

Perceived Distress by Physicians in a Private Hospital in Mexico City

الضائقة المتصورة من قبل الأطباء في مستشفى خاص في مكسيكو سيتي

Adriana C. Panayi¹, Angel Flores-Huidobro Martínez², Maria Jose Elizaga Bores², Guido Cohen³, Jimmy Cojab Sacal^{4,*}

¹Division of Surgery, Brigham and Women's Hospital, Harvard Medical School, Boston, USA

²ALPHA Health Sciences Leadership Program, Universidad Anáhuac, Mexico City, Mexico

³Faculty of Medicine, University of Panama, Panama City, Panama

⁴Department of Internal Medicine, Angeles Lomas Hospital, Mexico City, Mexico

*Angeles Lomas Hospital, Vialidad De La Barranca Street #240, Hacienda de las Palmas Mexico City, Zip code 52763 Mexico

Tel: +5255 553012-56-62
Email: jimotiva@gmail.com

Background: Medical education has undergone significant transformations to adapt to the modern work environment with its unique demands and challenges. Psychological manifestations secondary to stress are reported to have increased in physicians in training due to increasing performance and learning demands of both the work and social environment. In this survey study, we sought to determine the extent of psychological distress amongst physicians in training, that is residents and interns, establishing patterns in terms of type of residency and stage of training.

Methods: This is a cross-sectional, observational study conducted between March and July 2019 using a printed version of the perceived stress scale (PSS) survey, healthcare professionals (residents and interns) were surveyed during their academic and patient care activities at a private hospital in Mexico City to assess their levels of distress.

Results: A total of 101 physicians were invited to participate, of whom, 85 answered the survey (response rate 84%). A high prevalence of moderate-high stress was noted in 55.3% of the study population (47/85). In addition, residents who were relatively new to their post were more likely to display higher levels of stress compared to their peers at advanced stages.

Conclusions: Residents and interns at our center experience moderate to high levels of distress. Stress management strategies should be targeted towards physicians early on in their training and awareness must be improved on this factor that may significantly impact academic performance and patient care.

Keywords: Medical Education, Stress, Medical School, Residency, Burnout Syndrome

الخلفية: خضع التعليم الطبي لتحولات كبيرة للتكيف مع بيئة العمل الحديثة ومتطلباتها وتحدياتها الفريدة. تم الإبلاغ عن زيادة المظاهر النفسية الثانوية للتوتر في الأطباء في التدريب بسبب زيادة الأداء ومتطلبات التعلم لكل من بيئة العمل و البيئة الاجتماعية.

الأهداف: في هذه الدراسة الاستقصائية، سعينا إلى تحديد مدى الضائقة النفسية بين الأطباء المقيمين والمتدربين، ووضع أمطاط من حيث نوع الإقامة و مرحلة التدريب.

الأساليب: هذه دراسة مقطعية مستعرضة تم إجراؤها بين شهري مارس و يوليو ٢٠١٩ باستخدام نسخة مطبوعة من مسح مقياس الإجهاد (PSS)، وتم مسح المتخصصين في الرعاية الصحية (المقيمين والمتدربين) خلال أنشطتهم الأكاديمية و رعاية المرضى في مستشفى في مكسيكو سيتي لتقييم مستويات محتهم.

النتائج: تمت دعوة ١٠١ طبيباً للمشاركة، أجاب ٨٥ منهم على المسح (معدل الاستجابة ٨٤٪). لوحظ ارتفاع معدل انتشار الإجهاد المتوسط و العالي في ٥٥.٣٪ من مجتمع الدراسة (٤٧/٨٥). بالإضافة إلى ذلك، كان السكان الذين كانوا جدداً نسبياً في وظائفهم أكثر عرضة للإصابة بمستويات أعلى من التوتر مقارنة بأقرانهم في المراحل المتقدمة.

الاستنتاجات: يعاني المقيمون و المتدربون في مركزنا من مستويات متوسطة إلى عالية من الكرب. يجب أن تكون استراتيجيات إدارة الإجهاد موجهة للأطباء في وقت مبكر من تدريبهم و يجب تحسين وعيهم بشأن هذا العامل الذي قد يؤثر بشكل كبير على الأداء الأكاديمي و رعاية المرضى.

