



Elaboration and validation of an Instrument to Identify Sexual Harassment of Medical Students (MESSHII)

Elaboração e validação de Instrumento de Identificação de Assédio Sexual de Estudantes de Medicina (IIASEM)

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ABSTRACT

Introduction: Sexual harassment is a reality that permeates hierarchical and gender power relations, and although noticeable in the medical and academic environment, it is considered a silenced violence that causes organic and psychological harm, with great consequences for the victim.

Objective: To develop and validate an instrument to identify the occurrence of sexual harassment in medical students.

Method: This instrument was developed, after reviewing the literature on the subject, with Likert-type responses at five option levels, which has two parts: the first with information on the participants' sociodemographic and academic characteristics and the second containing 21 items grouped into three dimensions: forms of harassment, facilitating factors and identification of the harasser in the academic environment and in hospital practice. Semantic and content validation was carried out by consensus of experts and FACE validation was carried out by a focal group of 12 students, two from each year of the course. To verify reliability, the instrument was sent to 1,146 medical students once a week for four weeks, with 350 (30.5%) students responding to the Test following the recommendation for psychometric studies. After 15 days, the Retest was started with the 350 Test respondents, following the same submission chronology to verify stability. In the Retest, 69 responses were obtained. The Excel program version 16 was used to create the database and the Stata statistical program version 13 was used for the analysis. The instrument was applied online using the LimeSurvey free software.

Results: The reliability of the instrument was evidenced by a Cronbach's Alpha of 0.8163 and 0.7826 for Test and Retest, respectively. For the verification of stability, the Stuart-Maxwell test was used, which showed a value of $p = 0.126$ and the weighted Kappa, where the result of all 21 assertions are contained in the confidence interval, demonstrating the homogeneity of the distribution of the average scores between the Test and the Retest.

Conclusions: The validated instrument proved to be reliable and stable and can be used in medical schools to identify sexual harassment in medical students.

Keywords: Validation Study; Sexual Harassment; Medical Student.

RESUMO

Introdução: O assédio sexual é uma realidade que permeia as relações de poder hierárquicas e de gênero. Embora perceptível nos meios médico e acadêmico, é considerado uma violência silenciada que acarreta agravos orgânicos e psíquicos com grandes consequências para a vítima.

Objetivo: Este estudo teve como objetivos elaborar e validar um instrumento de identificação da ocorrência de assédio sexual em estudantes de Medicina.

Método: Após revisão da literatura sobre o tema, elaborou-se um instrumento, com repostas do tipo Likert em cinco níveis de opção, que possui duas partes: a primeira com informações sobre características sociodemográficas e acadêmicas dos participantes, e a segunda contendo 21 itens agrupados em três dimensões: formas de assédio, fatores facilitadores e identificação do assediador no meio acadêmico e na prática hospitalar. Efetuaram-se as validações semântica e de conteúdo por consenso de especialistas, e a validação FACE realizada por grupo focal de 12 estudantes, sendo dois de cada ano do curso. Para verificação da confiabilidade, o instrumento foi enviado a 1.146 estudantes de Medicina uma vez por semana, por quatro semanas. Obteve-se a resposta de 350 (30,5%) estudantes no teste, seguindo a recomendação para estudos psicométricos. Após 15 dias, iniciou-se o reteste com os 350 respondentes do teste, seguindo a mesma cronologia de envio para a verificação da estabilidade. No reteste, obtiveram-se 69 respostas. Para a elaboração do banco de dados, utilizou-se o programa Excel versão 16, e, para a análise, adotou-se o programa estatístico Stata versão 13. O instrumento foi aplicado on-line pelo software livre LimeSurvey.

Resultado: A confiabilidade do instrumento ficou evidenciada pelo alfa de Cronbach de 0,8163 e de 0,7826 para o teste e reteste, respectivamente. Para a constatação da estabilidade, utilizou-se o teste de Stuart-Maxwell que apresentou um valor de $p = 0,126$. Adotou-se ainda o Kappa ponderado, em que o resultado de todas as 21 assertivas está contido no intervalo de confiança, demonstrando a homogeneidade da distribuição dos escores médios entre o teste e o reteste.

Conclusão: Como o instrumento validado se mostrou confiável e estável, pode ser utilizado em escolas médicas para a identificação do assédio sexual em estudantes de Medicina.

Palavras-chave: Estudo de Validação; Assédio Sexual; Estudante de Medicina.

