



Assessment of Knowledge, Perception and Prevalence of Bullying Practices among Medical Students of Quetta

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Authors' contributions

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aim: The aim of the study was to determine the knowledge, perception, and prevalence of bullying among the medical students of Quetta.

Methods: This study was a questionnaire-based cross-sectional study which was conducted on medical students of 1st through the 5th year from Bolan Medical College and Quetta Institute of Medical Sciences, Quetta. Total 364 students took part in the study. The data was analyzed on SPSS version 20. The questionnaire included separate sections to assess knowledge, perception and prevalence of bullying among the students.

Results: Majority of students had adequate knowledge about bullying, however, 34.9% of medical students were found to be bullied which is a very high percentage. Most of the bullied students were male and most were from 5th year. Moreover, most of the participants who were bullied had felt depressed after being bullied and the majority of them did not make any complaint to their institute's authorities. Considering perception, maximum students had a negative perception about

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bullying.

Conclusion: Such high rates of bullying among medical students indicate the need for the institutions to have a strong policy against bullying with proper monitoring. Moreover, there should be student psychiatric councilors inside the campus to provide counseling to students who are going through mental disturbances because of victimization. There is also a need for raising or spreading awareness among students, so they perceive and deal with bullying in a better way. Alongside, mental health issues related to bullying must be brought to discussions more frequently.

Keywords: Bullying; mbbs; students; Pakistan.

1. INTRODUCTION

Bullying can be defined as a repeated behavior or act that includes the use of physical force, use of bad language and abuse, taunt, threats and blackmailing to hurt, disturb or tease another individual to show dominance or strength [1-3]. Bullying is classified as physical, social, verbal and the newly introduced, cyberbullying [4].

Medical students around the globe attend professional colleges for a long period of time and throughout this period they are on the verge of being bullied. Various studies provide high rates of healthcare personals including students [5-8], trainees [9-11], nurses [12] and doctors [13,14] being bullied in developed parts of the world while little research has been carried out on the matter in developing countries [3,15-17].

Bullying has been observed to affect on students' mental status in many ways including behavioral problems [18-20], post-traumatic stress [21,22], depression [23,24], anxiety [25,26] and in worst cases suicides [27]. In Pakistan, a recent study done on 5th-year medical students from different institutes of the country has shown 52% students being bullied during their medical education [5].

No study has been conducted in Quetta in this regard. Herein we will assess the knowledge, perception and prevalence of bullying among Medical Students of Quetta that includes students from all 5 levels of medical education.

2. MATERIALS AND METHODS

2.1 Study Design and Setting

This study was a questionnaire-based cross-sectional study which was conducted on medical students of 1st, 2nd, 3rd, 4th and 5th year of two medical colleges of Quetta, Pakistan. The institutes were Bolan Medical College (BMC) and Quetta Institute of Medical Sciences (QIMS).

2.2 Study Population

The study was done on medical students of 1st through 5th year of both medical colleges. The students who were taking the class when questionnaire was distributed were included in the survey while the students who were not present in the class at that moment were excluded.

2.3 Study Duration

The study was conducted over a period of 7 months starting from 13 May to 25 Nov 2017. The data collection was completed over a period of 2 months.

2.4 Study Sampling

To keep the results of the study accurate, a confidence interval (CI: 95%) was calculated and hence a sample of 400 questionnaires was considered. The questionnaires were distributed in both the medical colleges, hence a sample of 200 for each medical college was collected. Among the 5 classes in each medical college, 40 questionnaires per class were distributed on a random basis. The students included in the study were either studying in MBBS program or BDS program.

The total sample of 364 was collected from the setup making the response rate 91% while the dropout rate was 0.02%.

2.5 Study Tool

The study tool was a self-designed questionnaire divided into 4 sections that were: Section 1 - Demographic Section 2 - Knowledge - 7 questions Section 3 - Personal experiences of student regarding bullying - 30 questions Section 4 - Perception - 3 questions All questions had 3 options YES, NO and DON'T

KNOW out of which only one was to be picked for each question.

2.6 Data Collection

20 questionnaires each were distributed randomly among individuals of both genders in every class (n=400). The questionnaires were filled during the class and handed over after completion. The students had filled the questionnaires on their own will and gave a signed consent on the questionnaire before filling.

2.7 Ethical Considerations

The study was reviewed by the Institution review board. Every participant signed an informed consent of confidentiality before filling the questionnaire.

2.8 Data Analysis

For the entry of data and its analysis SPSS (PSW) version 20 was used. Descriptive statistics were used to demonstrate the characteristics of the study population. Categorical variables were measured as frequency and percentage where continuous variables were expressed as a mean standard deviation. Inferential statistics (Kruskal Willis test, Mann-Whitney test and Chi-square test $p < 0.05$) were used to assess the significance among study variables.

3. RESULTS

3.1 Demographics

Table no. 1 shows demographic characteristics. Most of the participants were from age group 19-21 which were 177 (48.6%). Maximum 188 (51.6%) of participants were male. One hundred and ninety-two (192) (52.7%) students of QIMS participated while the rest were from BMC. Maximum respondents 76 (20.9) were from 2nd year. Maximum participants 205 (6.3%) said that they were not residents of hostels and 222 (61%) were urban dwellers. Most participants 103 (28.3%) belonged to moderately educated families. Most of the participants 128 (35.2%) belonged to families with six to nine members while the maximum respondents 140 (38.5%) had a family income of >100,000.

3.2 Questionnaire Response

3.2.1 Knowledge

Table 2 shows knowledge description where majority 286 (78.6%) of the tested participants said that they knew the given definition of bullying. 255 (70.1%) knew that bullying is a crime in developed countries while 236 (64.8%) participants did not know about the anti-bullying laws of Pakistan.

