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ABUSE OF MEDICAL STUDENTS IN BULGARIA

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ABSTRACT

Medical students often face high levels of abuse, which affect their health and well-being. We performed this study to analyze the prevalence of mistreatment among students in Medical Faculty- Sofia. Cross-sectional web-based study was carried out in 2015 with 257 medical students at the Faculty of Public Health- Sofia. Relation between variables was assessed with chi-square test with a significance level of $p < 0.05$. At least one episode of mistreatment was reported by 66 % of the medical students. The most common source of mistreatment was assistant professors, followed by professors. There was no association between abuse and sex and the presence of a parent physician. Sixth year students reported for more mistreatment than third course ones. Abuse was related to worse mental health of students and thoughts for quitting the study of medicine. The most common forms of mistreatment were "unfair critic", "attempts to underestimate or belittle the work done by students", "undervaluing of student's efforts", "denial of information" and "sarcasm and humiliation". To improve the learning environment it's important to prevent medical student's abuse in the future. We recommend introduction of policies against abuse in Medical Faculty-Sofia.

INTRODUCTION

The first person who paid attention to the mistreatment of medical students was the pediatrician Henry Silver in 1982 (Silver 1982). He described the personal changes that happen to medical students with the progression of their education and compared medical student's abuse with child abuse. In the last years have been performed various studies abroad on the issue of medical student's mistreatment. According to studies, medical students often face high levels of bullying, abuse, mistreatment and harassment (Silver andGlicken 1990; Richman *et al.,* 1992; Sheehan *et al.,* 1990; Frank *et al.,* 2006; Maida *et al.,* 2003; Heru *et al.,* 2009; Schuchert 1998; Daugherty *et al.,* 1998; Rosenberg and Silver 1984; Dyrbye *et al.,* 2005). The mistreatment of medical students seriously affects their health and quality of life. Abuse is related to stress, anxiety, depression, alcohol misuse, lack of self-confidence, loss of empathy, poor opinion of the medical profession, development of cynicism and hostility, a wish to quit studying medicine and even suicidal thoughts (Richman *et al.,* 1992; Sheehan *et al.,* 1990; Frank *et al.,* 2006; Maida *et al.,* 2003; Heru *et al.,* 2009; Cook *et al.,* 2014; Schuchert 1998; Daugherty *et al.,* 1998; Rosenberg and Silver 1984; Dyrbye *et al.,* 2005).

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The abuse in the medical university disturbs the safety of the learning environment and faces students with unnecessary stress. Moreover, the mistreatment can lead to a vicious cycle of bullying. This means that the abused students can turn into future bullies, if they choose to be medical educators. According to Kassebaum this cycle is defined as "trans-generational legacy" (Kassebaumand Cutler 1998). In contrast to the expansive research abroad on the issue of medical student's abuse, to this date there have been no reports of this problem in Bulgaria. We performed this study to estimate the prevalence of abuse among students, studying medicine in Medical Faculty of Medical University-Sofia.

MATERIALS AND METHODS

Study design and participants

A cross-sectional web- based questionnaire survey was conducted in the Department of Social Medicine, Faculty of public health of Medical University-Sofia. The study was carried out for a 3 month period in 2015 (between 15 September and 15 November). In the study took part 257 medical students from Medical Faculty- Sofia (123 in third course and 134 in sixth course). The response rate was 65% for third course medical students and 76% for sixth course. The study was anonymous and voluntary. It was ethically

approved by the Institutional Ethical Committee at the Department of Social Medicine of the Faculty of Public Health of Medical University-Sofia. The information for the study was gathered through a specially designed anonymous questionnaire. The questionnaire was posted online on the web-page of a big Bulgarian medical site (http://medicalnews.bg). The target group of the study were medical students in third and sixth course, so we can make a comparison in the differences of abuse between them. To check understanding and interpretation of items, the questionnaire was aprobed and validated in a pilot study on 30 medical students. The students were regularly invited and reminded to take part in the study during their practical exercises in Social Medicine for third course students and during their governmental practice lectures for sixth year students. Students were sent invitations by email to take part in the study too. To increase the number of respondents, we used the "snow-balling effect" (students who already took part in the study invited their peers to participate).