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INTRODUCTION

Sexual harassment refers to hierarchical or gender power relations that violate the victim's autonomy over their own body through embarrassment, intimidation or blackmail, through words, gestures or acts, aiming to obtain sexual advantage or favor¹, and may be associated with, or not, to moral harassment².

Based on the construction of relationships in a society based on patriarchy and religious taboos, sexual harassment is perceived as an institutionalized act and, because it is culturally rooted, it is configured as silent violence² that leads to trauma and important consequences for the victim, such as depressive symptoms, burnout syndrome, minor psychological disorders and several other psychological, physical, work-related, institutional and/or social impacts³, that is, mental health problems that, regardless of whether due to harassment or not, are already commonly found in medical students⁴⁻⁷.

A study carried out in a hospital in Recife in 2011, shows that the prevalence of moral harassment in medical and non-medical residencies was 41.9%, with professionals working in clinical activities being more prone to violence⁸, which was no different from a study carried out in 2013 at a medical school in the city of São Paulo that addressed different types of mistreatment, including sexual harassment⁹. A systematic review carried out in Mexico City in 2016 showed that cases of harassment are not rare, being part of a system that directly affects the victim with varying intensities and dimensions¹⁰. Another important factor is that the high prevalence of harassment and discrimination during medical training does not decrease over time, despite existing preventive policies regarding this type of violence in the workplace, in medical schools and in residency programs¹¹.

A study carried out in Nigeria also demonstrates that harassment is a common experience among medical students, and points to an issue of "transgenerational" violence, since its practice encompasses different centers and people, where preceptors and residents stand out as the perpetrators of harassment¹². Another issue highlighted in a Canadian study is the "standardization" of violence within the course, that is, the fact that many victims do not recognize themselves in the context of violence and act as if this type of behavior were natural, allowing the perpetuation of harassment by making it go unpunished¹³.

Although mistreatment in medical school is a problem identified since the late 1980s and early 1990s¹⁴, it is a topic considered current and relevant. A review study in 2021, which aimed to analyze the methodology used to describe the consequences of mistreatment in the lives of medical students. Of the 20 articles analyzed, only one had sexual harassment

as its main focus¹⁵. Moreover, no methodologically validated instrument was found to identify this event in the medical field. Therefore, there is a real need to develop and validate an instrument to expand the production of scientific knowledge about this type of problem.

METHOD

A methodological study was carried out to develop and validate an instrument to identify the occurrence of sexual harassment among medical students, using a cross-sectional design, in the period between September 2020 and October 2021.

It was developed in the medical course at *Faculdade Pernambucana de Saúde (FPS)*, which is private, non-commercial, community College and, in addition to students who enter after taking the institution's admittance exam, it also receives PROUNI (public policy developed to increase the access to higher education in Brazil) students, corresponding to 10% of the offered places in University. The medical course takes place with in-person classes, with a workload of 8,710 hours and a minimum completion period of 6 years. Theoretical activities and skills laboratories take place on the College campus and activities in practical scenarios are developed in the Brazilian Unified Health System (SUS – Sistema Único de Saúde) Network and at the teaching hospital, Instituto de Medicina Integral Prof. Fernando Figueira (IMIP).

The creation of the instrument was based on studies on the construction of measurement instruments in the health area in 2015¹⁶. The suggested instrument validation process was followed by its content validation stages and, subsequently, FACE validation of the psychometric properties.

In the validation phase, the population consisted of: **a)** a panel of experts selected for convenience for the semantic and content validation stage, comprising a PhD Physician, coordinator of the medical course; a PhD Psychologist, specialist in violence against women and harassment; a PhD Psychologist specialist in psychometric scales; a PhD Psychologist specialist in qualitative studies; a PhD Physician, coordinator of the faculty development committee, all with experience in qualitative research and validation of measurement instruments, a PhD Lawyer in literature theory; **b)** two students from each year of the medical course selected for convenience, making up a total of 12, for the FACE validation stage; **c)** the 1,146 medical students of the institution, for statistical verification of the Test reliability; **d)** the 350 Test respondents for statistical verification of stability in the Retest stage.

Initially, when carrying out the Test, the questionnaire was sent via email once a week for four weeks to all 1,146 medical students at the institution, from which we obtained

350 responses. After 15 days, the Retest started, with the 350 Test respondents, following the same chronology when sending the test, once a week for four weeks via email. On this second occasion, we received only 69 responses (Figure 1). The information from the students' emails was provided by the academic secretariat of *Faculdade Pernambucana de Saúde* and, to encourage adherence, we had the assistance of the institution's teachers.