Maximum participants 196 (46.4%) said that there is no anti-bullying policy in their institute. 320 (87.9%) participants knew that bullying can lead to mental and behavioral disorders while most 323 (88.7%) also knew that bullying can cause anxiety and depression specifically. Maximum respondents 297 (81.6%) were familiar with the fact that bullying happens to all genders.

3.2.2 Experience/ prevalence of bullying among the respondents

According to table 3, Maximum 148 (40.7%) participants said that there is bullying among students of their institute. Most 248 (68.1%) said that physical bullying is not common, 160 (44.0%) said that social bullying is not common, 177 (48.6%) said that verbal bullying is not common and 174 (47.8%) said that cyberbullying is not common in their institute.

194 (53.3%) participants responded that they were never bullied while 118 (32.4%) said that they were bullied. 82 (22.5%) were bullied in college premises while maximum 93 (25.5%) said that they were not bullied in hospitals. ninety-one 91 (25%) said that they were bullied in hostels and 79 (21.7%) were not bullied in the cafeteria. Eighty-eight 88(24.2%) said that it was not physical bullying, 80 (22.0%) said that it was social bullying, 99 (27.2%) said that it was verbal bullying and 81 (22.3%) said that it was not cyberbullying. 107 (29.4%) participants said that they felt bad, sad, shy or embarrassed after the incidence of bullying. Most 99 (27.2%) felt bad about themselves while most 85(23.4%) thought about the incident again and again. Most of the participants 99 (27.2%) said that they felt depressed while 90 (24.7%) did not cry about the incidence. Maximum respondents 96 (26.4%) said that they changed themselves in any way after the incidence. Most respondents 80 (22%) have not yet forgotten the incidence while 83 (22.8%) said that they will forget about it in the

Table 1. Demographics characteristics

Demographics:	Frequencies (N=364)	Percentage (%)
Age group:		
16-18	17	4.7
19-21	177	48.6
22-24	153	42.0
25-27	16	4.4
28-30	1	0.3
Gender:		
Male	188	51.6
Female	174	47.8
Other	0.2	0.5
Institution:		
BMC	172	47.3
QIMS	192	52.7
Year of study:		
1st year	69	19.0
2nd year	76	20.9
3rd year	75	20.6
4th year	71	19.5
Final year	73	20.1
Hostel resident:		
Not Disclosed	10	2.7
Yes	149	40.9
No	205	56.3
Relatives in school:		
Not Disclosed	14	3.8
Yes	121	33.2
No	229	62.9
Locality:		
Urban	222	61.0
Rural	120	33.0
Not Disclosed	22	6.0
Family education status:		
Not Disclosed	8	2.2
Uneducated	27	7.4
Moderately educated	103	28.3
Well educated	226	62.1
No. of family members:		
Not Disclosed	5	1.4
two - four	57	15.7
five to six	102	28.0
seven to nine	128	35.2
ten or >10	72	19.8
Family income:		
Not Disclosed	22	6.0
>25,000	47	12.9
>50,000	88	24.2
>100,000	140	38.5
>500,000	42	11.5
<500,000	25	6.9

future anytime soon. Maximum bullied people who bullied them. Most 81 (22.3%) said respondents 99 (27.2%) stay away from the that they talked to someone about the incidence,

Table 2. Knowledge response of respondents

Knowledge Question	Frequency (Percentage %)			
	Yes	No	Don't Know	Did not disclose
Did you know the above-given definition of Bullying?	286(78.6)	65(17.9)	11(3.0)	2(0.5)
Bullying is a serious crime in developed countries and can be as serious as going to the jail?	255(70.1)	60(16.5)	46(12.6)	3 (0.8)
Do you know about the anti-bullying laws of Pakistan?	60(16.5)	236(64.8)	66(18.1)	2(0.5)
Is there an anti-bullying policy in your college?	99(27.2)	196(46.4)	92(25.3)	4(1.1)
Bullying can lead to mental and behavioral disorders?	320(87.9)	23(6.3)	18(4.9)	3(0.8)
Bullying can cause anxiety and depression?	323(88.7)	21(5.8)	17(4.7)	3(0.8)
Bullying takes place among all genders and can be a serious issue for all?	297(81.6)	30(8.2)	35(9.6)	2(0.5)

69 (19%) talked to someone in their family, 82 (22.5%) talked to their friends, most 83 (22.8%) did not talk to their parents while most 114 (31.3%) not talk or complain about the incidence to their teachers or college authorities. 73 (20.1%) said that they felt good after talking about the incidence. Maximum 160(44.0%) said that they do not have any friends that have changed, lost their confidence, got depressed or became shy because of being bullied. Most of the respondents 268(73.6%) said that there should be professional councilors or psychiatrists in their college to deal with cases of bullying and other student problems.

3.2.3 Respondents who reported other friends being bullied

Table 4 shows that 66.2% respondents said none of their friends have changed, lost their confidence, got depressed or became shy because of being bullied; while out the rest 20.1% said that at least 1 of their friends, 11.5% said 2-5 of their friends, 1.6% said 6-10 of their friends and 0.5% said more than 10 of their friends have changed, lost their confidence, got depressed or became shy because of being bullied.

3.2.4 Perception about bullying

According to table 5, 205(56.3%) respondents had seen someone being bullied in front of them but only 170 (46.7%) tried to stop the bullying being done. Most of the respondents 312 (85.7%) said that bullying should stop.

3.2.5 Knowledge, experience and perception score level

In table 6, score have been tabulated. There were 7 questions for knowledge each question with a 'Yes' scored 1 mark hence the maximum score was 7. A score of 0-2 was considered poor knowledge, 3-5 was considered adequate knowledge while 6-7 was considered good knowledge.

In the next section of questionnaire, there were 32 questions for prevalence/ experience of a respondent to bullying each marked 1 for a Yes. 0-10 was considered as the poor experience of the student to bullying implying that the student was not bullied, 11-20 was considered adequate experience implying that the student had experienced bullying to an adequate extent while a score of 21-32 suggested good experience with bullying implying that the student had been bullied extensively.