Study instrument

The questionnaire was created through an extensive research of the existing literature on the issue of medical student's abuse. The first part of the instrument included 6 items about student's characteristics like sex, age, year of education, a wish to quit studying medicine, lack of a parent physician and feeling of sadness. The second part of the questionnaire consisted of 32 questions about mistreatment. Students were asked whether they have been abused or witnessed abuse, how often they have been abused, who was the main source of abuse (assistant professors, other students, professors, administrative staff and lecturers) and how the abuse affected their health. The participants in our study were presented with a definition of abuse: "persistent behavior against an individual that is intimidating, degrading, offensive or malicious and undermines the confidence and self-esteem of the recipient" (Frank *et al.,* 2006; Ahmer *et al.,* 2008).

The respondents were asked to fill a bullying scale about 23 behaviors of mistreatment. The different types of abusive behaviors were taken from the literature (Sheehan *et al.,* 1990; Frank *et al.,* 2006; Ahmer *et al.,* 2008; Stebbing *et al.,*2004; Baldwin *et al.,* 1991). For each item students were asked how often they have faced the behavior in the last 12 months: never, rarely (1-2 times), sometimes (3- 4 times) and often (5 times or more). The questions in the survey instrument covered different types of mistreatment, such as physical abuse (slaps, hitting, pushing, kicking, threats with physical violence, etc.), psychological abuse (for example persistent tries to undervalue or belittle, public humiliation, etc.), sexual abuse (sexual pursuit, harassment, hints, insults, etc.), verbal abuse (verbal attacks, shouting, yelling, irrelevant jokes, swearing, etc.), academic abuse (to be assigned tasks for punishment without educational value, threats with unfair poor marks, etc.). The third part of our questionnaire included 21 items for assessment of the presence of depressive symptoms. We wanted to study the association between abuse and mental health. For assessment of depression was used Beck's depression inventory (BDI). This is widely used, reliable and valid instrument for detecting depressive disorders in non-clinical populations (Beck *et al.,* 1961; Beck *et al.,* 1988). The BDI includes 21 items and uses four-point scale ranging from 0 (symptom not present) to 3 (symptom very intense). When the test is scored, a value of 0 to 3 is assigned for each answer. The cut-off points for the BDI were as follows: 0- 9: lack of depression; 10- 18: mild depression; 19- 29: moderate depression; 30- 63: severe depression.

Statistical analysis

The data analysis was performed with the program R (version 3.2.3, R Foundation for Statistical Computing, Vienna, Austria). Statistical analysis included descriptive statistics (mean value and standard deviation), contingency tables, t-test (Welch Two Sample t-test), Wilcoxon-Mann-Whitney test, Pearson's r, Spearman's rho, chi-square test, Fisher's exact test, Cramer's V. It was accepted that p-value is significant at level <0.05.

RESULTS

The sample included 61.9% of women and 38.1% of men. In third course were 47.9% of the respondents and in sixth course 52.1%. Median age of the medical students was 23 years (for third course students 20. 8 years and for sixth course 24. 9 years). From the studied population 76.3% were without a parent physician (Table 1). Feeling of sadness declared 52.7% of the respondents. From the researched students, 44 % (113) had thoughts to quit studying medicine.

Table 1. Characteristics of the students in the study

Variable	Category	Number	%
Course	3	123	47.9
	6	134	52.1
Sex	Women	159	61.9
	Men	98	38.1
Parent physician	Yes	61	23.7
	No	196	76.3
Abused	No	88	34.2
	Rarely	65	25.3
	Sometimes	79	30.7
	Often	25	9.7

When asked about facing an abuse in the last 12 months, 66% of respondents declared at least one episode of mistreatment ("rarely" 25%; "sometimes" 31% and "often" 9.7%). The abuse was higher for sixth course students (Figure 1) and the difference was statistically significant (p-value= 0.0067; rho = 0.17).

