

# Mistreatment in Medical Training: Situation in Cardiology Residences

## *Maltrato en la formación médica: situación en las residencias de cardiología*

AMANDA GALLI<sup>1</sup>, GRACIELA GIMENO<sup>1</sup>, MIRTA D. LOBIANCO<sup>1</sup>, SANDRA SWIESZKOWSKI<sup>1</sup>, HUGO GRANCELLO<sup>1</sup>, LUCÍA KAZELIÁN<sup>1</sup>, SUSANA LAPRESA<sup>1</sup>, MARISA PAGÉS<sup>1</sup>, ERNESTO DURONTO<sup>1</sup>

### ABSTRACT

**Background:** Mistreatment is defined as the behavior that makes another person feel hurt, undervalued or incompetent. A certain level of intimidation and humiliation during training was considered necessary to prepare the doctor for a difficult profession. The conditions in which medical residencies and professional practice are developed today generate a high prevalence of burnout.

**Objective:** The aim of this study was to investigate the perception that Cardiology residents have on the mistreatment received and if they acknowledge having incurred in any aggravating behavior.

**Methods:** A survey was conducted in residents attending the Biannual Cardiology Course of the Argentine Society of Cardiology.

**Results:** A total of 183 residents responded the survey and all of them (100%) reported some type of mistreatment. Being humiliated for making a mistake and shouted at were the most frequently mentioned forms of mistreatment from a senior resident, a patient or their relatives. Almost half of the residents (46%) said they had been mistreated by the nursing staff, while 33.5% acknowledged having incurred in aggravating situations directed against another resident, a staff doctor and/or another specialty physician.

**Discussion:** The results are similar to other studies already published. For the safety of patients and the health of physicians, it is recommended to include strategies for coping with stress and it is considered essential to promote cultural changes within academic and care institutions aimed at creating more democratic and healthier working environments.

**Key words:** Preceptorship - Burnout, Professional - Workplace Violence - Education, Medical, Graduate.

### RESUMEN

**Introducción:** El maltrato se define como el comportamiento que hace que otra persona se sienta herida, desvalorizada o incompetente. Un cierto nivel de intimidación y humillación durante la formación se consideraba necesario para preparar al médico para una profesión difícil. Las condiciones en las que hoy se desarrollan las residencias médicas y la práctica profesional generan una alta prevalencia de *burnout* (agotamiento).

**Objetivo:** Indagar la percepción que tienen los residentes de Cardiología sobre maltrato recibido y si reconocen haber incurrido en alguna conducta agravante.

**Material y métodos:** Encuesta aplicada a residentes que asisten al Curso Bianual de Cardiología de la Sociedad Argentina de Cardiología.

**Resultados:** Respondieron 183 residentes. El 100% dijo haber recibido algún tipo de maltrato. Ser humillado por un error cometido y los gritos son las formas de maltrato mencionadas con mayor frecuencia; un residente superior, un paciente o sus familiares fueron señalados como los responsables de las agresiones recibidas. Casi la mitad de residentes (46%) dijeron haber sido maltratados por el personal de enfermería. El 33,5% reconoció haber incurrido en situaciones de maltrato y que este estuvo dirigido a otro residente, a un médico de planta o un médico de otra especialidad.

**Discusión:** Los resultados son similares a otros estudios ya publicados. Por la seguridad de los pacientes y por la salud de los médicos se recomienda incluir en la formación profesional las estrategias para el afrontamiento del estrés y se considera indispensable promover un cambio cultural dentro de las instituciones académicas y asistenciales orientado a crear espacios de trabajo más democráticos y más saludables.