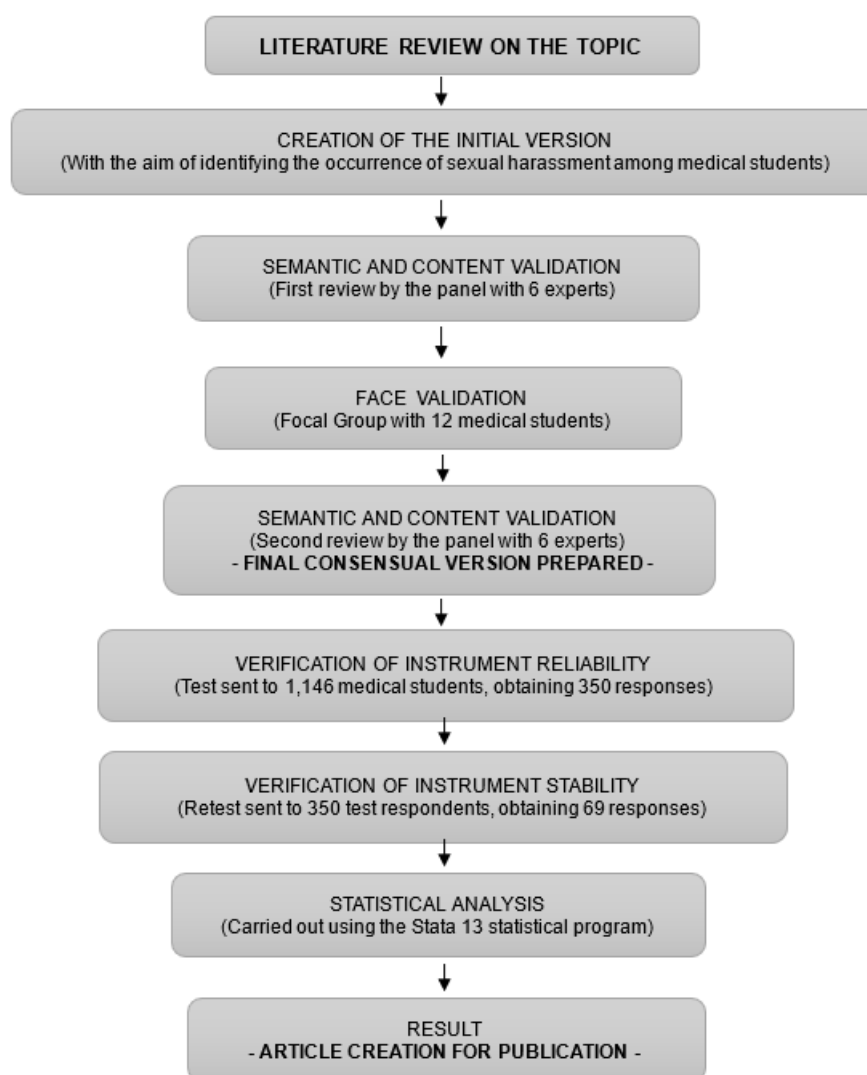
The final version of the instrument is structured in two parts: the **first** with information on the sociodemographic and academic characteristics of the participants and the **second** with information on the circumstances in which sexual harassment occurs. It has 21 statements divided into three dimensions that deal with forms of harassment, factors that facilitate the occurrence of harassment and the harasser's profile. The statements have Likert-

type responses at five option levels: (1) totally disagree (TD), (2) partially disagree (PD), (3) neither agree nor disagree (Indifferent - I), (4) partially agree (PA) and (5) totally agree (TA) (Table 1).

The Excel software, version 16 was used to create the database and the statistical program Stata version 13 was used for the analysis. The instrument was self-administered by the participants online using the free software LimeSurvey and answered only after signing the Free and Informed Consent Form.

All stages of the research described above were carried out remotely with the aim of maintaining social distancing due to the 2020 Covid-19 pandemic. Therefore, we observed that this way of obtaining data may have interfered with adherence and, consequently, the number of responses to Test and Retest, reducing our study population.

Figure 1. Flowchart of the process of developing and validating the instrument to identify the occurrence of sexual harassment among medical students.



Source: Prepared by the authors.

