

A systematic review of mistreatment in medical students

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Abstract

Mistreatment of medical students is an international problem that has been reported for decades in different countries, but its conceptualization and registration form are very heterogeneous. This review aims to identify the main features of this mistreatment from a systematic analysis of the literature published between 1980 and 2016. Using databases, 118 published papers were obtained under the selected criteria. Most widely accepted definitions are presented and structuring of the following categories: directionality, types, perpetrators, scenarios, vulnerable groups, consequences, complaints, and the way they justify mistreatment. Concluding, in order to bring down abuse in medical students, it is proposed to replace the verticality and submission by teamwork and collaboration among all, and promote strategies of complaint and admonition of the perpetrator. (Gac Med Mex. 2016;152:711-25)

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Introduction

The first records of medical student mistreatment are from around the decade of 1960^{1,2}, and several studies have been conducted in different countries ever since, which has enabled to appreciate that this is an international problem with multiple proportions and facets. Uhari et al.³ reported an estimate of its magnitude and concluded that three out of every four medicine students had experienced some type of mistreatment during their medical training (sexual type was the one with the highest rate). On the other hand, Iglesias Benavides et al.⁴ point out that psychological abuse predominates by 98%, and it is more accentuated in clinical

areas, while Nagata-Kobayashi et al.⁵ mention that verbal abuse is the most frequently reported abuse and point at the Surgery Department as the main scenario.

Based on the above reports, it is clear that the types of mistreatment, the perpetrators, victims and scenarios where this occurs are rather heterogeneous; even the concept of mistreatment may vary from one context to another⁶. The purpose of this review article is to determine the main characteristics of the mistreatment experienced by medical students based on a systematic analysis, without belittling the consequences it generates in the student: apathy⁷, dehumanization⁸, depression^{5,9,10} and suicidal ideation¹⁰, which affect his/her physical⁷, social^{11,12} and familial^{11,12} health, as well as patient care¹³.

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Objective

The purpose of this work was to determine the main characteristics of mistreatment occurring in medical students based on a systematic analysis of the literature.

Method

This work was of the descriptive type. The references were obtained at several stages, as described next.

The search for information was performed resorting to different databases using the keywords “mistreatment”, “harassment”, “bullying”, “discrimination”, “misconduct”, “belittlement” and “abuse”, which were crossed with “medical student”, with a total of 28 combinations being obtained. The used databases were EBSCO (abbreviation for Elton B. Stephens [its founder] Company), the most widely used electronic resource in libraries, OVID (leader in information services with international recognition), ISI (Institute for Scientific Information), a scientific information online service, and PROQUEST, which is a platform that serves electronic publications online. Years 1980 through 2016 were contemplated, with both descriptive and analytical research works and review articles or meta-analyses being acquired.

Subsequently, the material was reviewed under the following criteria:

- Those documents making only a reflection not supported by research, such as editorials, letters to the editor and materials of the speculative type, were excluded.
- Empirical, methodologically rigorous research works, where mistreatment was associated with other variables were included, as well as review articles and meta-analyses making a balance of field research.

The definition of variables to establish the analysis will be described later.

In most cases, the material was retrieved in full-text Pdf files, and the rest was obtained by means of library services.

Bibliography cards were created concentrating relevant information and were grouped according to different mistreatment-associated variables.

Based on the collected information, main categories were then ordered, and each one was described by addressing the authors' contributions and comparing them with those from other authors describing the same concept.

The medicine student mistreatment general outlook was plotted according to the retrieved literature (Fig. 1).

In addition, a table (Table 1) concentrating the main characteristics of the articles used for the present work, such as first author, publication year, country of origin, research design, sample characteristics (number and gender of participants, place where the investigation took place), mistreatment assessment (instrument) and results (type and prevalence of mistreatment) was then structured, preserving the order in which their direct citation appeared.

Results

Out of 89,563 references that were found, only 118 met the inclusion and exclusion criteria. With this material, the required information was extracted to detail each one of the categories; ultimately such information was contained in no more than 27 works.

Table 2 shows the number of retrieved articles according to the database and keyword used.

According to the authors^{3,5-7,11-13}, the concentration and order of variables are established as next is explained.

Abuse

The essential variables to conduct the analysis were mistreatment and abuse. Coverdale et al.¹⁴ acknowledge there is wide variety of behaviors that are not easy to define or validate, especially when dealing with abuse or bullying. Some authors^{2,3,7,11}, when referring to abuse use the same indicators that describe mistreatment^{4,15}. Even Morcarello et al.¹⁶ literally clarify that they use both terms as synonyms. Wilkinson et al.⁶ admit the variety of concepts from one study to another and, consequently, adopt the concept of “adverse experiences”.

Mistreatment definition

Per se, the term mistreatment is hard to define, since there are cultural and social factors involved, including the focus of the discipline the approach is intended from. On the other hand, the different contexts where it takes place have to be taken into account for a discrepancy between the mistreatment actions and the victim's perception to exist¹⁷.

Wilkinson et al.⁶ point out that the definition can vary from one study to another, but that, in general, it is established as a damaging, hurtful or offensive behavior imposed by one person to another.

In an attempt to contribute to a better definition of mistreatment, the perpetrator's intention, the seriousness and frequency of the aggression and the susceptibility of the victim have to be considered as we describe next.