**Palabras clave:** Preceptoría -Agotamiento Profesional - Violencia Laboral - Educación de Postgrado en Medicina

### INTRODUCTION

Traditionally, medical training has been arduous and demanding, and a high level of demand, a certain level of intimidation and humiliation during training have been considered appropriate strategies in order to

prepare the doctor for a difficult and challenging profession. There are several words with which this type of behavior is named and which are considered synonyms. Mistreatment consists of expressions that make another person feel hurt, undervalued or incompetent;

REV ARGENT CARDIOL 2020;88:46-51. <http://dx.doi.org/10.7775/rac.v88.i1.15783>

Received: 07/03/2019 – Accepted: 11/26/2019

Address for reprints: Lic. Amanda Galli. E-mail: amandaelisagalli@gmail.com

<sup>1</sup>Teaching Area of the Argentine Society of Cardiology. Azcuénaga 980 - 1115 Buenos Aires, Argentina

physical abuse involves beatings and all kinds of violent treatment. Abuse is treating another person in an offensive, injurious or harmful way, causing physical or psychological injury, attacking with words, slandering, speaking to another person in an insulting, harsh or unfair manner. Bullying is threatening, inspiring fear through physical threat, intimidating looks, humiliation or physical abuse. Humiliation is making a person feel inferior, offending, oppressing. Behaviors such as criticism and public humiliation due to an error made, threats of punishment and the devaluation of the work performed are common in the relationship between residents and healthcare professionals and are sources of stress. Even today, many medical teachers and professionals who are in contact with students and residents consider the following premise valid: “what doesn’t kill you strengthens you.” (1)

In a study conducted in 24 USA medical schools (2) student abuse was frequently found and seems to be associated with the exhaustion of medical students. Another study, conducted in Buenos Aires, (3) investigated morally incorrect incidents experienced by medical students, and reported that the greatest number of incidents occurred in the clinical training cycle, during oral evaluations and with male professors.

Medical training, during undergraduate education and residency, is strongly influenced by the interactions between students and residents with teachers, with healthcare professionals and with patients and their families. These interpersonal relationships are true “models” of social behavior that are incorporated by young people during their training and have a significant impact on future professional practice. According to Guillermo del Bosco (4) “They don’t believe in anything they are told, they just believe in what they see we do.” Albert Bandura (5) states #... most human behavior is learned observationally through modeling. Observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action”.

Dursi and Millenaar (6) explain “... residencies can be analyzed as ‘cultural schemes’, they are social and psychological processes that shape the behavior of individuals [...] operating as ‘models of’ and ‘models for’, developing a set of practices involved in the configuration of a new status, that of ‘doctor’. [...] It may be said that the experience of residencies not only allows training as medical specialists, but also medical graduates become ‘doctors’. That is, the codes and behaviors expected and respected in the field are learned”...

In 2014, a review of works on harassment and discrimination in medical training was carried out. (7) The authors conducted a systematic review and meta-analysis to examine the prevalence, risk factors and sources of harassment and discrimination among physicians in training. Fifty-seven cross-sectional studies and 2 cohort studies conducted in the USA, Canada, Pakistan, Great Britain, Israel and Japan were included. In 59.4% of cases the physicians surveyed had

experienced at least one form of harassment or discrimination during their training; verbal aggression (screams or insults, inappropriate verbal remarks, denigrating nicknames) was the most cited form of abuse (prevalence: 63.0%). In 34.4% of cases residents held teaching/supervising physicians responsible for mistreatment or discrimination, and 21.9% said they had been assaulted by patients or patients’ families.

In a study conducted in Mexico on the perception of mistreatment during medical residency, (8) an electronic survey was applied to measure the perception of psychological, physical, academic and sexual abuse, also inquiring about who exercised the harassment and its consequences. Eighty-four percent of physicians reported abuse: humiliation (78%), punishment on-call shifts (50%), physical aggression (16% received blows), no meals (35%), no permission to use the restroom during their shifts (21%), and pressured to drink alcohol against their will (21%). Psychological and physical mistreatment was more frequent in surgical specialties. In 89% of cases residents presented burnout, 71% depression and 78% anxiety. In 58% of cases, physicians acknowledged providing poor care to their patients. The main abuse perpetrators were senior residents and staff physicians.

