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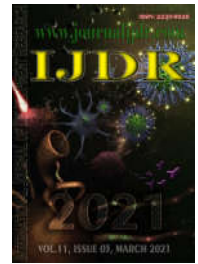
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RESEARCH ARTICLE

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ANALYZING NEGATIVE EXPERIENCES REPORTED BY MEDICAL STUDENTS

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ABSTRACT

This study aims to analyze negative experiences (aggression, abuse, and mistreatment) reported by medical students during their course. It is a cross-sectional research with 218 participants. A questionnaire on aggression, abuse, and mistreatment was used. The students also answered a questionnaire covering sociodemographic and economic data. Their average age was 23.3 years old (± 3.5), and they were mostly white males. Among all students, the weighted prevalence by course year of at least one frequent occurrence (five times or more) of aggression, abuse or mistreatment was 40.8%. There was no significant difference as to the prevalence of aggression, abuse and mistreatment between male and female students, for all course years. Students were the most frequent perpetrators for the first year, and professors, from the second to the sixth year. Attention should be directed to aggression, abuse and mistreatment reported by medical students in medical schools.

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INTRODUCTION

The mistreatment of medical students during medical training is a widespread concern (Siller *et al.*, 2017). Aggression, abuse and mistreatment among medical students showed a high prevalence in a study conducted in Brazil (Barreto *et al.*, 2015), as well as in other countries, including mistreatment (Owoaje, Uchendu and Ige, 2012; Rautio *et al.*, 2005), bullying (Ahmer *et al.*, 2008), belittlement, harassment and the like (Frank *et al.*, 2006), besides harassment and discrimination (Broad *et al.*, 2018). These situations can manifest themselves in verbal, psychological, sexual and physical forms (Barreto *et al.*, 2015; Rautio *et al.*, 2005) and create a hostile environment, with harms to learning for students (Owoaje, Uchendu and Ige, 2012; Frank *et al.*, 2006; Maida *et al.*, 2003). Different investigations report a high prevalence of aggression, abuse and mistreatment, revealing the frequency of negative experiences throughout the course by students, as well as their perceptions about the quality of their relationships with professors, supervisors, patients and health professionals (Barreto *et al.*, 2015). Among medical students, their perception of having been mistreated in college is related to them tending, during the undergraduate course, not to plan their academic career in medicine (Haviland *et al.*, 2011), to harms to professionalism (Fried *et al.*, 2012), to them considering quitting the course (Maida *et al.*, 2003; Peres *et al.*, 2016), being less satisfied with their professional choice (Frank *et al.*, 2006), with the image that they have of doctors (Maida *et al.*, 2003), and feeling overburdened (Peres *et al.*, 2016).

They also report harms to their self-confidence (Owoaje, Uchendu and Ige, 2012), emotional well-being, attitudes (Fried *et al.*, 2012), in addition to being more subject to problems involving social relationships with other people (Owoaje, Uchendu and Ige, 2012; Maida *et al.*, 2003) and greater vulnerability to developing psychiatric disorders (Owoaje, Uchendu and Ige, 2012; Frank *et al.*, 2006; Maida *et al.*, 2003). In light of the foregoing, the need to deepen studies on the theme is worth highlighting, since the aggression, abuse and mistreatment suffered during their university course are a known reality, but one still little explored in Brazil (Barreto *et al.*, 2015). Moreover, studies of this nature are important sources of information for the planning of preventive, recognition and coping measures for these cases. Thus, this study aims to analyze negative experiences (aggression, abuse and mistreatment) reported by medical students during their course.