According to Blancas Bustamante¹⁸, a single hostile act is not enough, but it is indispensable for it to be a reiterated and systematic behavior, with systematic being understood as a behavior resulting from a deliberate procedure that applies a premeditated method to damage a person. Similarly, Hirigoyen¹⁹ literally mentions: "... taken separately, it is not really serious; it is the cumulative effect of frequent and repeated microtrauma that constitutes the aggression".

However, the seriousness of the fact has to be considered as well, since violent aggressions such as physical blows or those by means of some object do not require reiteration to be regarded as mistreatment, since one single fact constitutes sufficient evidence. Similarly, in the sexual dimension, an attempt or its verbal manifestations are enough for the behavior to be offensive. Of course, when there is molestation or the sexual act is consummated, it is even more aggressive, even if it happens only once, even worse if it occurs on a reiterated basis.

On the other hand, Maida et al.⁷ state that for a behavior to be considered abusive it should occur in a context of power imbalance. However, there are studies that demonstrate that aggressions can also occur between equals (peers)^{2,3,6,15,16}, without a hierarchy or overarching power existing over the victim. Therefore, mistreatment does not always occur in inequality situations.

To try to break this destructive circle, the victim must recognize that it is not a "normal" and unavoidable situation, consubstantial to his/her own condition. This implies overcoming three barriers: difficulty to perceive and identify mistreatment, daring to file a complaint and trusting the authorities in order for them to fight it. Frequently, mistreatment is perceived as such, but the victim considers the complaint can turn out being counter-productive or useless⁵.

For the purposes of this work, the following definition of mistreatment was constructed: "It is any behavior that threatens physical, moral or psychic integrity of a person or infringes his/her rights, and generates suffering, psychological and/or physical harm for him/her, or limits learning, either by means of interpersonal strategies or virtual tools used by an individual or in collusion with others".

Next, the characteristics that shape mistreatment will be analyzed.

Directionality

Aggressions can occur in two modalities with regard to organizational hierarchy: vertically⁷ and horizontally⁷. It is vertical when one of the implied parties is located at the upper part, and the other, at the lower one; this way, preclinical and clinical teachers and resident physicians are at a higher category than the common student. It can also occur inversely, from the bottom up, when subordinates commit an aggression against a superior. In the horizontal aspect, none of the involved parties has a superior hierarchy or overarching power with regard to the other, i.e., mistreatment occurs between peers.

Typology

According to their classification and incidence (from higher to lower), several authors^{3,7,11-13} agree on establishing the following types of mistreatment.

Verbal abuse

Silver et al.²⁰ define verbal aggressions as those entailing insults, cruelty, humiliation or unfair statements, all this with the purpose to offend. Sheehan et al.¹² describe them as communication based on yelling with a great deal of antipathy, rudeness and hostility, belittlement, humiliation, cursing and insults. Taking these characteristics into account, the authors state that 73 to 85% of the studied population has been treated with these variants at least once throughout their trajectory as medical students, with these figures being consistent with those reported by Maida et al.¹¹.

On the other hand, Sheehan et al.¹² point at residents and staff physicians, Uhari et al.³, at nurses and Maida et al.¹¹, at teachers as the main perpetrators of mistreatment towards students in this dimension.

According to Lubitz et al.¹³, there are variations in the verbal abuse that takes place between different clinical departments, and the departments where this type of behaviors occur more commonly are the following: at first place, the General Surgery Department; at second place, the Obstetrics and Gynecology Department and, at third place, the Internal Medicine Department.

With regard to the most vulnerable group, in that same study, the female gender stands out: 73.8% versus 63.8% for the male gender. Nagata-Kobayashi et al.⁵ findings are similar: 63.3% in the female gender versus 52.8% in males.

Psychological abuse

Cook et al.²¹ define psychological abuse as a behavior that makes people feel hurt, undervalued or incompetent, and can include yelling, insults, ignoring the person or making disrespectful comments. Sheehan et al.¹² describe that it involves assigning tasks as punishment, threatening with assigning a low grade, taking credit for others' work, taking away privileges that someone normally enjoys, maliciously competing against someone, setting traps in exams or written works, behaving with hostility with someone who has accomplished an achievement, trying to put a superior against someone and making negative comments with regard to the possibility of the student becoming a physician.

Maida et al.⁷ mention that it involves threatening with academic harm, speaking badly of the person to harm him/her, assigning unfair tasks, unfairly taking credit for the work, ignoring or disqualifying the work, or treating in a humiliating or discriminating form.

Although some authors argue that yelling, cursing and negative comments are included in this segment, it is pertinent including them within the field of verbal abuse; similarly, academic harm intention, such as assigning low grades, can more clearly be placed in the field of academic abuse.

Psychological abuse would then only be limited to behaviors intended to make people feel displaced from the place they are entitled to, to feel incompetent or devalued to themselves or to others. These actions include the superior rolling his/her eyes when the subordinate expresses an idea, grimacing or jeering grins, hand gestures expressing disdain or incompetence, assigning duties not corresponding to the medical student status to humiliate him/her (such as, for example, do the cleaning), maintaining the student holding objects for very long time with no purpose whatsoever, isolating him/her and not speaking a word to him/her, sending him/her to purchase things and deliberately excluding him/her from all activities.

Uhari et al.³ and Maida et al.⁷ findings point at the teacher as the main perpetrator of physical abuse, whereas Sheehan et al.¹² report residents and interns

as the main sources of this type of behavior. According to Uhari et al.³ findings, the female gender is most affected.