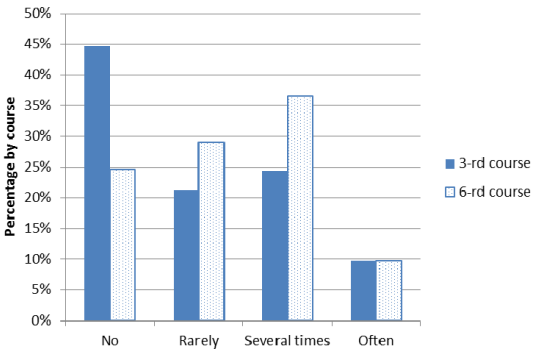

Figure 1. Percentages of students by course who declared abuse in the last 12 months

From women 69.2% declared mistreatment and from men 60.2%. We didn't find a statistically significant difference in abuse by sex (p-value=0.43> 0.05). Almost 81% of the respondents said they have witnessed an abuse with students ("rarely" 23%; "sometimes" 38.5% and "often" 20%). The difference between third and sixth year students was statistically significant again (p-value = 0.0067, rho = 0.14). The main sources of mistreatment in our study were assistant professors, followed by professors and administrative staff (Figure 2). The abuse from different sources was higher for sixth course students and the difference was statistically significant for professors (p-value= 0.0084, r coeff=0.20), lecturers (p-value= 0.0008, r coeff=0.26) and administrative staff (p-value= 0.039, r coeff= 0.16).

The most common forms of abuse were verbal, psychological and academic, while sexual and physical abuse was more uncommon. Most medical students declared for an unfair critic (in 81.3%), attempts to underestimate or belittle your work (80. 2%), undervaluing of your efforts (75.5 %), denial of necessary information (73.5%), sarcasm and humiliation (71.2%), irrelevant jokes (69.2%), rebuke and critics (66.9%) and verbal attacks (60.3%). The most uncommon type of mistreatment in our study was the physical abuse and only 3.2% of students declared it. Not so common behaviours were the violence to property of the student (in 5.1%), harassment for not having a parent physician (in 16%), sexual abuse (in 17.5%) and pressure to perform without supervision (in 18.3%).

Table 2. Percentages of medical students who reported given types of mistreatment by staff

Behavior of mistreatment	No	Rarely (1- 2 times)	Sometimes (3-4 times)	Often (5 times or more)
Attempts to underestimate or belittle your work	19.8	26.9	35.0	18.3
Unfair critic	18.7	23.7	40.5	17.1
Attempts for humiliation in front of other students or patients	34.2	23.0	31.5	11.3
Threats	61.1	17.1	15.2	6.6
Verbal attacks	39.7	25.3	26.1	8.9
Non-verbal attacks	65.0	19.8	11.3	3.9
Irrelevant jokes	30.7	28.4	31.5	9.3
Teasing, sarcasm, humiliation	28.8	29.6	28.4	13.2
Physical violence	96.9	2.0	1.2	0.0
Violence to your property	94.9	3.1	2.0	0.0
Denial of necessary information	26.5	26.9	29.2	17.5
Isolating, ignoring or excluding	52.1	21.4	17.5	8.9
Setting of impossible deadlines	42.4	29.2	16.7	11.7
Undervaluing of your effort	24.5	31.9	25.3	18.3
Discrimination on racial or sexual grounds	72.8	10.5	12.1	4.7
Persistent accusations	73.9	18.7	5.5	1.9
Rebuke and criticism	33.1	35.8	20.2	10.9
Insulting gestures, grimaces, etc.	52.5	28.0	14.8	4.7
Shouting, yelling, using of nicknames	68.1	16.3	11.3	4.3
Harassment for not having a parent physician	84.0	10.1	4.3	1.6
Sexual chasing, harassment, insults, hints,	82.5	12.1	5.1	0.4
Pressure over you to perform a procedure without a supervision	81.7	12.1	5.1	1.2
Being assigned tasks for punishment or inappropriate tasks	73.5	19.1	5.5	1.9

Table 3. Links of the abuse with different variables

Variable	p-value	Significance	Strength	Percentage affected by abuse
Course	0.0067	Yes	ρ = 0.17 V = 0.22	3- course: 55.3% 6-course.: 75.4%
Sex	0.43	No	—	Men: 60.2%, Women: 66.8%
Parent physician	0.67	No	—	Yes: 62.3%, No: 66.8%
Thoughts to quit studying medicine	0.013	Yes	ρ = 0.15 V = 0.20	Yes: 71.7% No: 61.1%
Depression	0.000	Yes	ρ = 0.33 V = 0.26	Without depression: 52.7% With depression: 73.1%
Depression	0.000	Yes	ρ = 0.37 V = 0.39	None or mild depression: 65.2% Moderate or severe depression: 87.7%