263 (72.3%) participants had adequate knowledge about bullying while 237 (65.1%) participants had a negative experience with bullying (were not bullied). Most respondents 215 (59.1%) had a poor perception about bullying.

3.2.6 Mean scores of knowledge, experience and perception compared to demographics

According to table 7; age, institution and locality are significant perimeters in relation with knowledge about bullying while gender, class, hostel residency, relative in institute, family education status, No. of family members and family income had no significant relation with

Table 3. Experience/ prevalence response of respondents

Experience/ prevalence Questions	Frequency (Percentage)			
	Yes (%)	No (%)	Don't know (%)	Did not disclose (%)
Is there bullying among students of your institute?	148(40.7)	139(38.2)	74(20.3)	3(0.8)
Is physical bullying (use of violence like punching, kicking, pinching etc. towards another fellow) common in your institute?	69(19.0)	248(68.1)	44(12.1)	3(0.8)
Is social bullying (spreading rumors, damaging someone's reputation, excluding a fellow on purpose etc.) common in your institute?	154(42.3)	160(44.0)	47(12.9)	3(0.8)
Is Verbal bullying (hurting through words, abuses and bad language) common in your institute?	148(40.7)	177(48.6)	36(9.9)	3(0.8)
Is Cyber bullying (taunting, abusing or hurting a fellow via texts, emails, posts, videos, pictures, faking someone's ID on internet etc.) common in your institute?	118(32.4)	174(47.8)	68(18.7)	4(1.1)
Have you ever been bullied? If NO or DON'T KNOW then skip to number 37.	133(36.5)	194(53.3)	22(6.0)	15(4.1)
Did it happen in your college premises?	82(22.5)	71(19.5)	20(5.5)	191(52.5)
Did it happen in hospitals affiliated with your institute?	55(15.1)	93(25.5)	24(6.6)	192(52.7)
Did it happen in hostels?	91(25)	64(17.6)	17(4.7)	192(52.7)
Did it happen in college cafeteria?	69(19.0)	79(21.7)	24(6.6)	192(52.7)
Was it physical bullying?	63(17.3)	88(24.2)	20(5.5)	193(53.0)
Was it social bullying?	80(22.0)	64(17.6)	28(7.7)	192(52.7)
Was is verbal bullying?	99(27.2)	51(14.0)	22(6.0)	192(52.7)
Was it cyber bullying?	61(16.8)	81(22.3)	28(7.7)	194(53.3)
Did you feel bad/sad/shy/embarrassed after the incident?	107(29.4)	45(12.4)	19(5.2)	193(53.0)
Did you feel bad about yourself after the incident?	99(27.2)	56(15.4)	16(4.4)	193(53.0)
Did you think about it again and again?	85(23.4)	65(17.9)	19(5.2)	195(53.6)
Did you feel depressed after the incident?	99(27.2)	57(15.7)	14(3.8)	194(53.3)
Did you cry about it?	58(15.9)	90(24.7)	23(6.3)	193(53.0)
Did you change yourself in any ways after the incident?	96(26.4)	55(15.1)	19(5.2)	194(53.3)
Have you forgotten the incident?	73(20.10)	80(22.0)	18(4.9)	193(53.0)
Will you be able to forget it in near future?	83(22.8)	63(17.3)	25(6.9)	193(53.0)
Do you stay away from the people who bullied you?	99(27.2)	48(13.2)	24(6.6)	193(53.0)
Did you talk to someone about the incident?	81(22.3)	64(17.6)	24(6.6)	195(53.6)
Did you talk to someone in your family about it?	69(19.0)	66(18.1)	21(5.8)	208(57.1)
Did you talk to your friends about it?	82(22.5)	54(14.8)	19(5.2)	209(57.4)
Did you talk to your parents about it?	62(17.0)	83(22.8)	11(3.0)	208(57.1)
Did you talk/complain to your teachers/ college authorities about it?	41(11.3)	114(31.3)	13(3.6)	196(53.8)
Did you feel good after talking it out?	73(20.1)	69(19.0)	28(7.7)	194(53.3)

Experience/ prevalence Questions	Frequency (Percentage)			
	Yes (%)	No (%)	Don't know (%)	Did not disclose (%)
Is/Are there any friends of you that have changed, lost their confidence, got depressed or became shy because of being bullied?	137(37.6)	160(44.0)	59(16.2)	8(2.2)
Do you think there should be professional councilors/psychiatrists in your college to deal with cases of bullying and other student problems?	268(73.6)	57(15.7)	34(9.3)	5(1.4)

Table 4. Respondents who reported other friends being bullied

Respondents who reported other friends being bullied	Frequency (n=364)	Percentage (%)
Specify the number of friends who have changed, lost their confidence, got depressed or became shy because of being bullied?		
Nil	241	66.2
at least 1	73	20.1
2-5	42	11.5
6-10	6	1.6
above 10	2	0.5

Table 5. Perception about bullying

Perception about bullying	Yes (%)	No (%)	Don't know (%)	Did not disclose (%)
Have you seen students being bullied in front of you?	205(56.3)	143(39.3)	14(3.8)	2(0.5)
Did you try to stop the people/person who were bullying him/her?	170(46.7)	153(42.0)	33(9.1)	8(2.2)
Do you think bullying should stop?	312(85.7)	30(8.2)	20(5.5)	2(0.5)

Table 6. Score level

Score level	Frequency	Percentage
Knowledge score		
Poor Knowledge	31	8.5
Adequate Knowledge	263	72.3
Good knowledge	70	19.2
Experience score		
Poor Experience	237	65.1
Adequate Experience	87	23.9
Good Experience	40	11.0
Perception score		
Bad Perception	149	40.9
Poor Perception	215	59.1

knowledge about bullying. Considering the experience score only gender, class and hostel residency had a significant relation with experiencing bullying while age, institution, relative in institute, locality, family education status, no. of family members and family income had no significant relationship.