Academic abuse

Silver et al.²⁰ describe academic abuse as assigning an excessive or inappropriate academic or clinical workload, which consists in having to carry out tasks beyond the functions of the student or unnecessary activities and receiving incorrect or unfair grades or assessments. Within this concept, Kassebaum et al.² add sleep deprivation and wrong evaluations.

According to the former authors, incorrect or unfair assessments at the educational institution significantly stand out, whereas performing additional activities or tasks other than those stipulated, as they suggest, would be classified within the field of psychological abuse. On the other hand, in the clinical setting, according to Kassebaum et al.², deliberate sleep deprivation is important, and integrating it to psychological abuse is contemplated, since the victim is deprived of the right he/she is entitled to in order to somehow undermine him/her.

For Nagata-Kobayashi et al.⁵, mistreatment, in general, is denying the student the opportunity to examine patients, preventing him/her from practicing medical techniques and opposing to him/her attending conferences or academic meetings. However, since these are resources for the student to acquire or consolidate knowledge, it is suggested that these indicators should be included in the field of academic abuse, as well as the multiple written admonitions addressed to the teaching head office with the purpose to harm the student.

On the other hand, Nagata-Kobayashi et al. point out that prevalence in students is as high as 23.2%, with a distribution of 25.3% in males and 19.4% in females. Lubitz et al.¹³ report a much higher proportion: 76.4% (70.2% in males and 83.3% in females). The departments with the highest frequency are Surgery, Obstetrics & Gynecology and Internal Medicine.

Physical abuse

Cook et al.²¹ define physical abuse as that of a person who behaves rudely, hitting or pushing other people, in such a way that the situation gets out of control and unleashes behaviors that threaten the physical integrity of those involved.

Aggressions can occur gradually, and include threats of physical assault, being exposed to deliberate medical risks, pushing^{7,11}, throwing files or other objects with intention to cause harm⁷, and even more intense assaults such as slapping¹², hair pulling⁷, kicking¹², biting, scratching, pinching, spitting or intentional damage to personal objects²².

It is important pointing out that threats with weapons¹¹, hitting with medical instruments²⁰, or deliberate injuries to the subordinate with the electrocautery in a surgical procedure are very clear examples of physical abuse.

With regard to the frequency, Maida et al.¹¹ point out that 23.6% of students reported at least one physical abuse incident; Baldwin et al.¹⁵ report 18.1% in undergraduate students, with the figure increasing to 42.6% in postgraduate students.

Sexual abuse

Within the first definitions of sexual abuse, wooing, harassment, physical advances and sexist comments are enumerated^{20,23}. Later on, Kassebaum et al.² define it as asking for sexual favors in exchange for grades or other type of rewards; in addition to sexist comments, nicknames according to the student's personality and sexual-type advances not desired by the student and made by the academic staff are included.

Baldwin et al.¹⁵ highlight that it involves sexist disdain, favoritism, showing sexual teaching materials, denying opportunities, maliciously gossiping and offering rewards in exchange for sexual favors, among others. Cook et al.²¹ add making sexist jokes, compliments on the body or figure, suggesting ways to dress and explicit sexual proposals.

Maida et al.¹¹ place in this dimension being the subject of sexual advances without consent, sexual-connotation nicknames, unwanted touching or caressing, making grades conditional on sexual favors exchange, forcing sexual activity and observing third parties' sexual activity; their study found that 26.4% of students reported at least one incident of this type.

Nagata-Kobayashi et al.⁵ include in this point clinical-hospital rotations where some medical students are the target of unwanted special attention, persistent invitations, unwanted explicit proposals, exposure of offensive materials such as pictures, drawings, etc., offensive body language such as leering, signs... , or physical approaches and incentives being offered in exchange for sexual favors. In their

study, they found that the most vulnerable group were females, with 54.1%, whereas in males the proportion was almost half, with 25.3%.

Uhari et al.³ also include belittlement and sexual discrimination in this category, and indicate that belittlement occurs in 32% of cases and sexual discrimination in 23%.

The scenarios with higher incidence of sexual abuse, according to the studies carried out by Nora²³, point at the Department of General Surgery at first place, followed by Gynecology & Obstetrics at second. On the other hand, Wolf et al.⁸ mention that the main characters that perpetrate this type of conducts are the residents, both in the case of males and females.

Racial abuse

Kassbaum et al.² establish that this behavior involves remarks or offensive criticism with regard to the student's race or ethnicity. Sheehan et al.¹² state that the most vulnerable groups are all those not belonging to the White or Hispanic race. However, according to findings of the former authors, the highest incidence was observed in the Black race, followed by Hispanics and, ultimately, Asians, highlighting that males were most vulnerable in all cases. The Black race preserved its prominent position even in public and private schools, with no significant differences. On the other hand, students reported as main perpetrators, in a higher-to-lower scale, staff physicians within the hospital, staff physicians within the classroom and preclinical teachers².

Mistreatment by means of the use of information and communication technologies (ICT)

Mistreatment can also occur with the use ICTs (e-mail, social networks, blogs, personal websites, chat, videotelephony, mobile telephony, phone calls and text messages), which are tools by means of which aggressive or violent content messages can be diffused, as when mobile telephony is used to photograph or video-record one person and later exhibiting him/her in social networks. Abuse begins when these tools are used with the purpose to humiliate or disclose mistakes for individual or collective mockery, thus potentiating the affront. The use of this dynamics is comfortable for the attacker, since he/she can hide behind anonymity by using a pseudonym and this way incite

other people to participate in that space with similar intentions. It would be interesting to know its prevalence and consequences, but in the literature on medical student mistreatment this subject has been poorly explored because it involves a relatively recent phenomenon.

