students have to

face such as competition to succeed, high academic demands, teacher and parent's expectations, increased workload, financial problems, and apprehension about the future. And among all university students, medical students exhibit higher mental distress than both the general population and their age-matched peers. Worldwide medical undergraduates have been found at riskof mental distress and reduced life satisfaction. Medical training involves many risk factors for mental illness, including academic burden, lack of sleep, minimal physical activities, and decreased time for social activities. A large study conducted in the USA, including six medical schools (582 students), concluded that whenmedical students enrolled in a medical institute, they had better or similar mental health than the general population. It shows that higher rates of distress reported in medical students are the result of the over competitive training process of medical education thatcan have an unfavorable effect on the mental health of students.[16]

A local study found very high prevalence (52.4%) of moderate to extremely severe internet addiction was observed among the medical students. The mild positive correlation between internet addiction and depression was identified (p <.001) and similar type of correlation was observed between internet addiction and stress (p .003). However, anxiety and internet addiction were not significantly correlated. The prevalence of anxiety and depression among the males were higher than the females, whilst the stress level was almost the same.[17]

Another study revealed 67% of university students were involved in cyberbullying of whom self-reported cyber victims were 25%, 4% were cyber bullies and 39% reported themselves in a dual role of cyber bully-victims. Females were more likely reported themselves as cyber victims in comparison to males while more males reported themselves to be involved as cyber bullies and cyber bully/victims than females. Prevalence of psychopathology was found to be higher in cyber bullies followedby cyber bully/victims and cyber victims than not involved in cyberbullying while, lowest mental well-being was found in cyber victims followed by cyber bully/victims and cyber bullies in comparison to not involved students.[18]

In line with previous cross-sectional studies, our results show how involvement in bullying is related to both depressive and anxiety symptoms, as well as to lower levels of subjective well-being. These results are consistent with previous research indicating the harm that cyberbullying may have on youths irrespectively of being a bully or a victim. In addition, our resultsshow that Cyberbully-victims reported the highest levels of depressive symptoms, as well as the lowest levels of subjective well-being. This is also in line with previous research

indicating that this group of children may be at an extra risk for adverse outcomes. Also, Cyberbully-victims also showed the lowest levels of perceived family support. This is important knowledge, since there is a lack of research on this particular group in general, andmore specifically, in relation to sources of perceived support.[19-20]

In contrast to family and teacher support, perceived support from friends was not shown to buffer against psychological impairment from involvement in cyberbullying, regardless of being a Cyber-victim, Cyberbully, or Cyberbully-victim. Our results are in line with those previous studies in which perceived social support from friends was not shown to protect children involved in traditional bullying from adverse outcomes such as depression, or internalizing problems. However, in other studies on traditional bullying, perceived support from friends was demonstrated to mitigate the impact of bullying on the quality of lives of victims, as well as on anxiety/depression. In relation to cyberbullying, our results contradict one of the few studies that have examined the issue and in which seeking support from friends had a buffering effect on depressive symptoms among cyber-victims.[21-23]

In relation to the current studies results on the potential positive aspects of social support, there seems to be a positive bias towards adult support for cyberbullying involved youths, i.e., youths who are involved in bullying and perceive higher levels of support from adults (i.e., family or teachers) may have less adverse outcomes than those who report less. In fact, adolescents report that telling a teacher is rather ineffective and that seeking support from a parent might be related to the loss of privileges such as free and unsupervised use of the Internet. Hence, as argued by other scholars, adults should take a proactive approachin taking responsibility for building a supportive relationship with the youth.[24-28]

CONCLUSIONS

Routine screening techniques can be developed to assist in uncovering the harm endured through cyberbullying to help support them recover from associated trauma. Finally, medical school-based programs directed at cyberbullying prevention and intervention should be planned and incorporated in the curriculums. In summary, research has demonstrated that cyberbullying victimization and perpetration have a significant detrimental impact on mental health. Cyberbullying is related to serious mental health concerns, with significant impact on depression, anxiety, self-esteem, emotional distress, substance use, and suicidal behavior. Moreover, cyberbullying is also related to physical health concerns. Educators, counselors, and health care professionals must consider address cyberbullying when assessingadolescents'

physical and psychological health concerns and provide support. Sensitive probing about cyberbullying experiences, depression, substance use, suicidal ideation, as well as somatic concerns should be done.

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