

# Bullying and Victimization Trends in Undergraduate Medical Students – A Self-Reported Cross-Sectional Observational Survey

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## ABSTRACT

**Introduction:** Bullying is a form of behaviour that can negatively impact a person. It can lead to several deleterious consequences like low self-confidence, drop in academic performance and depression. Studies have shown that bullying behaviour exists amongst medical students also. In the medical field, it is known to negatively impact dispensing of health care and attitudes of medical students towards becoming doctors. It is very difficult for medical students to cope with such a menace as they are already burdened with a vast curriculum and rigorous schedules. There exists paucity of studies regarding bullying amongst undergraduate medical students in Indian context.

**Aim:** To study prevalence of peer-based bullying and victimization along with their associated factors in undergraduate medical students.

**Materials and Methods:** Four hundred randomly chosen undergraduate medical students were included in the study. Socio-demographic and personal details including history of

substance use were recorded in a self-designed case record form. Illinois Bullying Scale was used to assess bullying behaviours. Out of total 400 students, 383 completed the survey and this data was analysed.

**Results:** In this study, 98.69% participants self-reported to having indulged in bullying while 88.77% reported feeling victimized. Physical ( $p < 0.001$ ) as well as verbal ( $p = 0.001$ ) bullying was found to be of significantly greater severity in males as compared to females. Students of the third year of medical school indulged in significantly ( $p = 0.034$ ) greater severity of physical bullying than those of other years. Alcohol consumption ( $p = 0.001$ ) and cigarette smoking ( $p < 0.001$ ) were significantly associated with physical bullying.

**Conclusion:** Peer-based bullying and victimization was found to be highly prevalent amongst undergraduate medical students. There is an urgent need for more detailed studies on bullying in medical students so that remedial measures can be initiated and steps to limit such behaviours can be looked at seriously.

**Keywords:** Aggression, Doctors, Harassment, Persecution, School

## INTRODUCTION

Bullying is a persistent malicious and undermining behaviour towards another individual which adversely affects the self-esteem and confidence of the recipient [1]. While a certain amount of conflict and harassment is typical of youth peer relations, bullying presents a potentially more harmful threat to healthy development. Bullying is a specific type of aggression in which: (a) the behaviour is intended to harm/disturb; (b) the behaviour occurs repeatedly over time; and (c) there is an imbalance of power, with a more powerful person/group attacking a less powerful one. Bullying may be verbal (e.g., name-calling, threats), physical (e.g., hitting), or in the form of victimization (e.g., rumours, shunning/exclusion) [2]. Medical student abuse is a phenomenon that is seen throughout the world. Rautio et al., in his study reported that the medical students reported bullying more commonly than students from other faculties like Humanities, Education, Science and Technology [3]. Bullying was shown to contribute to the psychological stress experienced by the students who were already feeling taxed by the intensity of the undergraduate medical curriculum. The students were reported as having become more cynical and felt they were worse off than their peers from other professions. Some considered dropping out of medical school and confessed to the idea of choosing a different profession. Studies have also shown that bullying in medical school affects the delivery of health care [4,5].

Studies in the UK have found prevalence of bullying in medical students in the range of 10.5% to 38% [6]. Higher rates were seen in the United States (42%) and in Scandinavian countries like Finland (75%) [5]. Although bullying among doctors has been

studied extensively in the developed world, it has received little attention in developing countries [7]. Most of the research from India is from studies conducted in children. We could find only one study conducted to assess bullying behaviour in the medical field and that too was amongst the post graduate medical students from southern India [8]. This showed a paucity of research done on this subject and hence we decided to conduct this study. The objective of the study was to estimate the prevalence of peer-based bullying and victimization along with their associated factors in undergraduate medical students.

## MATERIALS AND METHODS

This was a cross-sectional, observational study carried out over 2 months (June-July 2012). Undergraduate medical students studying in a Medical school in Navi Mumbai, India were included in the study. Permission from Institutional Ethics Committee was obtained prior to the conduct of this study. The procedures followed were in accordance with the Ethical standards of the committee on human experimentation and with the Helsinki Declaration of 1975 that was revised in 2000.