We should point out that the different types of mistreatment can be combined with each other, which potentiates the damage inflicted to the victim.

Perpetrators

In the reports generated by Sheehan et al.¹², the resident is identified as the main perpetrator, which is consistent with observations made by Baldwin et al.¹⁵, but is in contrast with the works of Maida et al.¹¹, who point at teachers as the main aggressors in all types of mistreatment.

Wolf et al.⁸ mention that the highest percentage is reached by resident physicians, followed by nursing personnel and clinical faculty. Iglesias Benavides et al.⁴ report a group comprised by basic science teachers and residents as the main source of abuse, and, in a lower proportion, they report another group comprised by peer students, nurses and patients.

It should be made clear that mistreatment can vary depending on the hospital level. If the center is a secondary or tertiary care facility, the number of residents increases and, therefore, the hierarchical scale is extended and the behavior of higher towards lower-ranked personnel is much colder and distant. Conversely, if the healthcare center is a primary care facility, the hierarchical scale is reduced and the number of residents is much lower or zero. Consequently, the relationship between immediate superior and subordinate is more direct and close, and the incidence of abuse might be lower than in the first group.

Scenarios

Nagata-Kobayashi et al.⁵ point out that the department with the highest number of violent acts is General Surgery, followed by Internal Medicine and, at a significantly lower proportion, Ophthalmology and General Medicine^{9,14}. However, for Lubitz et al.¹³, the second place is for the Gynecology Department and the third for Internal Medicine. Finally, both groups of authors agree in categorizing the General Medicine or Family Medicine Department as the department with least mistreatment.

Vulnerable groups

Certain special characteristics of the victims are thought to act as triggers for mistreatment to occur. Those characteristics reported by the literature are next described.

Personal attributes

In some studies, gender^{2,8,15,20}, age^{13,15}, marital status^{8,15} and religion¹⁵ are not variables that trigger mistreatment, since they do not report significant evidences demonstrating aggression to one group over others. However, Nagata-Kobayashi et al.⁵ point out that the female gender suffers experiences of abuse more frequently than the male gender. On the other hand, for authors such as Lubitz et al.¹³, race is not a variable that reports higher frequency of mistreatment, but for Kassebaum et al.², a higher incidence of abuse does exist for the Black than for the Hispanic or Asian race.

Academic aspects

Lubitz et al.¹³ and Elnicky et al.¹⁰ claim there is no evidence that students receive more abuse depending on their academic level. However, Silver et al.²⁰ point out that the rates of higher incidence occur at third and fourth year, which is consistent with findings of Oancia et al.²⁴ and Maida et al.⁷, demonstrating that this type of behaviors are observed more frequently as the academic level and level of experience increase.

Consequences of mistreatment

The repercussions of mistreatment towards students are grouped in the following categories.

Personal

Silver et al.²⁰ state that one of the most common disturbances is stress and constant anguish²⁵. Nagata-Kobayashi et al.⁵ mention that victims refer discomfort, anxiety, anger, fear, nervousness and depression^{5,9,10}. Actually, the fact that the student is involved in a hostile environment can drive his/her initial hopes and enthusiasm to weaken, and over time become a person with cynicism^{2,7,8}, pessimism⁸, apathy and dehumanization⁸. Elnicki et al.¹⁰ report the case of a student subjected to such a hostile environment that he

came to develop suicidal ideation and required therapy with antidepressants. However, the authors also state that the victim can use this adverse experience to keep away from this course of action and not end up turning into a perpetrator, with the possibility of becoming a much stronger person in the psychoemotional aspect.

Now, although minor abuse could probably make a person stronger, overwhelming mistreatment has a highly destructive potential. Thus, it is not surprising that some authors suggest a negative impact on mental health^{12,13} and an increase in alcohol consumption^{15,25} in these cases.

Educational

In the educational process, the student that has been the victim of mistreatment exhibits a lack of trust on his/her clinical skills²⁶, decreased enthusiasm for studying⁵, difficulty in the ability to study¹³, which limits his/her learning⁵.

On the other hand, Elnicki et al.¹⁰ indicate that clinical rotation turns uncomfortable for the student and generates negative feelings towards the specialty where he/she was victim of aggression, thus avoiding future rotations; i.e., mistreatment can drive initial inclination for a medical specialty to decrease to the point of displeasure^{15,13}, with the result of wanting to change of school⁴ or drop out of medical school^{5,7,11,12}.

The goal of medical education is essentially training students in order for them to provide patients with care, but this professional objective is weakened inasmuch as there are evidences that a medical student who has been mistreated during his/her training will subsequently reproduce this behavior towards the patient.

Professional

In the professional context, according to Lubitz et al.¹³, the efficacy on patient care provided by a student subjected to countless acts of abuse is impaired. Maida et al.¹¹ point out that 35% of their study population referred that quality of work in general was negatively affected. The student even develops other type of secondary behaviors with regard to his/her professional activities, such as forging patient records²⁷, i.e., making up that procedures and tests have been carried out, lying about a patient's current status and/or altering laboratory results, possibly out of fear of being reprehended by his/her superior, trying to avoid future

punishment and reprimand. However, record altering can cause multiple problems of unimaginable magnitude.

Social

It is not hard to imagine that being involved in a hostile environment is a fertile soil for the generation of conflicts that end up in the rupture of sentimental bonds¹², which can originate feuds that gradually develop feelings of hate and revenge, to the point of even wanting to murder someone¹⁰. Maida et al.¹¹ point out that 25.6% of their study population referred some harm to their social life and 6% to their family life.