Medicine is one of the professions most affected by work-related stress, as a result of an overload of patients in the outpatient clinic and exhausting on-call shifts, to which academic competitiveness, private practice and teaching obligations are added. The chronic persistence of this labor mismatch and the high level of stress experienced may cause the so-called burnout syndrome or professional burnout.

In the year 2000, burnout syndrome was declared a risk factor by the World Health Organization (WHO) given its ability to affect quality of life and mental health to the point of threatening life. (9) In the new 2018 International Classification of Diseases (ICD-11) the “burnout syndrome” or professional burnout appears as a disease (QD 85) characterized by three dimensions: “1) lack of energy or exhaustion; 2) increased mental distance from work, or negative or cynical feelings regarding their work; and 3) reduced professional competence. Occupational burnout syndrome refers specifically to phenomena in the work context and should not be applied to describe experiences in other areas of life.” (10)

In 2009, an evaluation (11) of the level of exhaustion, perceived stress and depression was performed in Argentina in a group of 106 cardiology residents. Residents reported higher levels of perceived stress and symptoms of depression than the control group (non-medical professionals). In 80.2% of cases, cardiology residents manifested burnout compared to 30% in the control group.

The purpose of the present study was thus to study Cardiology residents’ perception regarding the interpersonal relationships that occur in the context of residence and if they consider having received any form

of abuse or intimidation, as well as their acknowledgment of having incurred in any aggressive behavior and the subject towards whom it was directed.

## METHODS

The population studied consisted of residents attending the Biannual Cardiology Course held at the Argentine Society of Cardiology. The same questionnaire developed by Mejía et al. (12) was used with questions about forms of harassment and a list of possible perpetrators. All questions were answered as YES or NO. A question was added to inquire whether cardiology residents had incurred in some form of abuse, that is, if they had become, on occasion, abusers. The questionnaire was presented to the residents and it was specified that their response was voluntary. The results are presented as frequency accumulation.

## Ethical considerations

The heads of Cardiology services were informed of the interest of the Teaching area to perform this study and their authorization was requested. Anonymity of residents and hospitals was guaranteed.

## RESULTS

The questionnaire was administered in November 2018 and was answered by 183 residents of 36 hospitals in CABA and the Buenos Aires suburbs. A total of 95.3% of the residents enrolled in the Biannual Cardiology Course answered the questionnaire. The population consisted of 80 women (43.7%), 82 men (44.8%) and 21 respondents (11.4%) without data; 110 (60%) were Argentine; 39 (21.3%) foreigners; and 34 (18.5%) without data. All residents surveyed said they had received some type of mistreatment (Table 1). Twenty-nine Argentine (20.3% of the Argentine group) and 12 foreign (30.7% of the foreign group) residents received

unpleasant remarks regarding their nationality, race or religion.

Most cardiology residents held the senior resident, patients or family members and staff physicians as responsible for the attacks (Table 2).

Receiving criticism for not performing administrative tasks, such as transferring patients, requesting appointments and retrieving results from the laboratory, was the situation of mistreatment referred to most frequently.

In relation to the question about having committed some form of abuse, 61 cardiology residents (33.5% of those who answered the survey) declared they had incurred in this type of situation.

## DISCUSSION

According to the results obtained, it can be confirmed that all Cardiology residents feel that at some point they have been mistreated, and that senior residents, patients or their families are the ones who most frequently mistreat physicians in training. Nurses also turn out to be a source of humiliation. The results recorded in this work are not exceptional; they are coincident with other published data.

In 2005, Mejía et al. (12) found that 90% of residents reported receiving some form of aggression/mistreatment and identified as perpetrators (in decreasing order): upper-year residents, chiefs of residents and staff physicians. The only form of mistreatment that seems to have diminished since the publication of Mejía is the application of punishment on-call shifts. It is interesting to note that in the Mejía study, residents did not mention patients or family members or medical chief of staff or laboratory personnel as causing the abuse received.

