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Noha Mohammed Elghazally & Asmaa Omar Atallah

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Bullying among undergraduate medical students at Tanta University, Egypt: a cross-sectional study

Noha Mohammed Elghazally  and Asmaa Omar Atallah

Public Health and Community Medicine Department, Tanta Faculty of Medicine, Tanta University, Tanta, Egypt

ABSTRACT

Introduction: Bullying is an aggressive behaviour that involves unwanted negative actions, which are repeated over time that can negatively impact a person.

Aim: To explore bullying behaviours experienced by Tanta University undergraduate students during their study in clinical medical education.

Methods: A cross-sectional study was conducted at Faculty of Medicine, during the period between first of October 2018 to end of May 2019. A stratified random sample was used to select medical students who rolled fourth-, fifth- and sixth-year classes at the academic year 2018–2019. Data were collected by a self-administered questionnaire included questions regarding demographic characteristics, history of exposure to different types of bullying and the response of bullied students.

Results: Findings of this study revealed that 71.1% of studied sample faced bullying during their medical study. The most frequently reported types were verbal (51.9%), behavioural (44.8%), being ignored (24.4%), written (17.8%) and physical (15.8%). About half of students (49.4%) were exposed to multiple forms of bullying. Male students were more exposed to physical, written and being ignored, whereas females were more witnessed to verbal and behavioural ones as follows: (30.7% vs 18.9% physical type, 72.5% vs 74.8% verbal, 28.1 vs 24.9% written, 57.9% vs 68.3% behavioural and 38.5% vs 32.4% being ignored), respectively. Fellow students (56.3%) were the most frequent perpetrators of mistreatment actions. The majority of students (91.3%) chose not to report bullying behaviours. Having mental health problems (0.00*) or disability (0.01*) were significantly more potential to experience mistreatment.

Discussion: Large proportion of medical students faced many forms of bullying.

Implications for Practice: Applying an effective policy to stop bullying with support for medical students may help to minimize this phenomenon.

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Bullying; verbal; fellow;
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1. Introduction

Bullying is defined as an 'aggressive behaviour that is intended to cause physical or psychological damage due to the imbalance of power, strength or status between the aggressor and the victim' [1]. However, it can be verbal one like bad-names or menace, or physical like hitting, or in the form of victimization, avoidance or using bad names [2]. World Health Organization (WHO) defines bullying as impudence or use of physical force which targeting an individual or a specific community or group of people that cause adverse outcome, for instance: injury, physical deterioration, may be fatal [3].

Bullying and harassment may occur in many organizations; but, increasing rates are recorded in healthcare institutions [4,5]. Additionally, mistreatment are more popular in medical faculties than in other higher education departments [6,7]. Prevalence of bullying in medical students were recorded in the USA (42%) [8], and in Scandinavian countries like Finland (75%) [9]. Middle

Eastern countries such as Jordan reported rates of 61% [10], and Pakistan which stated 52% [11].

Bullying phenomenon may have mental or psychological drawbacks on students in many forms like fury, distress, pressure and suicide. Moreover, it can increase the social disorders even in some occasions, in which victims may participate in malicious actions [12]. In addition, sufferings continue with bullied medical students even after their graduation. Unfortunately, it can significantly lower job contentment, boost job-related stress, high rates of sickness absence, deteriorate achievement, reduce output, poor team spirit and lack of trained medical staff [12,13].

There are numerous activities which should be established and organized inside every higher educational organization. A well-structured policy is a critical strategy to minimize rates of bullying and harassment. Thus, it should be adopted in all medical colleges to keep an eye on this phenomenon. In addition, active support student units are set to care and discuss with who have been bullied. Also, establishing a system for

monitoring and reporting these abuses to medical students with active effective surveillance system [14,15].

Considering how prevalent and negative effects of bullying are; especially in the light of limited research on the phenomenon of bullying in the senior years of medical education in Egypt. According to our knowledge, no published studies have previously been conducted in an Egyptian governmental medical faculty to assess bullying among undergraduate students; therefore, it is important to increase the awareness of medical educators regarding this problem by determining its prevalence so that appropriate measures are instituted against it.