About complaints

Nagata-Kobayashi et al.⁵ claim that a significantly high percentage of student victims of abuse did not file complaints owing to two reasons: first, for some it was not a significantly enough problem as to report it to competent authorities; second, the students considered that filing a complaint about mistreatment would generate additional problems that would further worsen their situation. Iglesias Benavides et al.⁴ report that half their sample considered that complaining with a superior would not be of any use, and the other half answered the opposite. Therefore, it is possible imagining there is important complaint under-reporting.

About justification

According to the input of their study population, Muselman et al.¹⁷ point out that aggression can be acceptable (justified) by the student if it entails educational purposes to improve his/her clinical performance and/or if it brings benefits for the patient, and it is regarded as dysfunctional (unjustified) when the remarks or attitudes are beyond a strictly clinical context or do not entail teaching purposes. On the other hand, the aggressor justifies it as a tool to foment the sense of responsibility in the student.

Discussion and conclusions

In highly hierarchically organized organizations, with clearly asymmetric powers, frequently inspired in military contexts, orders are vertically executed and must be obeyed with submission and subjugation. Superior levels are in possession of power, and subordinates

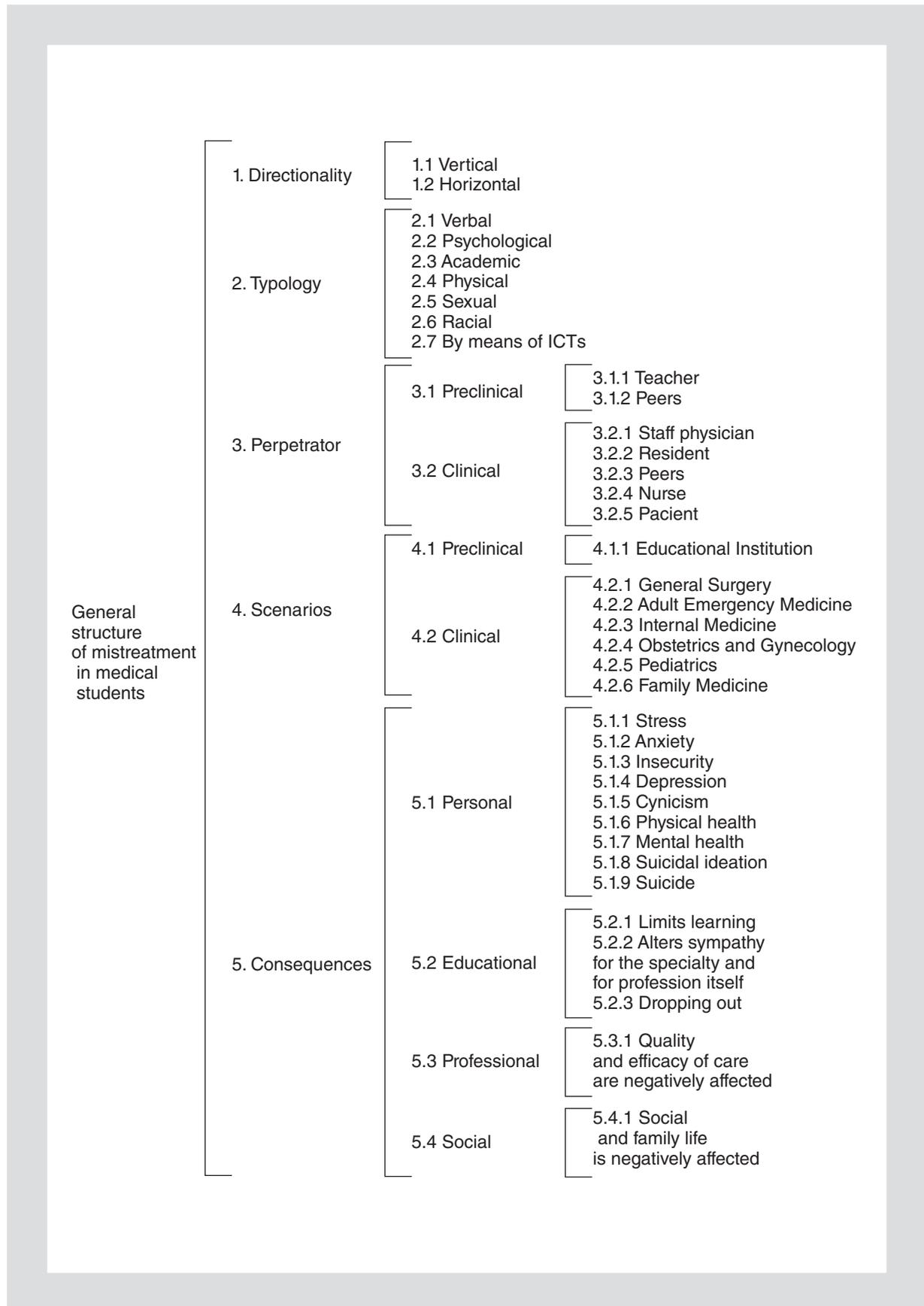


Figure 1. General structure of mistreatment in medical students where its respective categories and classifications are shown.