**Table 1.** Forms of intimidation/harassment. Number of residents who indicate the forms of mistreatment experienced

Bullying/harassment	2018 Cardiology N = 183
Have you been criticized for NOT performing administrative tasks?	150 (82.4%)
Have you experienced disrespect for the work done?	134 (73.6 %)
Have you been criticized or humiliated for your mistakes?	132 (72.5 %)
Have you received screams?	122 (67%)
Sanitary and rest facilities for residents in poor hygiene and comfort conditions	122 (67%)
Have you corroborated that your work has been used for the benefit of another?	104 (57%)
Have you been deprived of satisfying your physiological needs (eating, sleeping) for causes that in your judgment are irrelevant?	96 (52.7%)
Have you received sexual remarks about your body or part of it?	45 (24.7%)
Have you received on-call shifts as punishment?	34 (18.6%)
Have you been threatened with any physical harm/aggression?	34 (18.6%)
Have you received unpleasant remarks regarding your nationality, race or religion?	29 (15.9%)
Have you been hit or pushed?	25 (13.7%)
Have you been exposed to offensive sexual or pornographic material without requesting it?	20 (10.9%)
Have you received other forms of physical violence?	13 (7.1%)

References: Each resident could mark more than one option.

**Table 2.** Mistreatment perpetrators. Number of residents who indicated each of the options

Perpetrators	2018 Cardiology N = 183
Senior Resident	124 (68%)
Patient's family	116 (63.7%)
Staff physician	106 (58.2%)
Patient	102 (56%)
Chief resident/instructor	97 (53.2%)
Nursing staff	85 (46.7%)
Partners	80 (44%)
Administrative staff	76 (41.7%)
Physician of another specialty	74 (40.6%)
Medical chief of staff	72 (39.5%)
Laboratory/complementary studies personnel	72 (39.5%)
Technicians	54 (29.6%)

References: Each resident could mark more than one option.

A survey on the well-being of residents was carried out in Canada in 2008 (13) and answered by 1,999 residents. In 41% of cases, they reported that most days were “quite” stressful, 54% said they received attacks from the nursing staff and 45% mentioned having been mistreated by patients.

H. Milione (14) states that Medicine is one of the professions most affected by work-related stress and that physicians are a risk group. “In a survey conducted in 2019 to more than 15,000 physicians of 29 specialties in the USA, 44% of physicians reported suffering from burnout; 11% of them felt depressed or sad (colloquial depression) and 4% of them suffered from clinical depression.

Mistreatment in medical residences has various forms: verticalism, excessive workload, assigned non-professional tasks (patient transfer, appointment management, taking samples to the laboratory, retrieving reports, among others), undervaluation by

Type of attacks committed	Number of subjects who claim to have committed that aggression
1. Criticized for not performing administrative tasks.	8 (13%)
2. Made humiliating criticism for mistakes made	9 (14.7%)
3. Lack of respect for the work done	8 (13%)
4. Imposed punishment on-call shifts	2 (0.35%)
5. Used the work of another for his own benefit	17 (27.8%)
6. Deprived another of satisfying his physiological needs (eating, sleeping)	9 (14.7%)
7. Threatened with physical harm	11 (18%)
8. Shouted at another	13 (21.3%)
9. Hit or pushed	2 (0.35%)
10. Exercised physical violence	1 (0.16%)
11. Made unpleasant remarks regarding nationality, race or religion	1 (0.16%)
12. Made sexual remarks about the body of another	2 (0.35%)
13. Exposed unrequested material of offensive sexual or pornographic content	1 (0.16%)
14. Sanitary and rest facilities for residents in poor hygiene and comfort conditions	1 (0.16%)