2. Objectives of the study

- Assess the exposure of bullying among medical students of Tanta University,
- Determine the most common forms and perpetrators among bullied students, and
- Assess the response of bullied students after exposure to this behaviour.

3. Subjects and methods

3.1. Study design: cross-sectional study

3.1.1. Study settings and duration of study

The current study was conducted at Faculty of Medicine, Tanta University. The faculty recruited students from Lower Egypt governorates in the Nile Delta. It was conducted from first of October 2018 to end of May 2019.

3.1.1.1. Participants. Target population were the medical students of faculty of medicine, Tanta University. It included (598,230,211 students) in fourth-, fifth- and sixth-year classes, respectively. Medical students were included in the study with voluntary and anonymous participation with response rate (62%) as a whole. Medical study in Tanta University includes six years of study; so, students in the last three grades were selected for this survey because they had spent at least half of their medical study duration.

3.2. Inclusion criteria

All medical students of fourth, fifth and sixth grades, medical students of Tanta University; and, who were admitted to participate in the study.

3.3. Exclusion criteria

Any students of first, second and third grades of medical study, and

Who refused to participate in the study.

3.3.1. Sampling

A stratified random sample technique was used to collect the sample. The medical students of fourth-, fifth- and sixth-year classes (the clinical stages) were chosen as the other classes. Each class was divided into four subgroups for practical training (12 subgroups). Two groups were chosen from each class randomly to be included in the study sample. The students were chosen by systematic random sample from each group with optimum allocation until reaching the required calculated sample size.

3.4. Sample size

To estimate the sample size of the study, data from records were collected and revealed that there were 1890 students in fourth, fifth and sixth grades. A minimum sample size of 319 participants using Epi info 7, based on 50% expected outcome, and 95% confidence level, with an error bound of 0.05 (precision). The sample size was increased for better accuracy and validity.

3.5. Measuring tools

3.5.1. Collection of data using a self-structured questionnaire

A self-structured questionnaire sheet was designed for data collection. It was developed based on the associated reviews of literature and statistical experts in the medical college assessed its validity and reliability. It consisted of three sections with a total of 21 questions as follows:

3.5.1.1. Section one. This section is comprised of eight items; it is mainly focused on participants' characteristics including age, gender, grade of study, residence, presence of intimate friends, family supervision, and presence of disability or mental health problems.

3.5.1.2. Section two. It is comprised of eleven items. It aimed to evaluate the studied sample' experiences of exposure to bullying, types and perpetrators.

3.5.1.3. Section three. It is comprised of two items included response of students and support of family, friends or organizations.

These questionnaires were checked for completeness and consistency upon collection. Furthermore, it was field-tested on a pilot sample of (10% of the target sample) to clarify any ambiguities and to ensure proper understanding of the questionnaire. The pilot testing allowed some modifications of certain questions to achieve high internal consistency and reliability (Cronbach's $\alpha = 0.82$). The pilot sample was not included in the final sample of the study.

3.6. Methods

- Ethical clearance was obtained from the ethical research committee at Faculty of Medicine Tanta University, and an informed consent was obtained from the participants prior to participation in the study with brief explanation on the objectives and benefits of the study.
- Prior to start of the collection; announcements in lectures, emailing students and posters were posted on noticeboard with time table to show timing of start and end.
- During the collection, students were presented with researchers to explain any difficulty.
- On the end of research, a thankful statement was posted on noticeboard declared the end of data collection time.

4. Statistical analysis

The collected data were organized, tabulated using SPSS version 19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. The numbers and percentages were calculated for each subcategory of studied variable. The differences between subcategories were tested using chi-square test. When chi-square was not found appropriate, Fisher exact test was used. Independent predictors for bullying occurrence were determined by multiple regression analysis. The level of significance was adopted at $p < 0.05$.

5. Ethical considerations

- Approval of Ethical Committee of the Scientific Research in Tanta Faculty of Medicine was obtained before starting the study.
- Data were collected anonymously and confidentiality was ensured during the whole period of the study

6. Participants consent statement

Before data collection the objectives of the study and the content of the questionnaire sheet were discussed with study participants and their verbal consent was obtained.