Table 1. Retrieved works results*

Number	Author	Year	Country	Design	Sample	Mistreatment assessment	Results
1	Ogden PE et al.	2005	USA	Ex post facto	220 subjects participated: 54 physicians, 42 nurses, 71 residents and 53 medical students. 52.2% was of the female and 47.8% of the male gender.	Video-recorded testimonies and applied questionnaires	44.8% answered having received abuse during medical training, 40.8% from resident physicians and 28.3% from medical students.
2	Kassenbaum DG et al.	1998	USA	Ex post facto	Applied in 125 medical schools accredited in USA (north, south, mid-west and west), 13,168 subjects took part; 58.5% were males and 41.5% were females	Medical School Graduation Questionnaire	5,049 (38.3%) reported having been mistreated at least once. Of total subjects that received mistreatment, 38.1% came from public schools and 38.6% from private schools. There was 25.5% of sexual harassment and 3.2% of physical abuse
3	Uhari M et al.	1994	Finland	Ex post facto	255 students of Finland medical schools took part (Oulu and Tampere) with a mean age of 24.9 years. 63.9% were females and 36.1% were males	Questionnaire designed by Baldwin et al. (1988) and, subsequently, a questionnaire prepared by several USA investigators	74.2% reported having experienced some kind of mistreatment during medical training. There were no significant differences between both schools. Verbal abuse was to preclinical teachers in 13% of cases and to clinical teachers in 11%. There was psychological mistreatment in 7% of preclinical and 6% of clinical teachers, and physical abuse in 5% of preclinical and 4% of clinical teachers
4	Iglesias Benavides JL et al.	2005	Mexico	Ex post facto	404 randomly selected students of the three last medicine undergraduate years at the UANL. There were 142 fourth-year, 135 fifth-year and 127 sixth-year students; 53.2% were females and 46.8% were males	A 44-item questionnaire was applied: 18 related to institutional mistreatment, 16 to sexual harassment and 10 to perceived personal and academic support by the institution	30.9% accepted having experienced some type of mistreatment; 7.92% came from instructors, 38.7% from basic-subject teachers, 38.7% from residents and 75.7% from clinical faculty. Sexual harassment came in 75.7% of cases from residents. 57.6% received institutional support
5	Nagata-Kobayashi S et al.	2005	Japan	Ex post facto	559 medical students took part. The questionnaire was applied in six Japanese medical schools between September 2003 and January 2004 during class hours in a voluntary and confidential form. 73% were males and 27% females. Mean age was 24.7 years	The questionnaire was developed based on studies coming from Medline with articles from 1996 to April 2002, and questions originating in personalized interviews with graduates of the same school	Of all questionnaires applied, only 54.4% were returned and satisfactorily answered. 68.5% stated having been abused at least once, and verbal abuse was the most commonly reported

(Continued)

Table 1. Retrieved works results* (Continued)

Number	Author	Year	Country	Design	Sample	Mistreatment assessment	Results
6	Wilkinson TJ et al.	2006	New Zealand	Ex post facto	The questionnaire was applied on 2001 in New Zealand's medical schools. Out of 1,660 students, only 83% (1,384) completed the study. 44.1% were males and 55.9% were females. 85% of participants were younger than 25 years	The questionnaire was constructed with information provided by medical students of the same university	68% reported having experienced at least one episode of mistreatment; 63% owing to their race, 49% suffered humiliation, 39% sexual abuse and 13% physical beating
7	Maida AM et al.	2006	Chile	Ex post facto	747 questionnaires were applied in the University of Chile over the years 2001 and 2002. 48.5% were males and 51.5% were females	The Abusive Behaviors Perception Survey was used in a voluntary and anonymous form, with previous approval of the University of Chile Faculty of Medicine Ethics Committee	86.1% reported having experienced more than two incidents of abuse; 25.1% yelling, 41.6% discrimination and 1.2% physical abuse
8	Wolf TM et al.	1991	USA	Ex post facto	143 questionnaires were applied in the years 1989-1990. Mean age was 28 years. 70% were males and 30% were females	The questionnaire was developed by the American Medical Association's Office of Education Research (Baldwin, 1988); it contemplated frequency, type and source of mistreatment in medical school	98.9% reported some type of mistreatment; 92% was yelled at, 25% was beaten and 51% received sexual harassment. Main perpetrator was the physician resident in 90.8% of cases
9	Dyrbye LN et al.	2006	USA	Ex post facto	545 questionnaires were applied in the State of Minnesota in 2004. 45.45% were males and 54.6% females. The age ranged from 25 to 30 years	The questionnaire comprised 118 items to identify wellbeing and how could medical schools make changes to improve students' quality of life	45% of students displayed burnout syndrome. Emotional exhaustion, depersonalization and personal achievements were at moderate ranges
10	Einicki DM et al.	2002	USA	Ex post facto	The questionnaire was applied in 11 medical schools of the USA at the conclusion of third-year undergraduate studies in the years 1997 and 1998. 59% of students were males and 41% were females. Mean age was 26 years	The questionnaire was adapted from the instrument used at the University of Brown and the University of East Virginia	11% of students answered having experienced some type of abuse during their rotation at the Internal Medicine Department. Women claimed having received more abuse (14 vs. 9.8%). There were no significant differences between racial groups.
11	Maida AM et al.	2003	Chile	Ex post facto	144 questionnaires were applied to fifth-year students of Chile Medical School. 52% were males and 47% were females. Median age was 23 years	The questionnaire was developed by means of vignettes on situations of abuse considering the studies by Sheehan et al. (1990)	91% of students stated having experienced at least one episode of abuse. 79% reported emotional abuse, 23% physical abuse and 2.46% sexual harassment