Four hundred undergraduate students studying in the medical school were invited to participate in the survey. Sample size was calculated based upon the following formula:

$$N = \frac{(Z_{1-\alpha/2})^2 * P(1-P)}{d^2}$$

where, N = sample size,  $Z_{1-\alpha/2}$  = confidence interval = 1.96, P = estimated prevalence from previous studies = 0.52, and d = desired precision (margin of error) = 0.05.

After obtaining informed consent, the socio-demographic, personal details, medical/psychological history and history of substance

abuse were recorded in a self-designed case record form. They were administered Illinois Bully Scale to detect the prevalence and various aspects of bullying in the past 30 day. Illinois Bully Scale is a validated and reliable scale [9]. The items of the scale consist of 3 subscales; bullying, fighting and victimization. Undergraduate medical students were asked to respond on a Likert scale of 5 point values as follows: Never = 0, 1 or 2 times = 1, 3 or 4 times = 2, 5 or 6 times = 3, 7 or more times = 4. Subscale scores were computed by summing the respective items of the subscale [9]. Higher scores in individual subscales indicated more bully perpetration, victimization and fighting behaviour. Participants not willing for consent, for participation and incomplete returned forms were excluded from analysis.

### STATISTICAL ANALYSIS

Data from the completed forms was analysed statistically using the Statistical Package for the Social Sciences (SPSS) version-17 software. Normality of data was assessed. Mann-Whitney U Test and Kruskal-Wallis test for the non-parametric data was used. Probability 'p-value of less than 0.05 considered as statistically significant.

### RESULTS

Of the 400 case report forms that were distributed, 17 did not give consent. A total of 383 students completed the forms which were then analysed (response rate 95.75%). Out of these, 98.69% reported to having indulged in or faced peer-based bullying. Regarding prevalence of types of bullying, physical bullying was found to be 63.97%, while verbal bullying was seen in 97.39%, and 88.77% reported feeling victimized [Table/Fig-1].

Type (N=383)	Present	Absent	Mean Score on IBS*	Std. Deviation
Physical Bullying (Fight subscale)	245 (63.97%)	138 (36.03%)	3.98	3.96
Verbal Bullying (Bully subscale)	373 (97.39%)	10 (2.61%)	7.85	5.95
Victimization (Victim Subscale)	340 (88.77%)	43 (11.23%)	4.66	3.09
Total Bullying	378 (98.69%)	5 (1.31%)	14.51	10.53

**[Table/Fig-1]:** Prevalence of Bullying/Victimization using Illinois Bully Scale. \*Illinois Bully Scale

Type of bullying	Gender	Number	Mean Scores	Std. Deviation	Median (IQR - 25 <sup>th</sup> , 50 <sup>th</sup> , 75 <sup>th</sup> percentiles) #	p value*
Physical Bullying (n=245)	Male	122	5.45	4.75	4 (2, 4, 8)	<0.001
	Female	123	2.51	2.13	2 (1, 2, 3)	
Verbal Bullying (n=373)	Male	152	9.52	7.30	8 (4, 8, 13)	0.001
	Female	221	6.70	4.46	6 (3, 6, 9)	
Victimization (n=340)	Male	141	5.07	3.42	4 (2, 4, 8)	0.122
	Female	199	4.36	2.80	3 (2, 3, 6)	

**[Table/Fig-2]:** Association between Bullying/Victimization and Gender. # Inter-Quartile Range (IQR) expressed in 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> percentiles; \*Using Mann Whitney U Test

### Bullying and gender

Verbal bullying was found to be the more common form in both males and females. Physical bullying as well as verbal bullying scores were found to be higher and of significantly (p<0.05) greater severity in males as compared in comparison to females [Table/Fig-2].