الكلمات المفتاحية: التعليم الطبي، الإجهاد، كلية الطب، الإقامة، متلازمة الإرهاق

بررسی میزان استرس در میان پزشکان یک بیمارستان خصوصی در مکزیکوسیتی

مکسیکو سٹی کے ایک نجی (پرائیویٹ) ہسپتال میں ڈاکٹروں کے درمیان بے چینی اور تناؤ کی سطح کا اندازہ

زمینه و هدف: آموزش پزشکی برای انطباق با محیط کار نوین با چالش ها و نیازهای منحصر به فردش، دستخوش تحولات چشمگیری شده است. گزارش شده است که در پزشکان در حال آموزش، به دلیل افزایش نیاز به یادگیری و نیز داشتن عملکرد بالا، تظاهرات روانی ثانویه به شکل استرس هم در محیط کار و هم در اجتماع افزایش یافته است. در این مطالعه پیمایشی به دنبال تعیین میزان روان پریشی بین پزشکان مشغول به تحصیل در دوره های آموزشی اعم از دستیاران تخصصی و انترن ها و تعریف الگوی بر حسب نوع رشته دستکاری و مرحله آموزشی (سال انترنی یا دستکاری) بودیم.

روش: این یک مطالعه مشاهدهای مقطعی است که بین مارس و جولای ٢٠١٩ با استفاده از یک نظرسنجی به نام "مقیاس درک استرس" انجام شد و پزشکان (دزبندت ها و انترن ها) در طی مدتی که فعالیت های آکادمیک و نیز مراقبت از بیماران را بر عهده داشتند، از نظر میزان استرس در بیمارستانی خصوصی در مکزیکوسیتی مورد بررسی قرار گرفتند.

یافته ها: در مجموع ١٠١ پزشک برای شرکت در نظرسنجی دعوت شدند که از این تعداد ٨٥ نفر به نظرسنجی پاسخ دادند (٨٤ درصد). شیوع بالای استرس متوسط تا زیاد در ٥٥/٣ درصد از جمعیت مورد مطالعه (٤٧/٨٥) مشاهده شد. علاوه بر این، دستیاران پزشکی که نسبتاً در پست خود تازه کار بودند، در مقایسه با همسالان سال بالاتر خود، با احتمال بیشتری، سطوح بالاتری از استرس را نشان دادند.

نتیجه گیری: دستیاران تخصصی و انترن ها در مرکز مورد مطالعه، سطوح متوسط تا زیاد استرس را تجربه می کنند. لذا ضروری است که در ابتدای آموزش پزشکان، راهبردهای مدیریت استرس مورد توجه ویژه قرار گیرد و لازم است که آگاهی از این موضوع که خود می تواند به طور قابل توجهی بر عملکرد آکادمیک و کیفیت مراقبت از بیمار تأثیر بگذارد، افزایش یابد.

واژه های کلیدی: آموزش پزشکی، استرس، دانشکده پزشکی، دستکاری، سندرم فرسودگی شغلی

بیک گراوند: طبی تعلیم نے اپنے منفرد چیلنجوں اور ضروریات کے ساتھ کام کے نئے ماحول سے ہم آہنگ ہونے کے لیے اہم تبدیلیاں کی ہیں۔ ثانوی نفسیاتی مظاہر تناؤ کی شکل میں، کام کی جگہ اور کمیونٹی دونوں میں، تربیت کے تحت معالجین میں سیکھنے کی بڑھتی ہوئی ضرورت کے ساتھ ساتھ اعلیٰ کارکردگی کی وجہ سے بڑھتے ہوئے درج کیے گئے ہیں۔ اس سروے کے مطالعہ میں، ہم نے تربیتی کورسز میں کام کرنے والے معالجین کے درمیان نفسیات کی ڈگری کا مشخص کرنے کی کوشش کی، بشمول خصوصی معاونین اور انترنز، اور رہائش کے شعبہ اور تعلیمی مرحلے (انترن شپ یا ریزیڈنسی سال) کے مطابق ماڈل کی وضاحت کی۔