METHODS

This is a cross-sectional study with a quantitative approach. The sample universe was composed of a total of 240 medical students from a university in southern Brazil. Students attending the first to the sixth year, regularly enrolled, aged 18 years old or over, and who agreed to participate in the research were eligible. One student (0.5%) was excluded for being under 18 years of age, and there were 21 declines (8.7%). Thus, 218 students (90.8%) participated in the research. Data were collected in May 2018, in classrooms, and at a scheduled time. Freshmen students joined the research when they

were at the end of their first academic year, that is, they had started the course 10 months before. Among the 218 participants, 40 (95.2%) were in the 1st year, 40 (100.0%) in the 2nd year, 38 (98.4%) in the 3rd year, 34 (94.4%) in the 4th year, 38 (88.4%) in the 5th year, and 28 (73.7%) in the 6th year. Two questionnaires were applied simultaneously, in a standardized, self-administered and individualized manner among the students. The first questionnaire referred to socio-demographic and economic data, consisting of questions about course year, age, gender, skin color, marital status, with whom they live, religion (whether they practice it or not), paid work or scholarship, and *per capita* monthly family income. The second questionnaire contained questions covering the aggressions, abuses and mistreatments that occurred during their medical course, considering type, frequency and perpetrating agents. It was prepared with questions selected from a questionnaire translated into Portuguese (Barreto *et al.*, 2015) upon authorization from the author. The questions addressed verbal, psychological, physical and sexual aggression, abuse and mistreatment.

The answers to each question included these estimated frequencies: 0 (never), 1 (rarely: once or twice), 2 (sometimes: three or four times), and 3 (often: five or more times). Each question also contained answers about the main perpetrating agents, such as student, professor, resident, preceptor or supervisor, doctor, nurse, other health professional, patient, family member, hospital companion, etc. The sociodemographic and economic variables were described using absolute and relative frequencies, in addition to descriptive statistical measures. For aggression, abuse and mistreatment, absolute and relative frequencies and prevalence were used, with weighted calculation by course year and 95% confidence intervals (R Core Team, 2019; Chongsuvivatwong, 2019). To analyze the association between the distribution of the prevalences of students who reported at least one frequent occurrence (5 times or more) of aggression, abuse or mistreatment during the undergraduate medical course, for each course year, by sex, Pearson's Chi-squared and Fisher's Exact tests were used. The data were processed in Microsoft Office Excel® 2010 for Windows® spreadsheets. The statistical analysis was obtained with the aid of the Statistical Package for Social Sciences program (IBM SPSS Statistics), version 15.0. The statistical significance was set at $p < 0.05$. The project was submitted to and approved by the Research Ethics Committee (REC), under protocol number 2.578.812, CAAE: 86016718.5.0000.0105. All study participants signed the Free and Informed Consent Form (FICF) for research subjects, in accordance with Resolution 466/2012 of the National Health Council [*Conselho Nacional de Saúde*] (CNS).

RESULTS

Among the 218 medical students surveyed, their age ranged from 18 to 40 years old, with a mean of 23.3 years (± 3.5). Most were up to 23 years of age (59.2%), male (52.1%), white (79.4%), single (93.5%), living alone (22.5%), practitioners of a religion (55.3%), and had a *per capita* monthly family income of up to 2,500 BRL (72.9%) (Table 1). Among all students, the prevalence of at least one frequent occurrence (five times or more) of aggression, abuse or mistreatment during the undergraduate course, after weighting by course year, was 40.8%. For the first course year, the prevalence reported was 35.0%, and for the second, third, fourth, fifth and sixth years, the respective prevalences were 42.5%, 42.1%, 41.2%, 31.6% and 57.1%, respectively (Table 2). Regarding the distribution of the prevalences of students who reported at least one frequent occurrence (5 times or more) of aggression, abuse or mistreatment during the undergraduate medical course, no significant differences were found between females and males, for each course year (all p values ≥ 0.05) (Table 3). The reports of frequent occurrences (5 times or more), by type of occurrence, with the highest prevalences referring to someone else being credited for work done by them (33.0%), and belittlement or humiliation (22.9%). The reports with the lowest prevalences were threats of physical aggression (0.4%), and physical assault (slapping, pushing, kicking or hitting), with 2.3% (Table 4). As for the perpetrators reported by freshmen, students were the most frequent