### Bullying and year of medical school

There was a statistically significant (p=0.034) difference in the physical bullying scores among groups of medical school year [Table/Fig-3]. The physical bullying scores in students studying in third year medical school were higher and statistically significant

Type of bullying	Medical School Year	Number	Mean Scores	Std. Deviation	Median (IQR-25 <sup>th</sup> , 50 <sup>th</sup> , 75 <sup>th</sup> percentiles) #	p value*
Physical Bullying (n=245)	1	53	3.01	2.62	2 (1, 2, 4)	0.034
	2	40	3.65	3.87	2 (1, 2, 4.75)	
	3	62	5.66	5.22	3.5 (2, 3.5, 8)	
	4	59	3.44	3.18	2 (1, 2, 5)	
	5	31	3.67	3.55	2 (1.2, 5)	
Verbal Bullying (n=373)	1	79	7.36	5.09	6 (3, 6, 10)	0.079
	2	70	6.80	5.56	5 (3, 5, 9)	
	3	88	10.11	8.05	8 (3, 8, 14)	
	4	83	7.18	4.08	6 (4, 6, 11)	
	5	53	7.26	5.16	6 (4, 6, 9)	
Victimization (n=340)	1	70	4.22	2.81	3 (2, 3, 6)	0.066
	2	62	4.37	3.06	3 (2, 3, 6)	
	3	69	5.63	3.59	4 (3, 4, 8)	
	4	77	4.63	2.94	4 (2, 4, 7)	
	5	52	4.11	2.59	3 (2, 3, 5.5)	

**[Table/Fig-3]:** Association between Bullying/Victimization and the Year of Medical School. # Inter-Quartile Range (IQR) expressed in 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> percentiles; \*Using Kruskal-Wallis Test

Comparison of school years	Medical School Year	Number	Mean Scores	Std. Deviation	Median	p value*
1 versus 2	1	53	3.01	2.62	2	0.428
	2	40	3.65	3.87	2	
1 versus 3	1	53	3.01	2.62	2	0.003
	3	62	5.66	5.22	3	
1 versus 4	1	53	3.01	2.62	2	0.343
	4	59	3.44	3.18	2	
1 versus 5	1	53	3.01	2.62	2	0.400
	5	31	3.67	3.55	2	
2 versus 3	2	40	3.65	3.87	2	0.044
	3	62	5.66	5.22	3	
2 versus 4	2	40	3.65	3.87	2	0.985
	4	59	3.44	3.18	2	
2 versus 5	2	40	3.65	3.87	2	0.943
	5	31	3.67	3.55	2	
3 versus 4	3	62	5.66	5.22	3	0.024
	4	59	3.44	3.18	2	
3 versus 5	3	62	5.66	5.22	3	0.086
	5	31	3.67	3.55	2	
4 versus 5	4	59	3.44	3.18	2	0.972
	5	31	3.67	3.55	2	

**[Table/Fig-4]:** Comparison of Physical Bullying between the different Years of Medical School. \*Using Mann-Whitney U Test

in comparison to first (p=0.003), second (p=0.044) and fourth (p=0.024) year students [Table/Fig-4].

### Bullying and substance use

Physical bullying scores were higher and statistically significant in participants who reported alcohol consumption (p=0.001) and cigarette smoking (p<0.001) in comparison to those who did not [Table/Fig-5,6].

### Victimization

There was no significant difference (p>0.05) in the association found between victimization scores and factors like gender, year

Type of bullying	Alcohol consumption	Number	Mean	Std. Deviation	Median (IQR - 25 <sup>th</sup> , 50 <sup>th</sup> , 75 <sup>th</sup> percentiles) #	p value*
Physical Bullying (n=245)	Present	60	5.90	5.52	4 (2, 4, 8)	0.001
	Absent	185	3.35	3.06	2 (1, 2, 5)	
Verbal Bullying (n=373)	Present	86	8.89	7.69	7 (4, 7, 9)	0.320
	Absent	287	7.54	5.29	6 (3, 6, 11)	
Victimization (n=340)	Present	77	4.90	3.66	3 (2, 3, 8)	0.982
	Absent	263	4.58	2.90	4 (2, 4, 7)	

**[Table/Fig-5]:** Association between Bullying/ Victimization and Alcohol Consumption.  
# Inter-Quartile Range (IQR) expressed in 25th, 50th, 75th percentiles;  
\*Using Mann Whitney U Test