روش: یہ ایک کراس سیکشنل مشاہداتی مطالعہ ہے جو مارچ اور جولائی ٢٠١٩ کے درمیان اسٹریس پرسپیشن اسکیل نامی ایک سروے کا استعمال کرتے ہوئے کیا گیا تھا، جس میں معالجین (رہائشی اور انترنز) تعلیمی سرگرمیوں کے ساتھ ساتھ مریضوں کی دیکھ بھال پر بھی توجہ دیتے ہیں مکسیکو سٹی کے ایک نجی ہسپتال میں استرس (تناؤ) کی سطح کے لیے ان کا جائزہ لیا گیا۔

نتیجے: مجموعی طور پر ١٠١ ڈاکٹروں کو سروے میں حصہ لینے کے لیے مدعو کیا گیا تھا، جن میں سے ٨٥ نے سروے کا جواب دیا (٨٤٪)۔ مطالعہ کی ٥٥.٣ فیصد آبادی (٤٧.٨٥) میں متوسط سے لے کر زیادہ تناؤ کا دیکھا گیا۔ اس کے علاوہ، طبی معاونین جو اپنی پوزیشن کے لیے نسبتاً نئے تھے، اپنے پرانے ساتھیوں کے مقابلے میں زیادہ تناؤ کو ظاہر کرنے کا بیشتر امکان رکھتے ہیں۔

سفرارش: اسٹڈی سنٹر میں خصوصی معاونین اور انترنز متوسط (درمیانی) سے لے کر اعلیٰ سطح کے تناؤ کا تجربہ کرتے ہیں۔ لہذا، معالجین کی تربیت کے آغاز میں تناؤ کے انتظام کی حکمت عملیوں پر خصوصی توجہ دینے کی ضرورت ہے، اور یہ آگاہی بڑھانے کی ضرورت ہے کہ اس سے تعلیمی کارکردگی اور مریضوں کی دیکھ بھال کے معیار کو نمایاں طور پر متاثر کیا جا سکتا ہے۔

کلیدی الفاظ: طبی تعلیم، تناؤ، طبی اسکول، رہائش، برن آؤٹ سنڈروم

INTRODUCTION

It has been estimated that at least half of medical residents in training suffer from Burnout symptoms, defined as an emotional state of exhaustion, excessive depersonalization, and loss of a sense of fulfillment and self-realization (1-3). An important predisposing factor for burnout is exposure to moderate to severe distress (4-6). Persistence of emotional distress can negatively affect work and quality of life and can contribute to the breakdown of interpersonal relationships. Such factors have been shown to increase the risk of substance abuse and suicide ideation as well as the completion (7, 8).

Distress arises as feelings of “tension” or “pressure” when the demands imposed on individuals exceed their technical, psychological, and resolution capacity. Work-related stress can be defined as a harmful psychobiological response, the occurrence of which becomes evident when the requirements of a job do not match the capabilities, resources, or needs of a worker. It can be related to workload, poor decision-making, and also to the organizational context or work environment (poor communication, interpersonal conflicts), as well as difficulties in reconciling family life with work (9-11). Work-induced stress is an important subject of study in many industrialized countries. Beyond the psychosocial implications, work-related stress can have severe economic consequences due to its impact on productivity (12, 13).

Within the hospital environment, healthcare professionals are specifically subjected to different situations of technical resolution such as work overload, lack of personnel and resources, complex medical cases, strenuous schedules, extensive paperwork loads, and dependence on hierarchical levels. They also face the ever-challenging balance between family and work, including long working hours, night shifts, and the absence of emotional stimuli such as family, a partner, or children. Personal commitments can often take secondary importance while physicians focus on the health of their patients. With the outbreak of COVID-19, physicians are now also facing a unique type of stressor for the first time in a century (14). All of the above have been acknowledged to impact the psychological state of physicians contributing to their stress and depression (15-17).

Multiple tools have been developed to assess stress and its emotional repercussions. The Perceived Stress Scale (PSS) was developed by Cohen and Williams to assess the ability to address perceived distress, in a non-specific way, in everyday situations. The PSS scale is based on two main components—what can be controlled, and what cannot be controlled—and not only measures how much the situation can affect the individual, but also the degree to which it can be controlled or uncontrolled (18-21).