However, On the perception of respondents towards bullying the only gender showed a significant relationship while age, institution, class, hostel residency, locality, relative in institute, family education status, no. of family members and family income had no significance.

3.2.7 Demographics crosstabulation with Knowledge and experience groups

The knowledge scores were grouped into 3 characteristics namely poor, adequate and good knowledge as shown in table 8. Chi-square tests were performed on the groups respectively that showed significant association of knowledge about bullying with institution, class, and relatives in the institute.

The experience scores were grouped into 3 characteristics namely poor, adequate and good experience where good means that they had significant bullying incidents. Chi-square tests were performed on the groups respectively that showed significant association of experience of being bullied with gender, class and hostel residency.

The perception scores were grouped into 2 characteristics namely poor and good perception. Chi-square tests were performed on the groups respectively that showed significant association of perception about bullying with gender only.

3.2.8 Have you ever been bullied and demographics crosstabulation

After applying Chi-square tests on the groups in table 9 below, gender and class were significantly associated with a participant being bullied while age, institution, hostel residency, locality, relatives in institute, family education status, no. of family members and family income had no significant association with a participant being bullied.

The participants most bullied (64) were in the age group 19-21, most bullied participants were males (84). QIMS had more bullied participants (76). Most of the bullied students were from 5th year. Non-hostelers were bullied more (68). Most bullied participants (81) had no relatives in institute. Maximum of the students who were bullied were urban residents (85). Students belonging to well-educated families were bullied most (76), most bullied participants had 7-9 family members (48). While maximum (51) participants with good family income of >100,000 PKR were bullied.

3.2.9 Have you ever been bullied and personal experience + perception crosstabulation

Table 10 shows that after applying chi-square tests on the groups below maximum (71) of the

respondents who said they were bullied said that the incident happened in their college premises (institute). Most bullied participants (70) said that it did not happen in hospital/s affiliated to their institute. Most (74) of bullied participants said that they were bullied in hostels while most (60) said that it happened in the college cafeteria. Maximum (67) said that it was not physical bullying, (71) said that it was social bullying, (85) said that it was verbal bullying while (61) said that it was not cyber bullying.

Most of the bullied participants (81) said that they felt bad/sad/shy/embarrassed after the incident while (65) also thought about it again and again. Maximum (72) bullied respondents felt depressed after the incident but most (70) did not cry about the incident. 75 said that they changed themselves in any ways after the incident. Maximum (60) have yet not forgotten the incident but maximum (62) also said that they will forget the incident in near future. Most of the bullied participants (77) said that they stay away from the people who had bullied them.

Most (70) bullied respondents had talked to someone about the incident. Maximum (55) had talked to someone in family while most of them (67) talked about it to their friends. It is seen from results that maximum (56) bullied respondents did not talk to their parents about the incident while most (82) also did not complain or talk about the incident to their teachers or institute administration. However, most of the bullied respondents (58) said that they felt good after they talked it out.

Most (68) participants said that they have other friends who changed themselves because of being bullied.

Most (89) of the bullied respondents said that there should be psychiatric counselors in the institute. Maximum (95) bullied respondents had also seen someone else being bullied however most (75) tried to stop the incident from happening. Maximum (102) respondents said that bullying needs to stop.

3.2.10 Did you feel depressed after the incident and talking to someone about the incident crosstabulation

After applying chi-square tests on the groups below in Table 11, the bullied respondents who said that they felt depressed, most of them (54) had talked to someone about the incident.

Table 7. Mean scores of knowledge, experience and perception compared to demographics

Demographics	Frequency (n)	Mean knowledge score \pm standard deviation ($\bar{X} \pm s$)	P value	Mean experience score \pm standard deviation ($\bar{X} \pm s$)	P value	Mean perception score \pm standard deviation ($\bar{X} \pm s$)	P value
Age Group: *							
16-18	17	3.88 \pm 1.764	0.47	5.18 \pm 5.876	0.060	1.53 \pm 0.943	0.160
19-21	177	4.73 \pm 1.204		9.00 \pm 8.432		1.85 \pm 0.911	
22-24	153	4.29 \pm 1.546		8.69 \pm 7.860		1.69 \pm 1.016	
25-27	16	4.63 \pm 0.957		11.00 \pm 7.005		1.94 \pm 0.929	
28-30	1	7.00 \pm 0.00		0.00 \pm 0.00		0.00 \pm 0.00	
Gender: *							
Male	188	4.45 \pm 1.535	0.96	10.69 \pm 8.182	0.00	1.88 \pm 0.935	0.031
Female	174	4.59 \pm 1.226		6.62 \pm 7.367		1.65 \pm 0.978	
Other	2	2.50 \pm 0.707		12.50 \pm 12.021		1.00 \pm 1.414	
Institution:**							
BMC	172	4.33 \pm 1.199	0.00	9.19 \pm 7.744	0.057	1.81 \pm 0.975	0.466
QIMS	192	4.67 \pm 1.543		8.36 \pm 8.332		1.73 \pm 0.954	
Class: *							
1st year	69	4.87 \pm 1.136	0.277	6.43 \pm 7.520	0.009	1.71 \pm 0.941	0.759
2nd year	76	4.59 \pm 1.288		9.55 \pm 8.103		1.82 \pm 0.860	
3rd year	75	4.27 \pm 1.647		9.55 \pm 8.847		1.84 \pm 1.053	
4th year	71	4.41 \pm 1.260		7.69 \pm 7.216		1.68 \pm 1.011	
Final year	73	4.41 \pm 1.544		10.34 \pm 8.026		1.78 \pm 0.961	
Hostel resident:*							
Did not disclose	10	4.50 \pm 0.850	0.182	6.90 \pm 6.173	0.001	1.50 \pm 0.972	0.341
Yes	149	4.36 \pm 1.521		10.92 \pm 8.962		1.85 \pm 0.942	
No	205	4.61 \pm 1.322		7.27 \pm 7.059		1.72 \pm 0.978	
Relatives in your institute: *							
Not Disclosed	14	4.93 \pm 1.859	0.12	11.50 \pm 12.271	0.337	1.43 \pm 1.158	0.304
Yes	121	4.17 \pm 1.578		9.31 \pm 7.736		1.83 \pm 0.969	
No	229	4.66 \pm 1.231		8.30 \pm 7.905		1.75 \pm 0.948	