(Continued)

Table 1. Retrieved works results* (Continued)

Number	Author	Year	Country	Design	Sample	Mistreatment assessment	Results
12	Sheehan KH et al.	1990	USA	Ex post facto	75 questionnaires were applied to third-year students in 1988. 59% were males and 41% were females. Mean age was 26.1 years	The questionnaire was developed in collaboration with the American Medical Association's Office of Education Research	85% of students stated having been verbally abused, 24% with some physical harm, 49% with assignment of duties as punishment, at least once.
13	Lubitz MR et al.	1996	USA	Ex post facto	91 of 260 questionnaires were answered. The questionnaire was applied from July to August 1994 during the third year of undergraduate studies. Age average was 26.5 years. 53% were males and 47% were females	The questionnaire, which was anonymously answered, was comprised by 4 main categories: verbal, physical, sexual and academic abuse. It was based on the studies by Sheehan et al.	More than 90% of participants reported having received abuse at least once; 43% reported three types of abuse. Females reported 3-fold more sexual abuse than males. There were no differences in terms of age, race or grade.
15	Baldwin DC Jr. et al.	1991	USA	Ex post facto	Of a total of 989 questionnaires, 581 were completely answered. Mean age was 27.1 years. 62% were males and 38% were females	The questionnaire was applied in 1988 spring in 10 USA medicine schools to fourth-year students	Public humiliation reached 86.7%; taking credit for another person's work, 53%; being treated unfairly according to the grade, 34.8%; physical abuse, 26.4%, and sexual harassment, 55%. Residents and treating physicians were the main sources of mistreatment
16	Moscarello R et al.	1994	Canada	Ex post facto	Of 397 questionnaires, only 347 were voluntarily and anonymously completed by students. It was applied in early 1990 to first to fourth-year undergraduate medical students from the Toronto University. 66% were males and 34% were females	An instrument named study of abuse in the medical student was developed, with 165 multiple-choice items to be answered in 30 min	42% of females and 11% of males reported having experienced sexual harassment prior to medical training, and 46% of females and 19% of males during training in medical school
17	Muselman LJ et al.	2005	Canada	Ex post facto	5 group and 22 individual interviews were conducted in 2 surgery departments with a total of 22 physicians and 14 residents	The study was based on a qualitative methodology anchored in a social constructivism framework on how Surgery Department teachers and students define intimidation and harassment	If using intimidation and harassment as tools for education is desired in the area of surgery, their functionality and dysfunctionality have to be especially taken into account, since there is abundant evidence that students learn better when fear, frustration and conflict are not part of their educational setting

(Continued)

Table 1. Retrieved works results* (Continued)

Number	Author	Year	Country	Design	Sample	Mistreatment assessment	Results
20	Silver HK et al.	1990	USA	Ex post facto	Of 519 students who received the questionnaire, 431 entirely completed it. It was applied to first to fourth-year students, with a mean of 27 years of age	The questionnaire was derived from data obtained from staff physicians and students who participated in Rosenberg and Silver pilot study	46.4% of respondents stated having experienced some type of abuse during their stay in medical school. 80.6% of cases took place at fourth year. 49.6% of students indicated it had taken them one month or more getting over adversity and 16.2% stated it would affect them permanently
21	Cook DJ et al.	1996	Canada	Ex post facto	Out of 225 participants, 82% completed the questionnaire. 50% were males and 50% were females. They belonged to Mc Master University medical training programs. It was applied from July 1993 to June 1994. Mean age was 30.5 years	Initially, the questionnaire was constructed using the Medline database from 1996 onwards; subsequently, it was restructured with contributions of students of the seven programs. It was applied in a voluntary and confidential form.	50% of participants reported having experienced psychological abuse. Ten females reported having experienced discrimination owing to their sexual orientation. 40% reported having experienced offensive body language, sexist educational material and unwanted comments with regard to the way they dress.
22	Mejía R et al.	2005	Argentina	Ex post facto	Of 421 participants, 322 answered completely. 55% were females and 45% were males. 35% were at first year, 31% at second, 20% at third, 12% at fourth and 0.5% at fifth year. The sample was comprised by students coming from different hospitals of the University of Buenos Aires, of the Buenos Aires Autonomous City Government and of Buenos Aires municipalities.	The instrument was constructed by means of a literature search in Medline, with interviews, and by requesting instruments developed by other authors. The applied instrument described 13 situations of mistreatment and 10 possible perpetrators	90% referred having received some type of mistreatment. 64% reported having been yelled at; 57% having been publicly humiliated; 15% having been physically beaten, and 10% having suffered religious or racial discrimination. 26% pointed at their superiors as the main perpetrators; 19% at chief residents; 14% at staff physicians; 8% at ward's senior doctors, and 8% at male nurses.
24	Onancia T et al.	2000	Canada	Ex post facto	The study was applied in a Canadian medical school with the participation of 44 newly-admitted students, 177 medical students, 134 residents and 215 teachers. The percentage of females was 46% newly-admitted, 49% medical students, 47% residents and 25% teachers	The used questionnaire came from the works by Cooks et al. and encompassed the domains of psychological and sexual abuse, gender, racial and disability discrimination and comments on homosexuality. It used a Likert-type scale	In general, abuse and discriminatory behaviors were more frequently perceived with increasing training and level of experience. In standard deviations, the figures for psychological abuse were (F [4.514] = 12.58, p < 0.0000), sexual abuse (F [4.520] = 14.06, p < 0.0000), physical abuse (F [4.520] = 16.12, p < 0.0000) (F [4.519] = 23.54, p < 0.0000) sexual discrimination (F [4.519] = 23.54, p < 0.0000) racial discrimination (F [4.519] = 6.69, p < 0.0002), respectively and was more frequently perceived in residents and faculty teachers compared with students.