ones (30.0%), followed by professors (26.7%), nurses (20.0%) and doctors (6.7%). Second, third, fourth, fifth and sixth-year students reported, respectively, professors more frequently (43.8%; 35.0%; 32.4%; 28.4%; 25.1%), then students (31.2%; 31.2%; 23.7%; 19.3%; 16.2%), doctors (11.0%; 10.4%; 11.4%; 17.1%; 14.7%) and nurses (3.1%, 3.9%; 5.3%; 3.4%; 12.0%). Less frequently, preceptors or supervisors, patients or family members, hospital companions, resident doctors, other health professionals, or other people were also reported.

Table 1. Distribution of the medical students in accordance with socio-demographic and economic variables (n = 218)

Variables	n	(%)
Age in years		
Up to 23	129	(59.2)
24 or over	89	(40.8)
Sex		
Female	104	(47.9)
Male	113	(52.1)
Color		
Non-white	45	(20.6)
White	173	(79.4)
Marital status		
Single	202	(93.5)
Married/living as married	14	(6.5)
Living alone		
Yes	49	(22.5)
No	169	(77.5)
Practitioner of a religion*		
No	97	(44.7)
Yes	120	(55.3)
Per capita monthly family income in Reais**		
Up to 2,500.00	129	(72.9)
More than 2,500.00	48	(27.1)

*Catholic, Evangelical, Spiritist, others (atheism and Buddhism).

**The value of 2,500.00 BRL was equivalent to 2.6 minimum wages or US\$ 644.30 on Jul/01/2018.

The total values show little variation due to missing information for the variable.

Source: The authors, 2020.

DISCUSSION

A total of 218 medical students were surveyed for the analysis of the characteristics of the aggressions, abuses and mistreatments reported by them during the course. They made up a population of young adults, which is close to the result of a similar study conducted with 317 medical students from a university in the state of São Paulo, in 2015, which identified an average age of 22.2 years old (± 2.89). Those students were 49.21% male and 50.79% female (Barreto *et al.*, 2015), while in our research we found a little more than half of male students. During medical courses in Brazil, with a minimum length of six years, basic subjects are usually taught in the first two years of the course, and subjects related to general medical practice and specialties, in the third and fourth years. The internship period, with activities in health services, comprises the last two years. In Brazil, as soon as a student finishes high school, they can be admitted to a medical course. Thus, it is possible to find very young people, aged 17 or 18, starting this course. Possible exposure to different forms of mistreatment in college can have a negative impact, especially if recurring, or when deemed important by students (Peres *et al.*, 2016). Among the students surveyed in this study, the weighted prevalence by course year of reports of at least one frequent occurrence (five times or more) of aggression, abuse or mistreatment was 40.8%. The prevalence of at least one occurrence was 95.4%. On this theme, the literature presents different results. Among 269 senior medical students from a university in Nigeria, there was a high proportion of one or more episodes of aggression during the course (98.5%) (Owoaje, Uchendu and Ige, 2012). At a university in São Paulo, 92.31% of its medical students had already suffered, at least once, some type of aggression, abuse or mistreatment, with approximately 30% reporting frequent episodes (Barreto *et al.*, 2015). In Chile, 91.7% of the 144 medical students in the fifth year reported at least one episode of abuse during the course (Maida *et al.*, 2003).