Demographics	Frequency (n)	Mean knowledge score \pm standard deviation ($\bar{X} \pm s$)	P value	Mean experience score \pm standard deviation ($\bar{X} \pm s$)	P value	Mean perception score \pm standard deviation ($\bar{X} \pm s$)	P value
Locality: *							
Did not disclose	22	4.23 \pm 1.850	0.127	10.09 \pm 10.583	0.523	1.50 \pm 0.964	0.335
Urban	222	4.61 \pm 1.327		8.77 \pm 7.595		1.79 \pm 0.971	
Rural	120	4.37 \pm 1.432		8.48 \pm 8.416		1.77 \pm 0.950	
Family education status: *							
Did not disclose	8	4.75 \pm 1.389	0.056	6.88 \pm 8.823	0.211	1.75 \pm 0.886	0.211
Uneducated	27	3.70 \pm 2.053		12.52 \pm 9.677		1.85 \pm 1.027	
Moderately-educated	103	4.42 \pm 1.531		9.38 \pm 8.641		1.59 \pm 0.964	
Well educated	226	4.63 \pm 1.205		8.09 \pm 7.433		1.84 \pm 0.954	
No. of Family Members: *							
Did not disclose	5	4.40 \pm 1.342	0.884	2.20 \pm 2.168	0.079	1.20 \pm 0.447	0.399
two – four	57	4.56 \pm 1.018		7.07 \pm 7.523		1.67 \pm 0.873	
five to six	102	4.54 \pm 1.539		9.07 \pm 8.363		1.82 \pm 0.927	
seven to nine	128	4.55 \pm 1.222		9.11 \pm 7.892		1.74 \pm 1.014	
ten or <10	72	4.33 \pm 1.736		9.47 \pm 8.370		1.85 \pm 1.016	
Family income: *							
Did not disclose	22	4.32 \pm 1.673	0.485	7.95 \pm 7.712	0.112	1.82 \pm 0.958	0.468
>25,000	47	4.81 \pm 1.227		11.85 \pm 9.089		1.89 \pm 0.938	
>50,000	88	4.57 \pm 1.133		7.98 \pm 7.994		1.63 \pm 0.848	
>100,000	140	4.44 \pm 1.445		8.08 \pm 7.776		1.75 \pm 0.990	
>500,000	42	4.21 \pm 1.631		9.19 \pm 7.262		1.88 \pm 1.109	
<500,000	25	4.76 \pm 1.589					
Total	364						

* Kruskal Wallis Test
 ** Mann Whitney U test
 Sig <0.05

Table 8. Demographics crosstabulation with knowledge and experience groups

Demographics	Knowledge				Experience				Perception		
	Poor	Adequate	Good	p value	Poor	Adequate	Good	p value	Poor	Good	p value
Age Group:											
16-18	3	12	2	0.059	13	4	0	0.563	9	8	0.087
19-21	7	133	37		117	39	21		66	111	
22-24	21	104	28		98	37	18		70	83	
25-27	0	14	2		8	7	1		3	13	
28-30	0	0	1		1	0	0		1	0	
Gender:											
Male	17	127	44	0.111	100	64	24	0.00	60	128	0.01
Female	13	135	26		136	23	15		88	86	
Other	1	1	0		1	0	1		1	1	
Institution:											
BMC	11	146	15	0.002	110	43	19	0.697	71	101	0.899
QIMS	20	117	55		127	44	21		78	114	
Class:											
1st year	1	51	17	0.048	53	12	4	0.030	33	36	0.224
2nd year	4	54	18		48	17	11		26	50	
3rd year	11	53	11		48	17	10		28	47	
4th year	8	51	12		50	16	5		35	36	
Final year	7	54	12		38	25	10		27	46	
Hostel resident:											
Did not disclose	0	9	1	0.817	7	3	0	0.00	6	4	0.363
Yes	14	108	27		79	44	26		57	92	
No	17	146	42		151	40	14		86	119	
Relatives your institute:											
Did not disclose	1	8	5	0.007	9	2	3	0.476	9	5	0.117
Yes	16	90	15		74	32	15		44	77	
No	14	165	50		154	53	22		96	133	
Locality:											
Did not disclose	4	14	4	0.302	14	5	3	0.949	14	8	0.083
Urban	15	161	46		144	53	25		88	134	
Rural	12	88	20		79	29	12		47	73	

Demographics	Knowledge				Experience				Perception		
	Poor	Adequate	Good	p value	Poor	Adequate	Good	p value	Poor	Good	p value
Family education status:											
Did not disclose	1	4	3	0.057	5	2	1	0.015	4	4	0.432
Uneducated	8	15	4		10	13	4		8	19	
Moderately educated	11	72	20		64	26	13		47	56	
Well educated	11	172	43		158	46	22		90	136	
No. of Family Members:											
Did not disclose	0	4	1	0.987	5	0	0	0.287	4	1	0.217
two - four	4	44	9		41	11	5		26	31	
five to six	12	68	22		64	25	13		36	66	
seven to nine	5	102	21		85	28	15		56	72	
ten or <10	10	45	17		42	23	7		27	45	
Family income:											
Did not disclose	3	17	2	0.392	15	5	2	0.094	10	12	0.491
>25,000	1	35	11		22	18	7		15	32	
>50,000	5	71	12		57	21	10		42	46	
>100,000	14	99	27		99	27	14		58	82	
>500,000	5	27	10		30	8	4		16	26	
<500,000	3	14	8		14	8	3		8	17	
Total	31	263	70								