(Continued)

Table 1. Retrieved works results* (Continued)

Number	Author	Year	Country	Design	Sample	Mistreatment assessment	Results
25	Richman JA et al.	1992	USA	Ex post facto	The study was applied in the Chicago Medical School in 1987. It started with 184 students and concluded with 137. 66.5% were males and 33.5% were females	The questionnaires were progressively applied from first to fourth year to investigate depressive symptoms, anxiety, hostility and drinking problems. Depressive symptoms were measured with the Center for Epidemiologic Studies Depression scale; anxiety, with the 9-item profile of mood states; hostility, with the 6-item symptom check list (SCL-90-R), and drinking problems, with the 24-item Michigan alcoholism screening test	71.8% of students reported at least one episode of abusive experiences during their medical training; of these, 54% stated having been yelled at by physicians, residents and other personnel; 35.4% claimed feeling uncomfortable for listening to sexual-type humor and 33% referred receiving unfair treatment due to gender issues
26	Schuchert MK	1998	USA	Ex post facto	A study was applied in 1996 to USA medical schools graduates, with a total of 13,168 participants. 78.8% were younger than 31 years	The Medical School Graduation questionnaire was used	38.3% of the questionnaire respondents experienced verbal abuse during their education. With regard to the level of confidence on their clinical abilities, 28.4% reported it to be high, 56.5% intermediate and 15.1% low
27	Baldwin DC et al.	1998	USA	Ex post facto	The questionnaire was sent by postal mail in 1991. Initially, 989 medical students participated, out of which 857 took postgraduate courses in 10 different schools. Finally, 571 students completed the instrument. The document does not provide detailed demographic information (sex, age, etc.)	The applied questionnaire corresponded to the American Medical Association's Annual Survey of Graduate Medical Education	44.5% had observed patient files being forged by other people. 73.8% had observed patient mistreatment by other people. 46.7% witnessed other people taking credit for others' work. 72.3% reported their colleagues had been forced to work in unequal conditions at least once

*Works that owing to their structure were unable to meet the established characteristics have been omitted.

Table 2. Keywords' curve with the database and their respective results*

Medical student	Mistreatment	Harassment	Bullying	Discrimination	Bad behavior	Belittlement	Abuse
EBSCO	12	17	4	6	13	2	12
OVID	2	17	–	2	1	–	1
ISI	6	2	3	1	4	2	2
PROQUEST	2	3	1	1	–	1	1

*The numbers represent the amount of articles found on online digital resources.

are in a disadvantaged and unprotected situation. Therefore, a hierarchical organization such as that in hospitals facilitates the commission of acts of mistreatment almost without consequences for the perpetrator, especially when authorities (heads of teaching and academic directors) contemplate these acts as being irrelevant or “normal”.

Within a clinical setting, superiors usually manage to impose a sense of hierarchy that is detrimental to those on the lower steps of the organizational ladder. Therefore, if the resident had no opportunity to sleep or have his/her meals, even less will the subordinate have the right to do it just for the sake of establishing a hierarchical order, even if the subordinate has the possibility to do it.

As long as these behaviors continue to point at a marked hierarchy, they will limit the possibility for the student to learn to trust his/her superior, thus obstructing initiative, reflection, critical analysis, contribution of ideas, participation and enthusiasm, and hindering team work and collaborative learning.

On the other hand, it should be emphasized that staff physicians or residents occupy an important position to share clinical practice-related knowledge with the student; they act as authority and role model, so that if they engage in hostile behaviors, the student can unconsciously adopt and later reproduce them in any of the contexts he/she carries out tasks, thus perpetuating mistreatment.

Another important aspect to consider is the recognition of these behaviors. One study conducted by Nagata-Kobayashi et al.⁵ indicates that 30% of students failed to identify abusive behaviors when these occurred. The fact of not perceiving these behaviors can be explained by several factors: lack of knowledge on what the definition of mistreatment is, the fact of having repeatedly experienced similar behaviors over time to the point of them going unnoticed and, finally,

institutional customs and traditions being justified as the only way to work.

The proposal for trying to decrease the incidence of mistreatment points at reducing hierarchies, since their use favors authoritarianism, arbitrariness and misuse or abuse of power, and they are more inclined to foster mistreatment.

If a sense of equity, equilibrium and harmony is implemented in the institution, it is possible for optimal teamwork that offers attitudes that directly benefit and motivate each one of the members, even the patient him/herself, to flourish.

The literature clearly establishes that it is not about isolated, fortuitous or rare cases, but about a system that directly affects the victim with variable intensity and dimensions. In order to avoid for these rather noxious behaviors to perpetuate from generation to generation and from one institution to another, the proposal consists in abandoning a hostile environment and changing it for another more pleasant with the purpose to offer greater learning opportunities and, in consequence, better patient care.

It is indispensable to create mechanisms that modify the organizational atmosphere and, if required, favor complaints and protect the victims, while admonishing the perpetrators. If mistreatment is not frontally fought, improving quality of care and building learning-favorable environments will not be possible.

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A. Chávez-Rivera, et al.: A systematic review of mistreatment in medical students

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