In a hospital with demanding residency programs, attempts have been made to encourage psychological interventions including meditation, breathing, and relaxation therapies amongst others (22-24). The present researchers argued that such interventions must become more targeted to different residencies and different levels of training. Understanding the factors that predispose physicians in training to stress and

burnout has the potential to offer new management and treatment avenues. Hence, this study sought to utilize the PSS scale, a low-cost, standardized, and easily replicable tool to analyze the perception of stress in a cohort of physicians in training, so that it could determine patterns in experiencing distress identifying areas with the potential for intervention.

METHODS

By convenience sampling, physicians at any training stage from interns to last year residents working at a private hospital in Mexico City at the time of the study were included in this study. A total of 101 physicians were invited to participate in the written version of the PSS survey, of whom, 85 completed the survey (84% response rate). Surveys that were incorrectly filled were excluded. The survey period spanned March to July 2019. Consent was obtained verbally by Department of Medical Education staff.

Participants were invited to answer each question on the PSS which comprises a 5-point scale ranging from 0 (never) to 4 (very often), indicating how often they perceived or have been exposed to stressful situations in the past month. Scores of 0-13 were considered low, those of 14-26 moderate, and 27-40 as high. Institutional Review Board (IRB) approval was obtained from the General Office and ethics department of the hospital. The present researchers identified no risks that could affect the vital, moral, or physical conditions of the subjects in this study.

RESULTS

The survey response rate was 84% (85/101). The distribution of responses across residencies is shown in Figure 1. The mean age of the participants was (27 ± 5 years). The highest number of responses came from trainees in their Internship year (25%). 100% of respondents reported experiencing distress, whether mild, moderate or severe.

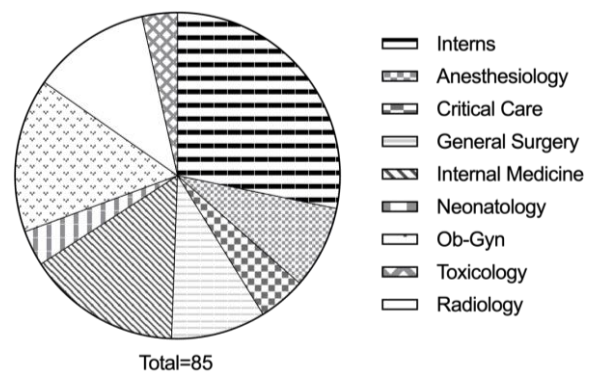


Figure 1. Survey response distribution

Distribution was as follows: Interns: (25%). Specialty residents (75%): Internal Medicine (15%), General Surgery (14%), Obstetrics and Gynecology (Ob-Gyn; 18%), Radiology (11.6%), Critical Care (7%), Anesthesiology (9.4%), Neonatology (4.7%) and Toxicology (3.5%).

When expressed as a percentage of total responses, trainees in

most residencies were more likely to be experiencing moderate to severe distress (Figure 2). The only exceptions were residents in toxicology and neonatology who expressed only mild distress, and those in critical care who expressed equal mild and moderate perceptions of distress. Physicians training in anesthesiology expressed only moderate to severe distress.

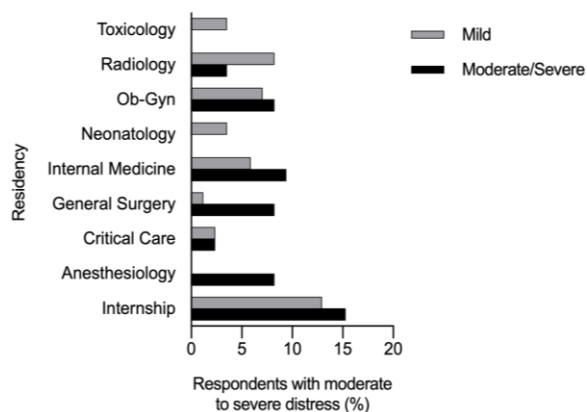


Figure 2. Distribution of physicians reporting distress according to residency program and internship

Values represent the percentage of respondents reporting distress. The majority of responses came from interns, with most of them reporting moderate to severe distress. Some residency programs reported only mild distress, such as toxicology and neonatology, while others such as anesthesiology reported only moderate to severe distress.