References: Each resident could mark more than one option

**Table 3.** Forms of intimidation/harassment committed by cardiology residents

Recipients of the aggressions committed	Number of subjects who claim to have assaulted that person
Another resident, a peer or partner	19 (31%)
A senior resident	5 (0.8%)
Chief resident or instructor	5 (0.8%)
Staff physician	10 (16.3%)
Medical chief of staff	3 (0.49%)
Physician of another specialty	7 (11.4%)
Technicians	2 (0.35%)
Nursing staff	6 (0.98%)
Laboratory/complementary studies personnel	2 (0.35%)
Administrative staff	1 (0.16%)
Patient or relative of patient	1 (0.16%)

References: Each resident could mark more than one option

**Table 4.** Recipients of the attacks committed by residents of cardiology

superiors, humiliation due to mistakes made, insecurity, having to face practices for which they feel they are not prepared, lack of support/training supervision and low wages to meet needs.

Some testimonies: (15) "(When I got pregnant) they looked at me badly, treated me badly, shifted me to other places, made me work longer shifts. It was worse, I think it was worse as a result of being a woman [...]. Women are treated worse. For example, in my first year my superior partner used to be absent, get sick and was never told anything. I think that, because I was a woman, it was terrible, yes, it was terrible", "... Once they sent me to the laboratory to look for something (I was returning... it was 1 block and a half away) and, when I complained, they answered: the R1 has legs, not head, don't forget... "

It is possible that some teachers/supervisors/instructors adopt behaviors that erode the learner's self-esteem in order to promote better performance, but it could also be a way of exercising power. Abuse of authority, also known as abuse of power, refers to social exchange practices in which behaviors based on an unequal and hierarchical relationship are assumed; it is a situation where an individual who has power over others (due to their social position, knowledge or wealth) uses that power for his own benefit. They are subtle forms of domination that can be exercised in educational establishments of all kinds, in the hospital, in churches, in jail; all of them constitute basic spaces in which power situations are defined.

H. K. Silver (16) was one of the first researchers on the effects of mistreatment. He concluded that the attitude of physicians towards their patients could be the result of the hostile and punitive treatment received at the medical school. Perhaps some instructors, in addition to enjoying their small share of power, adhere to traditional beliefs, such as "spare the rod and spoil the child" or "what doesn't kill you strengthens you."

It has been shown that a hostile environment and a high level of anxiety interferes with learning. Mistreatment is a behavior that generates an environment of discomfort and dissatisfaction. The educational environment (17) is a product of physical environment and interpersonal relationships, of dominant communication style, of pressures and stressful factors, of the system of acknowledgement and punishments. Many of these conditions constitute "folk culture", they are part of the unplanned "hidden curriculum". Lleras and Durante (18) showed that, the better the educational environment, the lower the level of burnout among the residents of a university hospital. It can then be said that, the higher the level of mistreatment, the worse the environment and the greater the degree of burnout.

The situation of Cardiology residencies in Argentina is well described in the 5th CONAREC Survey, (19) where 5.8% of residents had lower incomes than the national minimum wage; 33.2% worked more than 80 h/week; 32.1% of first-year residents performed more

than 8 on-call shifts a month; and 33.6% said they slept less than 35 hours a week. More than a third of first and second-year residents said they worked outside their training system to increase their income. Only 48.5% of residents reported that they were always supervised by a staff physician, while 9.6% said they were "poorly" supervised and even 1.7% said they were never supervised.

Mistreatment may also be due to the conditions and resources available in the healthcare system. The lack of medical resources generates feelings of helplessness, which increase professional dissatisfaction.

To lower the level of stress and improve the health of residents and other healthcare professionals, as well as the quality of patient care, we would have to modify the traditional "habits and customs" in residencies and healthcare services. Numerous publications (20-22) refer to two types of interventions: institutional modifications, working environment conditions and individual training in strategies to cope with stress (managing their own emotions and developing resilience capacity).