Table 1. Instrument for Identification of Sexual Harassment of Medical Students (MESSHII).

| Dimension | Statement | TA ^a | PA ^b | I ^c | PD ^d | TD ^e |
|--|--|-----------------|-----------------|----------------|-----------------|-----------------|
| 1. Types of Sexual Harassment | 1. I have been previously required to engage in a sexual conduct in exchange for benefits in my academic training | | | | | |
| | 2. I have felt uncomfortable with verbal insinuations of a sexual nature in the academic environment | | | | | |
| | 3. I have never felt uncomfortable with inappropriate physical contact in the academic environment | | | | | |
| | 4. I have felt uncomfortable due to inappropriate gestures of a sexual nature in the academic environment | | | | | |
| | 5. I have felt uncomfortable when people complimented me on my clothes in an academic environment. | | | | | |
| | 6. I have felt uncomfortable when people complimented me on my physical beauty in an academic environment. | | | | | |
| | 7. I have never felt uncomfortable when faced with an inappropriate look in the academic environment | | | | | |
| | 8. I have felt uncomfortable receiving inappropriate messages of a sexual nature sent by people in the academic environment on social networks or applications | | | | | |
| | 9. I have felt uncomfortable receiving an unjustified gift in an academic environment | | | | | |
| 2. Factors that facilitate Sexual Harassment | 10. A person's clothes do not make them predisposed to suffer sexual harassment in the academic environment | | | | | |
| | 11. The person's behavior does not make them predisposed to suffering sexual harassment in the academic environment | | | | | |
| | 12. The academic environments of this Institution facilitate the occurrence of sexual harassment | | | | | |
| | 13. The teaching Hospital environments facilitate the occurrence of sexual harassment | | | | | |
| | 14. The practice environments outside the Teaching Hospital facilitate the occurrence of sexual harassment | | | | | |
| 3. Identification of the Sexual Harasser | 15. Night shifts and nocturnal activities facilitate the occurrence of sexual harassment | | | | | |
| | 16. I have suffered some type of sexual harassment by medical professionals during my medical course in the academic environment | | | | | |
| | 17. I have suffered some type of sexual harassment by medical professionals during my medical course at the Teaching Hospital | | | | | |
| | 18. I have suffered some type of sexual harassment by non-medical professionals during my medical course | | | | | |
| | 19. I have never suffered any type of sexual harassment from other students during my medical course | | | | | |
| | 20. I have never suffered any type of sexual harassment from patients during my medical course | | | | | |
| | 21. I have suffered some type of sexual harassment from administrative staff during my medical course | | | | | |

TA^a: Totally Agree; PA^b: Partially Agree; I^c: Indifferent; PD^d: Partially Disagree; TD^e: Totally Disagree.

Source: Prepared by the authors.

RESULTS

On the results of the instrument:

In the first part of the instrument, on the sociodemographic characteristics of the participants, we obtained 350 responses, which showed an average of 23.06 years of age with a maximum of 40 years and a minimum of

18 years. Of this population, 239 (68.0%) declared themselves cisgender women and the other 111 (32.0%) declared themselves cisgender men. Despite the possibility of other gender representations being presented (transgender woman, transgender man and non-binary person), none of the research subjects declared themselves otherwise. Moreover, regarding

ethnicity/skin color, we found that 237 (67.80%) declared themselves white; 9 (2.50%) black; 103 (29.42%) brown; and 1 (0.28%) yellow, with no indigenous people among the Test respondents. Finally, 59 (17.0%) are medical students attending the 1st year of the course; 43 (12.0%) are in the 2nd year; 59 (17.0%) are in the 3rd year; 88 (25.0%) are in the 4th year; 68 (20.0%) are in the 5th year; and 32 (9.0%) are in the 6th year of medical school.

In the second part of the instrument, on the circumstances in which harassment occurs, when it comes to the first dimension on forms of sexual harassment, an average dimension score of 1.88 was obtained, demonstrating that the majority of responding students completely and partially disagree with the presented statements; therefore, the majority of the studied group did not suffer verbal, non-verbal/gestural or written harassment. In relation to physical contact and

inappropriate looks, the studied population had a neutral position. In the second dimension, on the factors that facilitate the occurrence of sexual harassment, we obtained an average dimension score of 2.35, demonstrating that the majority of student respondents partially disagree with statements 12 and 13; however, in the statements about clothing, behavior and nocturnal activities, the responding group partially agrees that they are facilitating factors for the occurrence of sexual harassment. Finally, in relation to the third dimension, on the characteristics of the harasser, we obtained an average dimension score of 1.59, demonstrating that the majority of student respondents partially disagree with statements 16, 17, 18 and 21; however, when it came to harassment by other students and patients, the assessed group partially agreed, identifying these two groups as harassers. We also present a detailed analysis of the average scores per statement (Table 2).