Focusing on the physicians experiencing mild distress when values were displayed as a percentage of respondents over the total number of respondents in a given specialty, as shown above, all toxicology and neonatology residents expressed only mild distress, with the majority of those being in their second year of training (Figure 3). The majority of mild responses were from trainees in their first two years of training. Some radiology, obstetrics and gynecology, and internal medicine trainees in their third and fourth year of training also expressed mild distress.

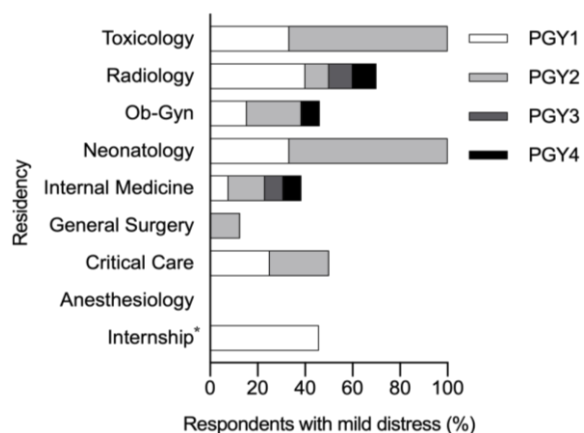


Figure 3. Distribution of physicians reporting mild distress according to specialty and academic rank

Values are reported as a percentage of respondents reporting mild distress of the total number of respondents in their specialty. All toxicology and neonatology residents expressed only mild distress, with the majority of those being in their second year of training. The majority of mild responses were from trainees in their first two years of training. *Responses from the two semesters of an internship were added and considered as a PGY-1.

Focusing on the physicians expressing moderate to severe distress, again with values reported as a percentage of respondents selecting moderate to severe distress over the total number of respondents in a given specialty, the majority of responses came from trainees in their first three years of training. Trainees in their third and fourth year of training were more likely to express moderate to severe distress than mild distress, highlighting that as the rank and responsibilities increase so does distress. Trainees in residencies such as obstetrics and gynecology and general surgery were more likely to express distress in their later years of training (Figure 4).

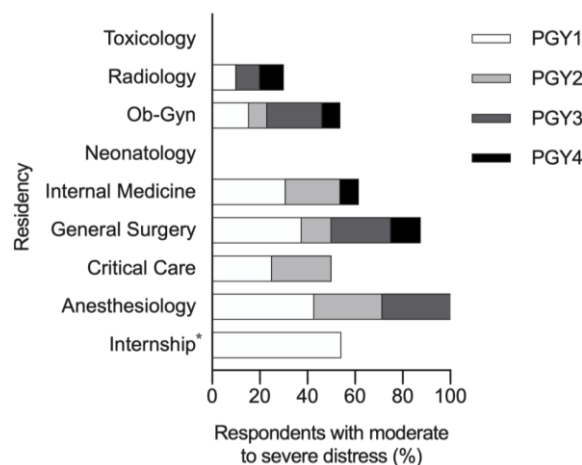


Figure 4. Distribution of physicians reporting moderate to severe distress according to specialty and academic rank

Values are reported as a percentage of respondents reporting moderate to severe distress of the total number of respondents in a given specialty. The majority of moderate to severe responses were from trainees in their first three years of training. *Responses from the two semesters of internship were added and considered as a PGY-1.

This pattern of increasing distress, as time in training increased, was also evident when analyzing perceived distress in trainees in their internship year. Physicians in their Internship were more likely to express mild distress in the first semester and moderate to severe in the second semester (Figure 5).

Values are reported as the number of respondents reporting distress. Trainees in their internship were more likely to report mild distress in their first semester and moderate to severe distress in their second semester.