According to 82% of the medical students their health was influenced to some extent by the experiencedabuse. From the respondents 14% said their health was affected to great extent and 37 % said it was affected moderately. When asked how often they have been abused, 9.9% of respondents declared for an abuse several times a month, 4.3% have been abused every week,once a month 11.9% and rarely than once a month 44.7%. We asked the medical students about experiencing 23 specific behaviors of mistreatment in the last 12 months from assistant professors, professors, lecturers and administrative staff (Table 2). At least one episode of abuse was declared by 96.5% of the students in this study.

In this study there was no statistically significant difference in the 23 behaviors of mistreatment between men and women (p-value = 0.62). The sexual abuse was the same for both sexes (p-value= 0.82). We found statistically significant link in mistreatment by course and again the sixth year students were more affected (r coeff: 0.29, p-value=0.000). We asked students whether they have hidden the experienced abuse because of fear for getting poor marks. From the surveyed students, 39.3% declared hiding of mistreatment. Depressive symptoms were found in 63.2% of the medical students in our survey (mild depression in 31.2%, moderate in 21.7% and severe in 10.3%).

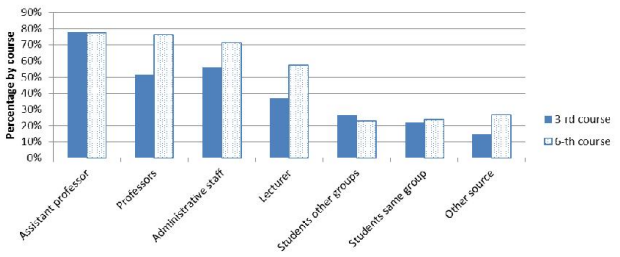

Figure 2. Main sources of abuse, declared by medical students by course

There was statistically significant link between depression and abuse (rho=0.44, p = 0.000). The significance of links of abuse with different variables in our study was shown in table 3 (Table 3).

DISCUSSION

In this study 66% of the respondents reported for at least one episode of abuse. The percentage of mistreated students increased to 96.5%, when they have been asked about specific behaviors. The results in this study are similar to the findings of other researchers of medical student's abuse in different countries across the world (Maida *et al.,* 2003; Ahmer *et al.,* 2008; Lebenthal*et al.,* 1996; Nagata-Kobayashi *et al.,* 2006). In a study of Frank and Carrera conducted in 16 American Medical Universities, 42% of students declared harassment (Frank *et al.,* 2006). In a study of Silver and Glicken, 46.4% of the medical students reported of abuse. In another American study, the percentages of mistreated students were 72% (Silver and Glicken 1990; Richman *et al.,* 1992). In two Pakistan studies abuse was reported by 52% and 62.5% of the respondents (Ahmer *et al.,* 2008; Shoukat *et al.,* 2010). In a Finish study around half of the medical students declared mistreatment (Rautio *et al.,* 2005), and in a Japan study in six medical universities, 68.5% of respondents were abused (Nagata-Kobayashi *et al.,* 2006). In other studies the percentage of medical students who declared abuse was: in Saudi Arabia 28% (Alzahrani 2012), in Niger 98.5% (Owoaje *et al.,* 2012), in Germany 34% (Gágyor *et al.,* 2012) and in Chili 91.7% (Maida *et al.,* 2003).

It's obvious that mistreatment is common in Medical Faculty-Sofia, such as over half of the surveyed medical students in this study declared some kind of abuse. The high level of abuse in our study can't be explained with racial, ethnical or social discrimination, because the social, ethnical and racial background of the students in our sample was similar. Our survey showed that with the progression of stay in the medical university, students reported for more abuse. Similar data are found in other studies of mistreatment (Lebenthal *et al.,* 1996; Shoukat *et al.,* 2010; Rautio *et al.,* 2005; Richardson *et al.,* 1997). This could be explained with the cumulative effect of abuse in upper medical courses and with the increased sensibility of students in the perception of mistreatment. Studies differ in their findings which sex is more bullied. In most studies female medical students reported for more abuse than male ones (Richman *et al.,* 1992; Nagata-Kobayashi *et al.,* 2006; Rautio *et al.,* 2005; Larsson *et al.,* 2003). However, in two Pakistan surveys male students were more mistreated (Ahmer *et al.,* 2008; Shoukat *et al.,* 2010).