Table 2. Average score per statement.

| Statement | Average score per statement |
|--|-----------------------------|
| 1. I have been previously required to engage in a sexual conduct in exchange for benefits in my academic training | 1.12 |
| 2. I have felt uncomfortable with verbal insinuations of a sexual nature in the academic environment | 2.10 |
| 3. I have never felt uncomfortable with inappropriate physical contact in the academic environment ^a | 2.50 |
| 4. I have felt uncomfortable due to inappropriate gestures of a sexual nature in the academic environment | 1.97 |
| 5. I have felt uncomfortable when people complimented me on my clothes in an academic environment. | 1.68 |
| 6. I have felt uncomfortable when people complimented me on my physical beauty in an academic environment. | 1.78 |
| 7. I have never felt uncomfortable when faced with an inappropriate look in the academic environment ^a | 2.83 |
| 8. I have felt uncomfortable receiving inappropriate messages of a sexual nature sent by people in the academic environment on social networks or applications | 1.63 |
| 9. I have felt uncomfortable receiving an unjustified gift in an academic environment | 1.26 |
| 10. A person's clothes do not make them predisposed to suffer sexual harassment in the academic environment ^a | 1.83 |
| 11. The person's behavior does not make them predisposed to suffering sexual harassment in the academic environment ^a | 1.83 |
| 12. The academic environments of this Institution facilitate the occurrence of sexual harassment | 1.72 |
| 13. The teaching Hospital environments facilitate the occurrence of sexual harassment | 2.47 |
| 14. The practice environments outside the Teaching Hospital facilitate the occurrence of sexual harassment | 2.67 |
| Night shifts and nocturnal activities facilitate the occurrence of sexual harassment | 3.08 |
| I have suffered some type of sexual harassment by medical professionals during my medical course in the academic environment | 1.23 |
| I have suffered some type of sexual harassment by medical professionals during my medical course at the Teaching Hospital | 1.29 |
| I have suffered some type of sexual harassment by non-medical professionals during my medical course | 1.37 |
| I have never suffered any type of sexual harassment from other students during my medical course ^a | 2.17 |
| I have never suffered any type of sexual harassment from patients during my medical course ^a | 2.20 |
| I have suffered some type of sexual harassment from administrative staff during my medical course | 1.28 |

^aIndicates the reverse statements of the instrument.

Source: Created by the authors.

On the validation of the instrument:

For the psychometric instrument validation studies, the literature recommends using 5 to 10 participants per item of the instrument to be validated¹⁷. In our instrument, which contains 21 items divided into three dimensions, the expected number would be 105 to 210 students. During its application and analysis, we had 350 respondents, reaching the necessary quota.

The reliability and validity for this type of study occurs through: (a) Content validation by experts and (b) Statistical analysis of the Test and Retest results using Cronbach's Alpha and weighted Kappa¹⁷.

When validating the instrument presented herein, we demonstrated its reliability using the Cronbach's Alpha statistical test, obtaining 0.8163 and 0.7826 for the Test and Retest respectively. It is understood that reliability is observed when the results of the Cronbach's Alpha test are between 0.70 and 0.90.

To verify stability, the Stuart-Maxwell test was used, which showed a value of ($p = 0.126$) and the weighted Kappa test, where the results of all 21 statements are contained in the confidence interval (Table 3).

Therefore, as demonstrated, the present instrument was adequately validated through the homogeneity of the distribution of average scores between the Test and Retest.

DISCUSSION

A study published in 2021 in Münster, Germany, demonstrated, as in our study, a similar population of medical students consisting only of cisgender men and women¹⁸. This finding limits us to a specific group of cisgender individuals, as there were no participants of other gender identities. Furthermore, this German study also found a low level of student participation in the research, with 623 (28.8%) participating out of a total population of 2,162 students¹⁸. In our study we also obtained a low level of participation of 350 (30.54%) of the total population of 1,146 students.

Our study population mostly comprised cisgender women (68.28%), young individuals with an average age of 23 years and white ethnicity (67.71%). This population group is restricted, not very diverse and did not allow us to assess the prevalence of sexual harassment in other, more plural social groups of medical students.