Table 2. Distribution of students who reported at least one frequent occurrence (5 times or more) of aggression, abuse or mistreatment during the undergraduate medical course, for each course year (n=218)

Course year	Total of students	At least one frequent occurrence (5 times or more)		Confidence interval (95%)
		n	(%)	
All	218	89	(40.8)*	(35.8-43.2)
First	40	14	(35.0)	(28.3-40.4)
Second	40	17	(42.5)	(34.5-49.3)
Third	38	16	(42.1)	(32.9-50.3)
Fourth	34	14	(41.2)	(30.9-51.0)
Fifth	38	12	(31.6)	(22.4-42.8)
Sixth	28	16	(57.1)	(41.1-75.0)

*weighted prevalence by course year

Source: The authors, 2020

Table 3. Distribution of students who reported at least one frequent occurrence (5 times or more) of aggression, abuse or mistreatment during the undergraduate medical course, for each course year, by sex

Course year	At least one frequent occurrence (5 times or more)		p
	Yes N (%)	No N (%)	
First			
Female	7 (50.0)	14 (53.8)	0.82*
Male	7 (50.0)	12 (46.2)	
Second			
Female	13 (76.5)	12 (52.2)	0.12*
Male	4 (23.5)	11 (47.8)	
Third			
Female	5 (31.3)	10 (45.5)	0.38*
Male	11 (68.8)	12 (54.5)	
Fourth			
Female	6 (42.9)	10 (50.0)	0.68*
Male	8 (57.1)	10 (50.0)	
Fifth			
Female	2 (16.7)	12 (48.0)	0.08**
Male	10 (83.3)	13 (52.0)	
Sixth			
Female	8 (50.0)	5 (41.7)	0.66*
Male	8 (50.0)	7 (58.3)	

*Pearson's Chi-squared test

**Fisher's Exact test

Source: The authors, 2020.

Table 4. Prevalence of students who reported at least one frequent occurrence (5 times or more), by type of aggression, abuse or mistreatment during the undergraduate medical course (N=218)

Types of aggression, abuse or mistreatment	Total of students who answered*	At least one frequent occurrence (5 times or more)	
	n	n	(%)
Verbal: yelled or shouted	210	21	(10.0)
Psychological			
Belittled or humiliated you	214	49	(22.9)
Assigned tasks with punitive purposes	213	30	(14.1)
Was credited for work done by you	212	70	(33.0)
Threatened to harm you	213	34	(16.0)
Threatened to assault you physically	214	1	(0.4)
Subjected you to discrimination of an ethnic and/or religious nature	213	34	(16.0)
Threatened to fail you or give you a low grade without explanation	215	42	(19.5)
Made negative comments about your future profession or career in the scientific field	216	35	(16.2)
Physical: slapped, pushed, kicked or hit	214	5	(2.3)
Sexual: subjected you to sexual harassment or discrimination	212	48	(22.6)

*The total values present little variation due to missing information for the variable. Source: The authors, 2020.

In the United Kingdom, among 259 medical education students, 63.3% experienced and 56.4% witnessed at least one type of discrimination or harassment associated with gender, ethnicity, sexuality, disability and age group (Broad *et al.*, 2018). Another study reported that 52% of 342 medical students in the last year faced intimidation or harassment, and about 28% experienced it once a month or more often (Ahmer *et al.*, 2008). In a longitudinal research with 2,316 American medical students, nationally representative, 42% of those in the last year reported having been harassed, 84% belittled, and 40% harassed and belittled during the course (Frank *et al.*, 2006). It is important to note that medical training has elements that deserve attention, which evidences the need for support, such as

the nature of medical practice, which involves, to a greater or lesser extent, pain, death and suffering (Bellodi, 2007), the challenge of choosing a specialty at the end of the course (Bellodi, 2004), in addition to the harsh competition between students, and the distance between students and professors (Bellodi, 2007). In this study, regarding the distribution of the prevalences of students who reported at least one frequent occurrence (5 times or more) for general aggression, abuse or mistreatment during their undergraduate medical course, no significant differences were found between females and males by course year. In a study carried out in Austria with 88 medical students, women suffered more sexual harassment and humiliation than men. On the other hand, men suffered more physical