Table 9. Have you ever been bullied and demographics crosstabulation

Demographics	Have you ever been bullied?				P value
	Not disclosed	Yes	No	Don't know	
Age group:					
16-18	1	3	10	3	0.570
19-21	7	64	95	11	
22-24	6	57	83	7	
25-27	1	9	5	1	
28-30	0	0	1	0	
Gender:					
Male	9	84	86	9	0.0410
Female	6	48	107	13	
Other	0	1	1	0	
Institution:					
BMC	8	57	95	12	0.582
QIMS	7	76	99	10	
Class:					
1st year	3	17	41	8	0.031
2nd year	2	28	42	4	
3rd year	6	27	37	5	
4th year	3	22	44	2	
Final year	1	39	30	3	
Hostel resident:					
Did not disclose	1	4	4	1	0.614
Yes	7	61	73	8	
No	7	68	117	13	
Relatives your institute:					
Did not disclose	1	7	6	0	0.610
Yes	6	45	60	10	
No	8	81	128	12	
Locality:					
Did not disclose	0	6	13	3	0.532
Urban	8	85	117	12	
Rural	7	42	64	7	
Family education status:					
Did not disclose	0	1	6	1	0.607
Uneducated	1	14	11	1	
Moderately educated	4	42	551	6	
Well educated	10	76	126	14	
No. of Family Members:					
Did not disclose	0	0	5	0	0.892
two - four	3	18	33	3	
five to six	4	40	52	6	
seven to nine	5	48	68	7	
ten or <10	3	27	36	6	

48 had talked to someone in their family about it and (52) had talked to their friends. Most of the bullied and depressed respondents (49) did not talk to their parents about it and most (62) also did not talk about it to their teachers or college authorities.

Most (47) respondents who felt depressed after bullying said that they felt better after they talked about the incident to someone.

4. DISCUSSION

According to this cross-sectional study done on Medical students of Balochistan for the first time, the knowledge of the students regarding bullying was affected by their institute, class of study and whether they have a relative in their institution. Most of the respondents had an adequate knowledge about bullying.

Table 10. Have you ever been bullied and personal experience + perception crosstabulation

Personal experience questions	Have you ever been bullied?				P value
	Not disclosed	Yes	No	Don't know	
Did it happen in your college premises?					
Not disclosed	14	2	161	14	0.00
Yes	0	71	9	2	
No	0	47	22	2	
Don't Know	1	13	2	4	
Did it happen in hospitals affiliated with your institute?					
Not disclosed	14	2	162	14	0.00
Yes	0	45	7	3	
No	0	70	21	2	
Don't Know	1	16	4	3	
Did it happen in hostels?					
Not disclosed	14	2	162	14	0.00
Yes	1	74	12	4	
No	0	45	17	2	
Don't Know	0	12	3	2	
Did it happen in college cafeteria?					
Not disclosed	14	2	162	14	0.00
Yes	0	60	6	3	
No	0	59	18	2	
Don't Know	1	12	8	3	
Was it physical bullying?					
Not disclosed	14	3	162	14	0.00
Yes	1	52	8	2	
No	0	67	20	1	
Don't Know	0	11	4	5	
Was it social bullying?					
Not disclosed	14	2	162	14	0.00
Yes	0	71	6	3	
No	0	43	20	1	
Don't Know	1	17	6	4	
Was is verbal bullying?					
Not disclosed	14	2	162	14	0.00
Yes	1	85	11	2	
No	0	34	16	1	
Don't Know	0	12	5	5	
Was it cyber bullying?					
Not disclosed	14	3	163	14	0.00
Yes	0	51	9	1	
No	0	61	17	3	
Don't Know	1	18	5	4	
Did you feel bad/sad/shy/ embarrassed after the incident?					
Not disclosed	14	2	163	14	0.00
Yes	1	81	21	4	
No	0	37	7	1	
Don't Know	0	13	3	3	

Personal experience questions	Have you ever been bullied?				
	Not disclosed	Yes	No	Don't know	P value
Did you feel bad about yourself after the incident?					
Not disclosed	14	2	163	14	0.00
Yes	1	75	22	1	
No	0	47	6	3	
Don't Know	0	9	3	4	
Did you think about it again and again?					
Not disclosed	14	4	163	14	0.00
Yes	1	65	16	3	
No	0	50	14	1	
Don't Know	0	14	1	4	
Did you feel depressed after the incident?					
Not disclosed	14	2	163	15	0.00
Yes	1	72	22	4	
No	0	49	6	2	
Don't Know	0	10	3	1	
Did you cry about it?					
Not disclosed	14	2	163	14	0.00
Yes	0	44	11	3	
No	1	70	17	2	
Don't Know	0	17	3	3	
Did you change yourself in any ways after the incident?					
Not disclosed	14	2	164	14	0.00
Yes	1	75	16	4	
No	0	42	11	2	
Don't Know	0	14	3	2	
Have you forgotten the incident?					
Not disclosed	14	2	163	14	0.00
Yes	0	58	12	3	
No	1	60	16	3	
Don't Know	0	13	3	2	
Will you be able to forget it in near future?					
Not disclosed	14	2	163	14	0.00
Yes	0	62	18	3	
No	0	49	11	3	
Don't Know	1	20	2	2	
Do you stay away from the people who bullied you?					
Not disclosed	14	2	163	14	0.00
Yes	1	77	17	4	
No	0	38	10	0	
Don't Know	0	16	4	4	
Did you talk to someone about the incident?					
Not disclosed	15	3	163	14	0.00
Yes	0	70	9	2	
No	0	42	19	3	
Don't Know	0	18	3	3	
Did you talk to someone in your family about it?					
Not disclosed	14	16	164	14	0.00
Yes	0	55	12	2	
No	1	47	15	3	
Don't Know	0	15	3	3	