The sociodemographic profile of the students in the current study may have influenced the provided answers, since the majority belonged to a class with good social and economic status, and the context of their exposure to the issue of harassment may have characteristics inherent to this particular group. However, to know the reality of this group in the face of such an important issue becomes crucial for the

Table 3. Mean, standard deviation and weighted Kappa statistics (Test – Retest) for items 1 to 21.

| Item ^a | Test | Retest | Kappa ^c (95%CI) |
|-------------------|------------------------|------------------------|----------------------------|
| | Mean ± SD ^b | Mean ± SD ^b | |
| q1 | 1.22 ± 0.72 | 1.09 ± 0.51 | -0.05 (-0.26 a 0.17) |
| q2 | 2.25 ± 1.49 | 2.68 ± 1.67 | 0.12 (-0.10 a 0.35) |
| q3 | 2.46 ± 1.70 | 2.46 ± 1.70 | 1.00 (0.76 a 1.24) |
| q4 | 2.04 ± 1.45 | 2.20 ± 1.51 | -0.06 (-0.30 a 0.17) |
| q5 | 1.80 ± 1.38 | 1.72 ± 1.27 | -0.11 (-0.34 a 0.13) |
| q6 | 1.90 ± 1.39 | 1.83 ± 1.25 | -0.10 (-0.34 a 0.13) |
| q7 | 3.12 ± 1.77 | 3.12 ± 1.77 | 1.00 (0.76 a 1.24) |
| q8 | 1.65 ± 1.27 | 1.67 ± 1.22 | 0.12 (-0.11 a 0.36) |
| q9 | 1.23 ± 0.73 | 1.28 ± 0.75 | -0.06 (-0.30 a 0.17) |
| q10 | 1.90 ± 1.37 | 1.90 ± 1.37 | 1.00 (0.76 a 1.24) |
| q11 | 1.96 ± 1.30 | 1.96 ± 1.30 | 1.00 (0.76 a 1.24) |
| q12 | 1.81 ± 0.84 | 1.99 ± 1.12 | -0.02 (-0.24 a 0.21) |
| q13 | 2.54 ± 1.23 | 2.78 ± 1.39 | -0.03 (-0.26 a 0.20) |
| q14 | 2.87 ± 1.16 | 2.64 ± 1.34 | -0.12 (-0.35 a 0.11) |
| q15 | 3.12 ± 1.25 | 3.17 ± 1.32 | -0.09 (-0.33 a 0.14) |
| q16 | 1.20 ± 0.63 | 1.57 ± 1.08 | 0.09 (-0.10 a 0.28) |
| q17 | 1.36 ± 0.95 | 1.57 ± 1.06 | 0.04 (-0.19 a 0.27) |
| q18 | 1.25 ± 0.72 | 1.61 ± 1.19 | -0.03 (-0.23 a 0.16) |
| q19 | 2.29 ± 1.65 | 2.29 ± 1.65 | 1.00 (0.76 a 1.24) |
| q20 | 2.10 ± 1.53 | 2.10 ± 1.53 | 1.00 (0.76 a 1.24) |
| q21 | 1.16 ± 0.66 | 1.32 ± 0.92 | -0.08 (-0.30 a 0.14) |

^a Deviation from 1 to 5; ^bSD = Standard Deviation; ^c Weighted Kappa (quadratic weighting)

Source: Prepared by the authors.

development of strategies that can contribute to reducing the problem.

In the same German study, the authors identified a prevalence of 31.8% of sexual harassment due to unwanted physical contact and 8.5% of harassment due to inappropriate looks. In our study, however, the responding group was neutral when asked about these two forms of harassment.

A study carried out at the University of São Paulo in 2013, involving medical students from the first to the sixth year of the course, with the aim of estimating the prevalence of aggression, abuse and mistreatment in this group, found that the average age was 22.24 years (± 2.89), 49.0% were men and approximately 45.0% were attending the basic cycle of medical school. Almost all of them reported having suffered at least one type of aggression during the course (92.31%). The most common types of aggression were depreciation/humiliation (73.1%) and verbal aggression (59.99%), with a high prevalence of sexual abuse or discrimination (43.32%), whereas physical violence was reported by 13.0% of students.⁹

In Canada, a study carried out in 2019 found that the main harassers are patients (40.4%), other medical students (39.65%) and, to a lesser extent, teachers and preceptors (20%)¹³. In agreement with it, we found in our study that the assessed group partially agrees with having already suffered sexual harassment from other students and patients; however, when asked about sexual harassment practiced by medical professionals, both in the academic context and in hospital practice, by non-medical health professionals and employees from the institution's administrative sector, the group stated that they totally or partially disagreed with having already suffered sexual harassment by these groups of professionals.

On the other hand, it is worth highlighting that in several studies, preceptors and/or residents were identified as the main harassers^{10,12,14,19}, thus disagreeing with the results of our study.