Universities and healthcare institutions themselves should promote specific programs for the development of coping strategies. Among the proposals postulated to strengthen emotional intelligence and build resilience there are specific training programs in coping strategies, strengthening of support networks and promotion of social relationships. (23-26)

In December 2007, the Legislature of the Autonomous City of Buenos Aires passed Law 2578, which aims at the prevention, early detection and rehabilitation of the chronic-work attrition syndrome. Among the mandatory activities, performed periodically and within working hours suggested in Article 5 of the Law are the following: to create interdisciplinary operational groups with the aim of strengthening peer exchange reciprocity in the workplace, to promote networks of social support, to encourage group reflection with identification of service stressors and the development of coping strategies, to identify from the Ministry of Health and those responsible of the rest of subsectors, the eventual presence of risk factors that generate chronic work attrition syndrome, to implement the necessary measures that contribute to minimize problems, and to generate statistical data on registered cases, their incidence, characteristics and others that could serve as input information for the decision making of preventive, treatment or rehabilitation measures corresponding to the affected workers. This legislation resulted in only 10 days per year of "stress" leave. It is not known what impact this measure has had.

It should be noted as a limitation of this study that only residents of 2nd and 3rd year have participated, and those who were coursing the first year of internal medicine or the first year of cardiology, which are, certainly, the ones with the highest level of stress, were excluded. On the other hand, the structure of the

questionnaire itself could have induced the answers of the respondents. Finally, it could be argued that the tool only measures the level of mistreatment, so it could not be used to evaluate burnout.

### CONCLUSIONS

In this study, a high level of mistreatment and burnout was observed in the resident population. Practically all Cardiology residents feel that they have been mistreated at some point and that senior residents, patients or their families are the ones who most frequently mistreat physicians in training.

### Conflicts of interest

None declared.

(See authors' conflicts of interest forms on the website/ Supplementary material)

### Acknowledgments

To all the residents who participated by answering the questionnaire and to Mr. D. Silva for the provision of the forms and their electronic reading.