Personal experience questions	Have you ever been bullied?				
	Not disclosed	Yes	No	Don't know	P value
Did you talk to your friends about it?					
Not disclosed	14	17	164	14	0.00
Yes	1	67	12	2	
No	0	35	14	5	
Don't Know	0	14	4	1	
Did you talk to your parents about it?					
Not disclosed	13	17	164	14	0.00
Yes	1	50	7	4	
No	1	56	22	4	
Don't Know	0	10	1	0	
Did you talk/complain to your teachers/ college authorities about it?					
Not disclosed	13	5	164	14	0.00
Yes	0	34	5	2	
No	2	82	25	5	
Don't Know	0	12	0	1	
Did you feel good after talking it out?					
Not disclosed	11	7	162	14	0.00
Yes	0	58	13	2	
No	3	45	18	3	
Don't Know	1	23	1	3	
Is/Are there any friends of you that have changed, lost their confidence, got depressed or became shy because of being bullied?					
Not disclosed	4	1	3	0	0.00
Yes	3	68	60	6	
No	5	41	103	11	
Don't Know	3	23	28	5	
Do you think there should be professional councilors/psychiatrists in your college to deal with cases of bullying and other student problems?					
Not disclosed	2	2	1	0	0.00
Yes	12	89	156	11	
No	1	25	24	7	
Don't Know	0	17	13	4	
Perception questions:					
Have you seen students being bullied in front of you?					
Not disclosed	2	0	0	0	0.00
Yes	7	95	96	7	
No	6	31	95	11	
Don't Know	0	7	3	4	
Did you try to stop the people/person who were bullying him/her?					
Not disclosed	2	1	4	1	0.00
Yes	5	75	81	9	
No	7	47	94	5	
Don't Know	1	10	15	7	
Do you think bullying should stop?					
Not disclosed	2	0	0	0	0.00
Yes	12	102	178	20	
No	1	21	8	0	
Don't Know	0	10	8	2	

Table 11. Did you feel depressed after the incident and talking to someone about the incident crosstabulation

Talking to someone about the incident questions	Did you feel depressed after the incidence?				P value
	Not disclosed	Yes	No	Don't know	
Did you talk to someone about the incidence?					
Not disclosed	193	1	1	0	0.00
Yes	0	54	24	3	
No	0	36	26	2	
Don't Know	1	8	6	9	
Did you talk to someone in your family about the incidence?					
Not disclosed	193	9	6	0	0.00
Yes	0	48	17	4	
No	1	34	27	4	
Don't Know	0	8	7	6	
Did you talk to your friends about it?					
Not disclosed	193	10	6	0	0.00
Yes	0	52	25	5	
No	0	29	23	2	
Don't Know	1	8	3	7	
Did you talk to your parents about it?					
Not disclosed	191	11	6	0	0.00
Yes	2	34	22	4	
No	1	49	27	6	
Don't Know	0	5	2	4	
Did you talk/complain to your teachers/ college authorities about it?					
Not disclosed	190	5	1	0	0.00
Yes	1	29	10	1	
No	3	62	40	9	
Don't Know	0	3	6	4	
Did you feel good after talking it out?					
Not disclosed	188	5	1	0	0.00
Yes	2	47	20	4	
No	3	33	28	5	
Don't Know	1	14	8	5	

Regarding the experience of students as a victim, the survey showed that most of the participants (65%) had a negative experience with bullying which means that they were not subjected to it. Among the ones who were bullied, this study highlighted that most of them were males rather than female which show similarity with a study conducted by Ahmer et al., in Pakistan [5] and Frank et al. in United States [6] where they showed that males were more subjected to bullying rather than their counterpart gender. The present study showed that minimum or less number of females were bullied. This is,

however, contradictory with other studies conducted by Rautio et el. Larsson et el. And Nora et el., respectively [7,8,28].

Maximum respondents 76 (64%) who were bullied were from QIMS, a private sector medical college. 39 (33%) students who were bullied were from the senior most class i.e 5th year which is parallel to Syed Ahmer's results [1] where it was found that 52% of final year medical students are bullied, however, this study had participants from all years of medical school.

Considering the type of bullying, most bullied respondents (67) were physically bullied, 71 were socially bullied while 85 were verbally bullied showing a similarity to a previous study where students bullied were verbally bullied the most at 57% [1]. However, the overlapping of the type of bullying in an incidence was not asked in this survey neither was the number of incidences. According to this survey, most bullied participants (61) were not cyber bullied which is opposite to results of Francine Dehue' study in the Netherlands where 23% of the participants were cyberbullied [29].

72 bullied students said that they felt depressed after the incidence which is also what a study conducted in Finland of secondary students say where depression among bullied and bullies were found to be equally prevalent [27]. Most bullied participants (77) also said that they stay away from their bullies which goes similar to an Australian study on primary students that reported 10% of bully-victims staying away from school as a coping strategy [15], in this study, however, the strategy used to stay away from bullies was not asked.

Regarding reporting the bullying incident, the results show that 70 bullied students did report the incident to someone. Fifty-Five (55) reported it to someone in their family while 67 reported it to a friend. Nevertheless, most bullied participants (56) did not report the incident to their parents and most (82) also did not report the incident to their teachers or authorities similar to Fekkes M's study on school children where more than half of the bullied students did not report it to their teachers and urged on the need for a regular and healthy communication between children and parents [16]. Most bullied participants (87) said that there should be psychiatric councilors in their institute to help students out of such situations. According to the results 95 bullied respondents had also seen someone else being bullied in front of them and most of them (75) tried to stop the bullies. Maximum (102) students also perceived that bullying must stop in their institute.