abuse than women (Siller *et al.*, 2017). Among the reports of at least one frequent occurrence of aggression, abuse and mistreatment, by type of occurrence, the most frequently reported were, in descending order, 'was credited for work done by you', belittlement or humiliation, harassment or sexual discrimination, and threat of failing or being given a low grade without explanation. The least mentioned aggressions were physical ones, such as slapping, pushing, kicking or hitting, and threats of physical assault. Results slightly different from those presented above have been described in the literature, such as 73.1% of belittlement or humiliation, 59.9% of verbal aggressions, and 43.32% of sexual harassment or discrimination (Barreto *et al.*, 2015), 92.6% of verbal aggressions, 87.4% of public humiliation or belittlement, and 71.4% of negative or derogatory comments about the student's academic performance (Owoaje, Uchendu, Ige, 2012). Said results also describe 56.9% of verbal aggressions, 25.7% of other behavioral gestures that the students perceived as representing bullying or harassment, and 15.6% felt deliberately ignored (Ahmer *et al.*, 2008). These divergences between study findings may reflect different behaviors present in university environments, which manifest in various forms of aggression, abuse or mistreatment. Furthermore, it is important to consider the differences related to the teaching-learning process between courses, with cultural aspects and with methodological limitations concerning the designs used, which may have influenced the results. Professors were the most mentioned perpetrators in the present study, except for the first year, with students being the most mentioned ones in this case. At the University of Chile, the main perpetrators were professors and colleagues as well (Maida *et al.*, 2003). A study conducted at a university in São Paulo showed a different reality, as the students themselves were the ones mentioned as the main perpetrating agents, followed by professors (Barreto *et al.*, 2015). On the other hand, a study evidenced that the main aggressors were medical residents, surpassing both professors and students (Frank *et al.*, 2006); in another research, the most mentioned perpetrators of mistreatment were strangers (79.5%), friends (75.0%) and university employees (68.2%) (Siller *et al.*, 2017), while doctors were the main perpetrators in yet another one (Owoaje, Uchendu and Ige, 2012).

The different proportions found in the aforementioned studies may be due, at least in part, to the greater or lesser exposure of students to possible perpetrators, depending on the activities developed in the teaching-learning process during the course, as well as the curricula of each institution. It is important to consider that professionals may have experienced situations of aggression, abuse and mistreatment throughout their medical training in the past and then, after graduating, end up reproducing the same behaviors. Thus, the perpetuation of an endless cycle of harmful attitudes towards the mental health of their victims is frequent (Rautio *et al.*, 2005; Ahmer *et al.*, 2008; Fried *et al.*, 2012). Emphasis must be given to the importance of psychopedagogical and psychosocial follow-up measures, as well as curriculum strategies centered on medical students, which must be implemented regularly along the course, as they are associated with a healthier educational environment and emotional well-being for these students (AlFaris *et al.*, 2014). Being of the cross-sectional type, this study had limitations, which does not allow establishing a cause-and-effect relationship between the analyzed variables. Besides, because it was carried out in only one institution, its results cannot be generalized. Since the research theme is aggression, abuse and mistreatment, exposed students may have chosen not to disclose this information, which thus causes the underestimation of the results. However, this possibility was minimized by the fact that the questionnaires were not identified, which ensured the secrecy of the information and, consequently, anonymity and confidentiality. Despite the limitations, the results can contribute to a better understanding of the aggressions, abuses and mistreatment in the studied population.

CONCLUSION

The students reported at least one weighted prevalence by course year of at least one frequent occurrence (five times or more) of aggression,

abuse or mistreatment during the course, of 40.8%. Students were the most frequent perpetrators for the first year, and professors, for the second to the sixth year. There was no significant difference as to the prevalences of reports between female and male students, for all course years. The reports of frequent occurrences (5 times or more) with the highest prevalences were 'was credited for work done by you' (33.0%), and belittlement or humiliation (22.9%). More studies on the theme should be conducted, especially researching students over time, to analyze any type of aggression, abuse or mistreatment, as well as investigating factors associated with psychosocial aspects, academic performance, lifestyle and professional future.

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