Regarding the occurrence of verbal, non-verbal/gestural and written sexual harassment on social networks and applications, our data reported that respondents totally or partially disagree with the presented statements; therefore, the majority of the assessed group did not suffer these forms of harassment. However, in the researched literature, we found that these forms of harassment do occur, more specifically 10.9% of gestural harassment and 4.7% of harassment due to inappropriate messages on social networks¹³ and, regarding verbal harassment, the occurrence of 41.3% is reported by both genders¹⁸, whereas in another study, we found that 10% of the male population and 61.5% of the female population reported it¹⁴.

Also in the study carried out in Münster, Germany, most cases of sexual harassment occurred in clinical practice environments (58.6%), while the smallest part occurred in academic environments (24.5%)¹⁸, leading to the understanding that hospitals and other places of medical practice are factors that facilitate the existence of sexual harassment, either because it is normalized violence in practice or because it is structural in the medical environment. In our study, however, the respondents do not agree that academic environments (such as classrooms, tutoring, library, etc.) or clinical practice environments (such as teaching hospitals and places outside the hospital) are factors that facilitate the occurrence of harassment.

Our studied group agrees that the victim's clothing, behavior and night shifts and nocturnal activities are factors that facilitate the occurrence of sexual harassment. In agreement with our results, it was found in Germany that clothes and behavior are related to the occurrence of sexual harassment and advancement in the professional career (11.9%)¹⁸; regarding nocturnal activities, however, we did not find data to reaffirm what our study demonstrated. These data highlight how *machismo* is rooted in our patriarchal culture.

We are still blaming the victim for the harassment, through an erroneous attempt to justify it through the victim's clothes and behavior.

Until the end of this study, we were unable to identify in the researched literature a validated instrument with the same objective as ours; therefore, we cannot make comparisons of validation results in the discussion.

LIMITATIONS OF THE STUDY

We identified a limitation in the strength of the study caused by the fact that the research took place during the Covid-19 pandemic and, to maintain social distancing, it was necessary to remotely apply the instrument, which may have interfered with adherence and consequently the amount of responses to the Test and Retest, reducing our study population.

It should also be considered that because the sampling in the current study was carried out by convenience and was not a probabilistic one, those who answered the survey may have a specific profile, capable of configuring a measurement bias, that is, in the answers given to the used instrument.

CONCLUSION

The validated instrument showed to be reliable and stable and can be used in medical schools to identify sexual harassment among medical students. This instrument should help to identify this violent and unacceptable behavior, contributing to its eradication in the academic environment and in all clinical practice environments in medical education.

AUTHORS' CONTRIBUTION

Gilliatt Hanois Falbo Neto: Conceptualization; Supervision; manuscript writing; Review and editing of the manuscript. Thiale Cunha Cavalcanti Corrêa de Araújo: Conceptualization; Supervision; manuscript writing; Review and editing of the manuscript; Investigation and data search. Hellen Necy de Almeida Arruda and Rodrigo Josiman Serafim Barros: Conceptualization; manuscript writing; Review and editing of the manuscript; Investigation and data search.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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REFERENCES

1. Comitê Permanente pela Promoção da Igualdade de Gênero e Raça do Senado Federal. Assédio moral e sexual no trabalho. Biênio 2017-2019 [acesso em 09 out 2020]. Disponível em: <https://www12.senado.leg.br/institucional/procuradoria/proc-publicacoes/cartilha-assedio-moral-e-sexual-no-trabalho>.