We presume this was due to the cultural differences between other countries and Pakistan. We should pay attention to the fact that in our study there was no significant difference in abuse by sex. Similar results were seen in the studies of Frank and Baldwin (Frank *et al.,* 2006; Baldwin *et al.,* 1991). The lack of difference in abuse by sex in our study could be explained with the fact, that students declared mistreatment for broader set of dysfunctional behaviors. Some investigators studied sexual abuse and discrimination as a separate element. Usually the higher frequency of abuse with female medical students was due to the higher sexual harassment with them (Maida *et al.,* 2003; Nagata-Kobayashi *et al.,* 2006; Rautio *et al.,* 2005; Larsson *et al.,* 2003; Uhari *et al.,* 1994). The main sources of abuse in our study were assistant professors and professors. Assistant professors teach students in small group interactions and work near and close to them. During the semester they assess students in a process of continuous assessment and during the exams often evaluate the practical part.

The professors are in the position of an "authority". They are responsible for the assessment of students on the examinations. The high level of mistreatment from medical educators in this study leads us to the assumption, that this could be a sign of some kind of personal or academic frustration. Maybe the unacceptable bullying behavior of the medical teachers towards students is created by the uncertainty of their working environment. It is possible medical teachers, who abuse with students, to have been victims of mistreatment in their student's past. Kassebaum defines this cycle of harassment as "trans generational legacy", which implants a culture of cynicism and abuse (Kassebaum and Cutler 1998). Such filled with mistreatment learning environment can have disastrous effects on the medical students, because they are the future physicians and educators. The cycle of bullying in medicine can continue, if nothing is done to prevent the medical student's abuse in the future. To assess the impact of bullying on mental health in our study, the Becks Depression Inventory was included as an indicator of the presence of depressive symptoms. Consistent with other studies, we found that abuse was related to disturbed mental health of affected students. The negative effects of abuse on health have been documented by other researchers (Richman *et al.,* 1992; Frank *et al.,* 2006; Maida *et al.,* 2003, Nagata*et al.,* 2006). The mistreatment of medical students could be a source of an additional stress and is associated with depressions and thoughts for quitting the study of medicine (Georgieva *et al.,* 2014).

Limitations and strengthsof the study

Because of the cross-sectional design of this study, there was a possibility of a recall bias. The real exposition to abuse could be underestimated or overestimated. It's also possible that the study have missed the most severe cases of mistreatment, which have made affected students to quit studying medicine. Moreover, the real behavior of mistreatment could be underestimated, because the study was performed during the semester, not in an examination session. The exams are one of the most stressful periods in medical university, when students are more sensitive than usual and could transfer their psychological stress on medical educators and report for more abuse.

The sample in this study was restricted only to students in third and sixth course from one medical university in the country. So we can't generalize the results to all medical universities in Bulgaria. The advantages of the study were that we gave to students a definition of abuse and asked them for different and specific behaviors of mistreatment. This was the first study of mistreatment of medical students in Bulgaria and in Medical Faculty-Sofia. With performing the study we partially filled the existing gap in knowledge in our country about this serious phenomenon. We recommend future studies of bullying in the medical education in Bulgaria.

Conclusion

The mistreatment of medical students threatens their health, education and quality of life. The problem of medical student's mistreatment should be properly addressed and the starting point is to acknowledge its existence. Measures to prevent abuse should be developed and implemented in medical universities in our country. Medical educators and students should be informed about mistreatment and its consequences through educational seminars and discussions. We recommend the introduction of standards for proper behavior of medical educators. For teaching staff should be appointed only good role models, not abusers. The data in our study show a necessity ofcreation of good and supportive educational environment in Medical Faculty-Sofia.

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