5. CONCLUSION

In the light of the results of this research, a big percentage of Medical Students in Quetta are bullied in their respective institutes. The reporting of the incidences is seen to be

very less. Hence, it solely relies on the institutes to devise solutions to end this social issue considering the effect it has on the mental wellbeing of students. Institutions must have a strong policy against bullying and a team of faculty to keep check around such happenings in their institute. Under the policy, awareness among the students must also be included to tell students about the adverse consequences that a victim could encounter such as anxiety, depression and in severe cases schizophrenia. Moreover, this study highlights the need of student psychiatric councilors inside the campus to provide counseling to students going through mental disturbances because of victimization. Nevertheless, it is also evident that bullied students do not share the incident with their parents which is indeed a call for us to focus on a friendly parent-child relationship. Also, friends and fellows must take a stand when they see someone being victimized.

CONSENT

As per international standard or university standard, participant's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Olweus D. Bullying at school, in Aggressive behavior. Springer. 1994;97-130.
2. Nansel TR, et al. Bullying behaviors among us youth: Prevalence and association with psychosocial adjustment. JAMA. 2001;285(16):2094-2100.
3. Imran N, et al. Bullying of junior doctors in Pakistan: A cross-sectional survey. Singapore Med J. 2010;51(7):592-5.
4. Guerin S, Hennessy E. Pupils' definitions of bullying. European Journal of

- Psychology of Education. 2002;17(3):249-261.
5. Ahmer S, et al. Bullying of medical students in Pakistan: A cross-sectional questionnaire survey. *PLoS One*. 2008; 3(12):e3889.
 6. Frank E, et al. Experiences of belittlement and harassment and their correlates among medical students in the United States: Longitudinal survey. *BMJ*. 2006; 333(7570):682.
 7. Rautio A, et al. Mistreatment of university students most common during medical studies. *BMC Medical Education*. 2005; 5(1):36.
 8. Larsson C, Hensing G, Allebeck P. Sexual and gender-related harassment in medical education and research training: Results from a Swedish survey. *Medical Education*. 2003;37(1):39-50.
 9. Faruqi RA, Ikkos G. Poorly performing supervisors and trainers of trainee doctors. *The Psychiatrist*. 2007;31(4):148-152.
 10. Paice E, Smith D. Bullying of trainee doctors is a patient safety issue. *The Clinical Teacher*. 2009;6(1):13-17.
 11. Hoosen IA, Callaghan R. A survey of workplace bullying of psychiatric trainees in the West Midlands. *The Psychiatrist*. 2004;28(6):225-227.
 12. Yıldırım D. Bullying among nurses and its effects. *International Nursing Review*. 2009;56(4):504-511.
 13. Quine L. Workplace bullying, psychological distress, and job satisfaction in junior doctors. *Cambridge Quarterly of Healthcare Ethics*. 2003;12(1):91-101.
 14. Stebbing J, et al. A questionnaire survey of stress and bullying in doctors undertaking research. *Postgraduate Medical Journal*. 2004;80(940):93-96.
 15. Slee PT. Situational and interpersonal correlates of anxiety associated with peer victimisation. *Child Psychiatry and Human Development*. 1994;25(2):97-107.
 16. Fekkes M, Pijpers FI, Verloove-Vanhorick SP. Bullying: Who does what, when and where? Involvement of children, teachers and parents in bullying behavior. *Health Education Research*. 2004; 20(1):81-91.
 17. Gadit A, Mugford G. A pilot study of bullying and harassment among medical professionals in Pakistan, focussing on psychiatry: Need for a medical ombudsman. *Journal of Medical Ethics*. 2008;34(6):463-466.
 18. Rose CA, Espelage DL. Risk and protective factors associated with the bullying involvement of students with emotional and behavioral disorders. *Behavioral Disorders*. 2012;133-148.
 19. Schultze-Krumbholz A, Scheithauer H. Social-behavioral correlates of cyberbullying in a German student sample. *Zeitschrift für psychologie. Journal of Psychology*. 2009;217(4):224-226.
 20. Totura CMW, et al. Multiple informants in the assessment of psychological, behavioral, and academic correlates of bullying and victimization in middle school. *Journal of Adolescence*. 2009;32(2):193-211.
 21. Mikkelsen E.G.e, Einarsen S. Basic assumptions and symptoms of post-traumatic stress among victims of bullying at work. *European Journal of Work and Organizational Psychology*. 2002;11(1): 87-111.
 22. Olafsen RN, Viemerö V. Bully/victim problems and coping with stress in school among 10-to 12-year-old pupils in Åland, Finland. *Aggressive Behavior*. 2000;26(1): 57-65.
 23. Seals D, Young J. Bullying and victimization: Prevalence and relationship to gender, grade level, ethnicity, self-esteem, and depression. *Adolescence*. 2003;38(152):735.
 24. Fleming LC, Jacobsen KH. Bullying and symptoms of depression in Chilean middle school students. *Journal of School Health*. 2009;79(3):130-137.
 25. Craig WM. The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and Individual Differences*. 1998;24(1):123-130.
 26. Bond L, et al. Does bullying cause emotional problems? A prospective study of young teenagers. *BMJ*. 2001; 323(7311):480-484.
 27. Kaltiala-Heino R, et al. Bullying, depression, and suicidal ideation in Finnish adolescents: School survey. *BMJ*. 1999; 319(7206):348-351.

28. Nora LM, et al. Gender discrimination and sexual harassment in medical education: Perspectives gained by a 14-school study. *Academic Medicine*. 2002;77(12, Part 1): 1226-1234.
29. DeHue F, Bolman C, Völlink T. Cyberbullying: Youngsters' experiences and parental perception. *Cyber Psychology & Behavior*. 2008;11(2):217-223.

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