6.1. Results

Studied sample included 1039 medical students (598, 230 and 211 students) from fourth, fifth and sixth grades. Their age ranged from 21 to 24 years with a mean of 22.6 ± 4.89 years. More than half (60%) were females. 55.5% of them were from urban residents. About three quarters (76.5%) had been supervised from their fathers at homes. The majority of them (81.4%) had intimate

friends, did not suffer from disability (93.8%), and never had mental health problems (75.8%). (Table 1)

More than two thirds (71.1%) of studied sample exposed to bullying during their medical study; about half of them (50.6%) had only single exposure. The majority (91.3%) of those exposed had not any action after that; and among the minority (8.7%) who discussed the problem either with family or friends, only (15.6%) had a support. (Table 2)

The studied sample exposed to various types of bullying; either physical, verbal, written, behavioural and being ignored (23.8%, 73.8%, 26.3%, 63.9% and 34.9% respectively); and fellow students were the most common perpetrators among previous types (51.7%, 51.2%, 65.0%, 59.0% and 52.0% respectively) (Table 3).

Table [4] illustrates differences in exposure to bullying according to gender: males vs females, (30.7% vs 18.9% physical type, 72.5% vs 74.8% verbal, 28.1 vs 24.9% written, 57.9% vs 68.3% behavioural and 38.5% vs 32.4% being ignored); however, fellow students were the most responsible ones either among males or females (Table 4).

Table [5] demonstrates relationship between bullying exposure and some variables as (age, gender, residence, having intimate friend, presence of disability and presence of mental health problems), by using logistic regression analysis, there was a statistical significant difference with gender, presence of disability

Table 1. Socio-demographic features of studied sample.

Variable	No.	%	
Year of study	Fourth year	598	57.6%
	Fifth year	230	22.1%
	Sixth year	211	20.3%
Age(years): (Mean± SD)	Range (21–24 years): 22.6 ± 4.89		
Sex	Male	416	40.0%
	Female	623	60.0%
Residence	Urban	577	55.5%
	Rural	462	44.5%
Supervision in home	Father	795	76.5
	Mother	181	17.4
	None	63	6.1
Having an Intimate friend	No	193	18.6
	Yes	846	81.4
Presence of Disability	No	975	93.8
	Yes	64	6.2
Presence of mental health problems	No	788	75.8
	Yes	251	24.2

Table 2. History of exposure to bullying and response among studied sample.

Exposure to bullying	Number	%	
History of exposure to bullying	Yes	738	71.1
	No	301	28.9
Frequency of exposure	Single time	374	50.6
	Multiple	364	49.4
Response after exposure	None	674	91.3
	Discuss with family	36	4.9
	Discuss with staff	24	3.3
	Discuss with friends	4	0.5
Support after discussion	No	54	84.4%
	Yes	10	15.6%

Table 3. Types and perpetrators of bullying among studied sample.

Types of bullying		
<i>Physical</i>		
176(23.8%)		
Perpetrators	Professors	49(27.8%)
	Other staff	36(20.5%)
	Fellow students	91(51.7%)
<i>Verbal</i>		
545(73.8%)		
Perpetrators	Professors	164(30.1%)
	Other staff	102(18.7%)
	Fellow students	279(51.2%)
<i>Written</i>		
194(26.3%)		
Perpetrators	Professors	29(14.9%)
	Other staff	39(20.1%)
	Fellow students	126(65.0%)
<i>Behavioural</i>		
472(63.9%)		
Perpetrators	Professors	98(20.7%)
	Other staff	96(20.3%)
	Fellow students	278(59.0%)
<i>Being ignored</i>		
258(34.9%)		
Perpetrators	Professors	71(27.5%)
	Other staff	53(20.5%)
	Fellow students	134(52.0%)

and presence of mental health problems ($p < 0.05$). (Table 5).

7. Discussion

Mistreatment and bullying towards medical students is a common phenomenon; however, most of events go without reporting and there are considerable dialectics behind this. Current study is to explore medical students' experiences of bullying during their years of study.