Type of bullying	Cigarette Smoking	Number	Mean	Std. Deviation	Median (IQR - 25 <sup>th</sup> , 50 <sup>th</sup> , 75 <sup>th</sup> percentiles) #	P value*
Physical Bullying (n=245)	Present	32	7.78	6.20	5.5 (2.5, 5.5,12)	<0.001
	Absent	213	3.40	3.14	2 (1, 2, 5)	
Verbal Bullying (n=373)	Present	37	11.59	10.18	8 (4, 8, 15)	0.051
	Absent	336	7.44	5.14	6 (3, 6, 11)	
Victimization (n=340)	Present	33	5.15	4.26	4 (1, 4, 8)	0.945
	Absent	307	4.60	2.94	4 (2, 4, 7)	

**[Table/Fig-6]:** Association between Bullying/ Victimization and Cigarette Smoking.  
# Inter-Quartile Range (IQR) expressed in 25th, 50th, 75th percentiles;  
\*Using Mann-Whitney U Test

of medical schooling, alcohol consumption and cigarette smoking [Table/Fig-1-3,5,6].

## DISCUSSION

The preliminary finding of the study suggests high prevalence of peer-based bullying and victimization among medical school students in tertiary care medical school in Navi Mumbai.

Studies have shown that medical students perceive bullying to be common and pervasive in the medical profession [5,10-14]. Prevalence of bullying in our study was found to be higher than studies from the UK but somewhat similar to the rates found in Scandinavian countries like Finland [4,5]. Studies have reported that verbal bullying in the form of verbal abuse, undue pressure to produce work and persistent unjustified criticism are the most frequently reported form of bullying experienced by medical professionals [4,7,15]. In our study too, verbal bullying was found to be the more common form of bullying in both males and females.

In our study, as compared to females, males had a significantly higher severity of both verbal and physical bullying. This finding was similar to those reported by Ahmer et al., and Uhari et al., where they also found differences in gender to be significantly related to bullying where males were found to outnumber females [5,16].

Study by Owoaje et al., observed that victims of bullying may go on to harass others when they themselves become seniors, as they may feel the need to avenge themselves, thus continuing the cycle of abuse [10]. This could be a probable explanation for the behaviour of the third year medical students in this study, for indulging more in physical bullying than the students of other years.

In our study consumption of alcohol and cigarettes was found to be significantly associated with physical bullying. These results are similar to the findings of other studies who reported an established connection between bullying and smoking and drinking in youngsters. They observed that substances like alcohol might induce violence by causing cognitive disruption e.g. misunderstood communication and disinhibiting behaviours [6,17,18].

The sense of victimization is a complex issue related to negative identification, sociological and psychological environment and personality of the person [14]. In our study though more number of females reported feeling victimized, there were no significant associations found between victimization and factors like gender, year of medical schooling, alcohol/cigarette use, language, native place or religion.

The strength of this article is that it is a one of the first studies conducted in undergraduate medical students in an Indian scenario addressing the issues of bullying/victimization using a validated scale. Although this study provides useful information on the prevalence of bullying/victimization in undergraduate medical students, it has certain limitations. Assessment was done using a self-reported subjective scale and hence judgment may differ amongst the respondents, and a reporting bias could be present. Furthermore, the cross-sectional design of the study could have resulted in recall bias. The report is from a single medical school therefore the results are limited and cannot be generalized for all the undergraduate medical students in India.

## CONCLUSION

Peer-based bullying and victimization was found to be highly prevalent amongst undergraduate medical students. Though the report is from a single medical school, it would be imprudent to turn a blind eye to these findings. Fostering of a bully-free work environment is the need of the hour. This can be done by having: (a) sensitization and feedback from staff/students regarding anti-bullying policies; (b) committee established in each institution to ensure proper implementation of these policies; (c) appropriate measures like counselling to provide help to those who report bullying during their medical studies. This article provides preliminary information for future research in an area which has hitherto received little attention in India.

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