### REFERENCES

- Nietzsche FW. <https://books.google.com.ar>
- Cook AF, Arora VM, Rasinski K, Curlin FA, Yoon JD. The Prevalence of Medical Student Mistreatment and Its Association with Burnout. *Acad Med* 2014;89:749-54. <https://doi.org/10.1097/ACM.0000000000000204>
- Rancich AM, Donato M, Gelpi RJ. Incidentes moralmente incorrectos en la relación docente-alumno en educación médica. *Rev Argent Cardiol* 2011;79:423-8.
- Del Bosco G. Medicina, "edad de oro" y después... en ¿Por qué ser médico hoy? Puentes entre la formación y la práctica de la medicina. Libros del Zorzal. Buenos Aires 2009;93-109.
- Bandura A. Teoría del aprendizaje social, Espasa-Calpe, Madrid, 1987; p. 68.
- Dursi C, Millenaar V. Ministerio de Salud. Motivaciones, expectativas y experiencias en la formación como especialistas de jóvenes médicos. Informe de Investigación. Provincia de Buenos Aires. La Plata. Febrero 2017; p. 48. <https://doi.org/10.1016/j.riem.2017.01.120>
- 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;89:817-27. <https://doi.org/10.1097/ACM.0000000000000200>
- Derive S, Casas Martínez ML, Obrador Vera G, Villa AR, Contreiras D. Percepción de maltrato durante la residencia médica en México: medición y análisis bioético. *Inv Ed Med* 2018;7:35-44. <https://doi.org/10.1016/j.riem.2017.04.004>
- Milione H. ¿El burnout enferma? Síndrome de burnout en Medicina Interna. *Rev Arg Med* 2019;7: S3
- [https://www.who.int/es/news-room/detail/17-06-2018-who-releases-new-international-classification-of-diseases-\(icd-11\)](https://www.who.int/es/news-room/detail/17-06-2018-who-releases-new-international-classification-of-diseases-(icd-11))
- Waldman SV, Lopez Diez JC, Cohen Arazi H, Linetzky B, Guinjoan S, Grancelli H. Burnout, Perceived Stress, and Depression Among Cardiology Residents in Argentina. *Academic Psychiatry* 2009;33:296-301. <https://doi.org/10.1176/appi.ap.33.4.296>
- Mejía R, Diego A, Aleman M, Maliandi M del R, Lasala F. Percepción de maltrato durante la capacitación de médicos residentes. *Medicina (Buenos Aires)* 2005;65:295-301.
- Cohen JS, Leung Y, Fahey M, Hoyt L, Sinha R, Cailler L, et al. The happy docs study: a Canadian Association of Interns and Residents well-being survey examining resident physician health and satisfaction within and outside of residency training in Canada. *BMC Research Notes* 1 2008, article number: 105. <https://doi.org/10.1186/1756-0500-1-105>.
- Milione HF. ¿El burnout enferma? *Rev Arg Med* 2019;7(Suplemento1): S5
- Dursi C, Millenaar V. Informe de Investigación. Motivaciones, expectativas y experiencias en la formación como especialistas de jóvenes médicos. Ministerio de Salud. Provincia de Buenos Aires. La Plata. Febrero 2017. P.110 <https://doi.org/10.1016/j.riem.2017.01.120>
- Silver HK, Glickman AD. Medical student abuse: incidence, severity and significance. *JAMA* 1990;263:527-32. <https://doi.org/10.1001/jama.1990.03440040066030>
- Galli A, Brissón ME, Soler C, Lapresa S, Alves de Lima A. Evaluación del ambiente educacional en residencias de cardiología. *Rev Argent Cardiol* 2014;82:396-401. <https://doi.org/10.7775/rac.es.v82.i5.3875>
- Llera J, Durante E. Correlación entre el clima educacional y el síndrome de desgaste profesional en los programas de residencia de un hospital universitario. *Arch Arg Pediatr* 2014;112:6-11. <https://doi.org/10.5546/aap.2014.6>
- Cigalini IM, Igoznikof DB, García Zamora S, Fallabrino LN, Colombo Viña NA, Tissera G, et al. Estado actual de las residencias de cardiología: resultados de la 5ª Encuesta Nacional de Residentes (ENARE V). *Rev Argent Cardiol* 2017;85:415-27.
- Kumar S. Burnout and Doctors: Prevalence, Prevention and Intervention. *Healthcare (Basel)*. 2016; 4:37. <https://doi.org/10.3390/healthcare4030037>
- Felipe Castaño E y León del Barco B. Estrategias de afrontamiento del estrés y estilos de conducta interpersonal. *Rev Int Psicol Ter* 2010;10:245-57.
- Finkelstein C, Brownstein A, Scott C, Lan YL. Anxiety and stress reduction in medical education: an intervention. *Med Educ* 2007;41:258-64. <https://doi.org/10.1111/j.1365-2929.2007.02685.x>
- Fortney L, Luchterhand C, Zakletskaia L, Zgierska A, Rakel D. Abbreviated mindfulness intervention for job satisfaction, quality of life, and compassion in primary care clinicians: a pilot study. *Ann Fam Med* 2013;11:412-20. <https://doi.org/10.1370/afm.1511>
- West CP, Dyrbye LN, Erwin PJ, Shanafelt TD. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. *Lancet* 2016;388:2272-81. [https://doi.org/10.1016/S0140-6736\(16\)31279-X](https://doi.org/10.1016/S0140-6736(16)31279-X)
- Busireddy KR, Miller JA, Ellison K, Ren V, Qayyum R, Panda M. Efficacy of Interventions to Reduce Resident Physician Burnout: A Systematic Review. *J Grad Med Educ* 2017; 9:294-301. <https://doi.org/10.4300/JGME-D-16-00372.1>
- Weingartner LA, Sawning S, Shaw MA and Klein JB. Compassion cultivation training promotes medical student wellness and enhanced clinical care. *BMC Medical Education* 2019;19:139. <https://doi.org/10.1186/s12909-019-1546-6>