A total of 1039 undergraduate students enrolled in fourth (57.6%), fifth (22.1%) and sixth (20.3%) grades in medical clinical education. Mean age of students was 22.6 ± 4.89 years. Female students were more than males (60% Vs 40%). Response rate was 62% which was nearly equivalent to that one (63%) which recorded by Ahmer (2008), among last year medical students in different six faculties of medicine in Pakistan, to assess the presence of bullying behaviours [11]. On the other hand, response rate was only (45%) in a study reported by Timm (2014), who surveyed 123 undergraduate medical students at UK university [16]. This indicates that some students might be more able to give considerations to their experiences.

About two thirds (71.1%) of sample students faced bullying during their years of medical study. Furthermore, the most popular types were verbal (73.8%), behavioural(63.9%), being ignored (34.9%), written (26.3%) and physical (23.8%). A near results were obtained by Mukhtar (2010), who found that 66% of Lahore private Medical College students had exposed to bullying and the most common ones were verbal (63%), behavioural gestures (51%), and feeling ignored or excluded (29%) [17].Also, Ahmer (2008) reported that 52% of final year medical students in six medical colleges of Pakistan faced different forms

Table 4. Gender based differences of types and actors of bullying.

		Physical		Verbal		Written		Behavioural		Being ignored	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Types of Bullying	Yes	95(30.7%)	81(18.9%)	224(72.5%)	321(74.8%)	87(28.1%)	107(24.9%)	179(57.9%)	293(68.3%)	119(38.5%)	139(32.4%)
	No	214(69.3%)	348(81.1%)	85(27.5%)	108(25.2%)	222(71.9%)	322(75.1%)	130(42.1%)	136(31.7%)	190(61.5%)	290(67.6%)
Actors of Bullying	Professor	33(34.7%)	16(19.8%)	72(32.1%)	92(28.7%)	19(21.8%)	10(9.3%)	48(26.8%)	50(17.1%)	35(29.4%)	36(25.9%)
	Other staff	22(3.2%)	14(17.3%)	50(23.3%)	52(16.2%)	20(23.0%)	19(17.8%)	39(21.8%)	57(19.2%)	27(22.7%)	26(18.7%)
P value			0.00*		0.4		0.3		0.002*		0.08
P value			0.01*		0.06		0.02*		0.001*		0.4

* $p < 0.005$

Table 5. Multiple linear regression analysis of some factors affecting exposure to bullying.

Variables	Beta	SE	Significance
Age	.005	.006	0.876
Gender	-.063	.029	0.045*
Residence	.018	.028	0.551
Having intimate friend	-.039	.036	0.208
Presence of disability	.075	.058	0.016*
Presence of mental health problems	.228	.033	0.000*

* p<0.005

of bullying; which were 56.9% verbal, 25.7% behavioural gestures, 15.6% be neglected, 10.9% felt they had been shut out, 5% notified physical abuse and 2.5% written abuse [11]. AlMulhim (2018), who conducted a cross-sectional study among 176 medical and 119 nonmedical students, nonmedical students experienced more bullying than medical ones (58% Vs 44%). Belittlement and undermining of work were the most common types of abuse among both groups with no statistically significant differences in most of their experiences [18]. These results reflect that bullying phenomena present in various educational organizations either medical or not.

Kapoor (2016), reported that 98.69% of undergraduate medical students in a medical school in Navi Mumbai in India, had peer-based bullying. Majority of them (97.3%) exposed to verbal bullying whereas 63.97% witnessed physical one [19]. On contrary, much lower rates of bullying were reported by Alzahrani (2012), who conducted a cross-sectional study included 542 medical students during their clinical years of study in a Saudi Arabia, only 28.0% of the surveyed students stated exposure to some sort of bullying and the majority (90%) of the reported offences were verbal, sexual and physical [20]. Also, Timm (2014) found that 18% of 123 undergraduate medical students at UK university faced bullying [16]. This discrepancy of reported exposure rates might be due to that some students had a better knowledge of unacceptable situations and behaviours, or others did not have a tolerance to such events. Moreover, there were many differences between students like cultural, educational or contextual ones.

Regarding response of bullied students after their exposure, the majority of them (91.3%) had no action. The same results was noticed by Timm (2014), who surveyed 123 undergraduate medical students at UK university medical students revealed that most of bullied students had no response [16]. Moreover, Rees (2011), who carried out a study at three medical schools in different countries, England, Wales, and Australia, most of students reported inaction in the face of abuse [21]. This issue can have many aspects; challenging hierarchy as perpetrators are often in position of power so students are being scared and should accept what seniors say to them. Hence, feeling anxious about receiving bad marks from the perpetrators and that affecting their education negatively. In addition, a

cultural belief that hinders the abused one to report as it is a shameful action.