2. Moreira FM. Violência de gênero na escola: abuso/assédio sexual e relações de poder [monografia]. Florianópolis: Universidade Federal de Santa Catarina; 2016 [acesso em 09 out 2020]. Disponível em: <https://repositorio.ufsc.br/xmlui/handle/123456789/173809>.
3. Bordignon M, Monteiro MI. Validade aparente de um questionário para avaliação da violência no trabalho. *Acta Paul Enferm.* 2015;28(6):601-8. doi: <https://doi.org/10.1590/1982-0194201500098>.
4. Costa DS, Medeiros NSB, Cordeiro RA, Frutuoso ES, Lopes JM, Moreira SNT. Sintomas de depressão, ansiedade e estresse em estudantes de Medicina e estratégias institucionais de enfrentamento. *Rev Bras Educ Med.* 2020;44(1):e040. doi: <https://doi.org/10.1590/1981-5271v44.1-20190069>.
5. Nogueira EG, Matos NC, Machado JN, Araújo LB, Silva AMT, Almeida RJ. Avaliação dos níveis de ansiedade e seus fatores associados em estudantes internos de Medicina. *Rev Bras Educ Med.* 2021;45(1):e017. doi: <https://doi.org/10.1590/1981-5271v45.1-20200174>.
6. Sacramento BO, Anjos TL, Barbosa AGL, Camila FT, Dias JP. Sintomas de ansiedade e depressão entre estudantes de Medicina: estudo de prevalência e fatores associados. *Rev Bras Educ Med.* 2021;45(1):e021. doi: <https://doi.org/10.1590/1981-5271v45.1-20200394>.
7. Rodrigues CS, Deus MLA, Andrade FT, Rezende GB, Mariano LA, Sé AB. Avaliação da prevalência da síndrome de burnout em estudantes de Medicina. *Rev Bras Educ Med.* 2020;44(4):e176. doi: <https://doi.org/10.1590/1981-5271v44.4-20200032>.
8. Marques RC, Martins Filho ED, Paula GS, Santos RR. Assédio moral nas residências médica e não médica de um hospital de ensino. *Rev Bras Educ Med.* 2012;36(3):401-6. doi: <https://doi.org/10.1590/S0100-55022012000500015>.
9. Peres MF, Babler F, Arakaki JN, Quaresma IY, Barreto AD, Silva AT, et al. Mistreatment in an academic setting and medical students' perceptions about their course in São Paulo, Brazil: a cross-sectional study. *São Paulo Med J.* 2016;134(2):130-7. doi: <https://doi.org/10.1590/1516-3180.2015.01332210>.
10. Chávez-Rivera A, Ramos-Lira L, Abreu-Hernández LF. A systematic review of mistreatment in medical students. *Gac Med Mex.* 2016;152(6):711-25 [acesso em 09 out 2020]. Disponível em: <https://pubmed.ncbi.nlm.nih.gov/27861478/>.
11. Fnais N, Soobiah C, Chen MH, Lillie E, Perrier L, Tashkhandi M, et al. Harassment and discrimination in medical training: a systematic review and meta-analysis. *Acad Med.* 2014 May;89(5):817-27. doi: <https://doi.org/10.1097/ACM.0000000000000200>.
12. Owoaje ET, Uchendu OC, Ige OK. Experiences of mistreatment among medical students in a University in South West Nigeria. *Niger J Clin.* 2012 Apr-June;15(2):214-9. doi: <https://doi.org/10.4103/1119-3077.97321>.
13. Phillips SP, Webber J, Imbeau S, Quaife T, Hagan D, Maar M, et al. Sexual harassment of canadian medical students: a national survey. *Eclinical Medicine.* 2019;7:15-20. doi: <https://doi.org/10.1016/j.eclinm.2019.01.008>.
14. Baldwin Jr. DC, Daugherty SR, Eckenfels EJ. Student perceptions of mistreatment and harassment during medical school: a survey of ten United States schools. *West J Med.* 1991 Aug;155(2):140-5 [acesso em 09 out 2020]. Disponível em: <https://pubmed.ncbi.nlm.nih.gov/1926843/>.
15. Barbanti PC, Oliveira SRL, Pelloso SM, Carvalho MDB. Effects of mistreatment in medical schools: how to evaluate? A brief review. *Rev Bras Educ Med.* 2021;45(3):e138. doi: <https://doi.org/10.1590/1981-5271v45.3-20210054.ING>.
16. Coluci MZO, Alexandre N, Milani D. Construção de instrumentos de medida na área da saúde. *Ciênc Saúde Colet.* 2015;20(3):925-36. doi: <https://doi.org/10.1590/1413-81232015203.04332013>.
17. Cronbach LJ. Coefficient alpha and the internal structure of test. *Psychometrika.* 1951 Sep;16(3):297-334. doi: <https://doi.org/10.1007/BF02310555>.
18. Schoenefeld E, Marschall B, Paul B, Ahrens H, Sensmeier J, Coles J, et al. Medical education too: sexual harassment within the educational context of medicine – insights of undergraduates. *BMC Med Educ.* 2021;21:81. doi: <https://doi.org/10.1186/s12909-021-02497-y>.
19. Kisiel MA, Kühner S, Stolare K, Lampa E, Wohlin M, Johnston N, et al. Medical students' self-reported gender discrimination and sexual harassment over time. *BMC Med Educ.* 2020 Dec;20(1):503. doi: <https://doi.org/10.1186/s12909-020-02422-9>.



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