In the current study, the bullied students reported that fellow students were the most ones responsible of acting all different types bullying. Among comparable studies, Mukhtar (2010), who reported that fellow students and professors were the most frequent perpetrators of bullying among medical students at a private Medical College of Lahore [17]. Additionally, Maida AM(2003), carried out a survey study among 181 students at fifth year in the Medical School of the University of Chile, found that the main offenders were teachers and peers [22]. On the other hand, Timm (2014), who surveyed 123 undergraduate medical students at UK university, reported that professions appeared primarily responsible (44.0%) [16]. Also, Ahmer (2008), reported that 46% of bullied students said that consultants were responsible about this behaviour [11]. However, Clarke et al (2012), who examined the state of bullying among Canadian undergraduate nursing students (N = 674) in all 4 years of their nursing program, clinical instructors (30.22%) were identified as the main ones responsible of those behaviours, followed by staff nurses (25.49%) and classmates (15%) [23]. These previous results indicated that professors or fellows were the main ones responsible for this behaviour either in medical or nursing faculties.

Among studied sample, male students faced more physical, written and being ignored forms of bullying than females (30.7% vs 18.9% physical type, 72.5% vs 74.8% verbal, 28.1 vs 24.9% written, 57.9% vs 68.3% behavioural and 38.5% vs 32.4% being ignored). Furthermore, on subgroup analysis, fellow students were the most common actors among both male and female students. These go hands in hands with a study in Pakistan, found that male students were significantly probable at greater extent than female students to expose to bullying, and with more details; male students were more potential to be bullied than females by professors only; but, peer students were common perpetrators for females [11]. Moreover, Alzahrani (2012), who assessed bullying among Saudi medical school, there were 542 clinical years' students who reported that males were more exposed [20]. On the opposite side, Wood (2006), reported that generally bullying and harassment are more common among female students [24]. This difference may be due to cultural and educational background and reflects that males students in Egypt could complain about bullying.

In the current study there was a statistically significant association between exposure to bullying with gender, presence of disability and presence of mental health problems. This finding goes with that recorded by Frank et al (2006), who carried out a longitudinal study

in sixteen nationally representative US medical schools included 2884 students, stated that gender was significant [8]. Wood(2006) found that bullying exposure comes in connections with alcohol misuse, depression and intent of suicide [24]. Moreover, AlMulhim (2018), reported that rates of bullying continue to be linked with anxiety and depression, that was in a cross-sectional study included 400 university students (176 were medical students) [18]. Moreover, Wolf (1998) stated that perceived mistreatment was prevalent along the duration of four years of medical education, and was significantly linked positively with depression and anxiety [25].

8. Conclusion

Bullying victimization is highly prevalent amongst medical students in Tanta University. However, male students are more vulnerable to exposure. The most frequent perpetrators of this phenomenon are fellow students and the most popular type of bullying that had been exposed by students was verbal one. Most of bullied students underreported these events.

9. Recommendations

A radical solution for medical students' abuse should be formulated. Many activities should be well planned. First, learning opportunities should be available for all students especially females. Furthermore, diversity and equality meanings should be integrated into basic medical education. In addition, introduction of social science topics such as power and conformity is crucial to raise the awareness among students to stop abuse or harassment. Moreover, there is a need to generate validated instruments for documenting bullying events exposed by medical students with all convenient interventions. Finally, establishing a reliable surveillance system to trace cases and monitor this phenomenon and support students.

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Authors' contributions

Noha Elghazally planned the study. Both of Noha Elghazally & Asmaa Atallah conducted the survey. Noha Elghazally submitted the study.

Disclosure statement

I declare that we have no competing interests, or other interests that might be perceived to influence the interpretation of the article.

Consent for publication

I, Noha Elghazally, give my consent for information within current article to be published.

Availability of data and material

The data supporting the findings of this study are available within the article.

ORCID

Noha Mohammed Elghazally  <http://orcid.org/0000-0002-2356-5093>

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