Our study is not without limitations. First, the small sample size limits our findings generalizability and our ability to run

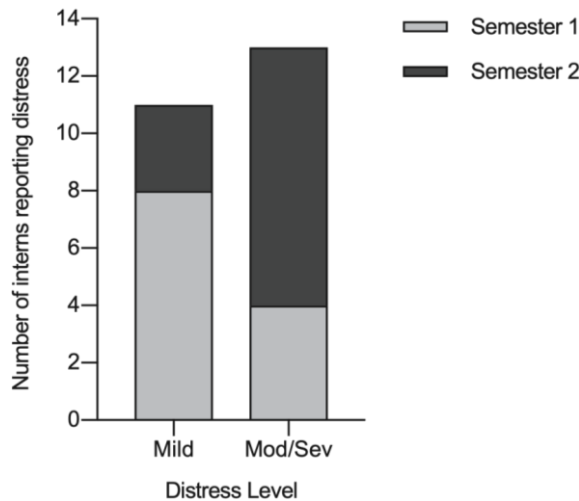


Figure 5. Distribution of Interns reporting distress according to semester

statistical analyses. Hence, more research is needed with larger sample sizes.

DISCUSSION

Stress is a triggered response to a demanding physical or mental situation and can result in severe consequences if left untreated. Studies have shown that physicians in training are at a specifically high risk of experiencing distress as they are more likely to be exposed to triggers such as long working hours, sleep deprivation, family pressure, competition between residents, and gender differences among other factors. Such factors can have personal and professional consequences on medical residents and potentially cause an imbalance in their well-being, affecting their quality of life and work performance (25-27).

All physicians in this hospital work in similar areas and have access to the same work spaces, many caring for patients together, and developing professionally under similar conditions. However, it can be generally noted that the perception of stress is greater in some specialties than others, and this difference is likely multifactorial. For example, some sub-specialties such Toxicology and Neonatology displayed lower levels of perceived stress. These specialties can offer learning opportunities, as residents in these specialties are more likely to have more flexible schedules, spaced shifts, and less patient flow when compared with other residencies such as general surgery.

Interns and residents in anesthesiology and general surgery, followed by internal medicine, were more likely to report moderate and severe distress across all years of training. This is not surprising as this hospital's Internal Medicine residency, arguably has the highest workload. Academically, residents and interns have a wide range of lectures, grand rounds and development commitments with frequent courses and case reviews, and ongoing examinations. Interestingly, physicians training in Critical Care, although expected to display mainly moderate to high stress, according to the results of this study were under mild distress

in half of the cases. In Mexico, critical care residents are sub-specialists, meaning they have already completed a residency program in either internal medicine, emergency medicine, or anesthesiology with this specific program always having an attending physician present at all shifts. Higher confidence in their capabilities as physicians as well as constant support from superiors may be factors that contribute to lower distress perception. Residents in Anesthesiology, Obstetrics and Gynecology, and General Surgery appeared to mainly experience moderate to severe distress particularly as they advanced within their training.

This is in agreement with prior research, with a recent study assessing stress in physicians working in Saudi Arabia noting high levels of distress in obstetrics and gynecology residents citing the long and unpredictable working hours, fear of patient complications, large number of patients, and a wide range of management protocols as predisposing factors (28). Studies have shown that residents may experience high stress across multiple postgraduate years (PGYs), negatively affecting their safety and quality of life. Some cohorts reported that stress levels decreased by PGY-2, but nevertheless, all residents averaged elevated life stress values (29). As seen in this study, and according to other studies, causes of distress can be linked to certain events occurring at each year of residency. Most residents report sleep deprivation as the main healthy lifestyle antagonist and stress precursor, as well as financial concerns. During post-graduate-years 1 and 2, residents were most likely to fear harming a patient which is a stressful factor. In PGY-3, some reports suggested residents were most likely to consider leaving the residency program because of their stressful life. Each year of residency may expose a certain common pattern of stress precursor, but it can be difficult to concur that a specific year is particularly stressful relative to the other years (30).

As an independent factor, and mostly in Latin American and Asian developing countries, insufficient salaries add further emotional pressure and job dissatisfaction to the already pressured health professionals (31). Evaluating how the economical factor contributes to stress is understandable when the average income of many other jobs in different fields is compared with earning similar or even higher wages without confronting the daily challenges of healthcare professionals. It has been shown that a fair financial compensation for a highly trained healthcare professional like a medical resident, increases self-confidence and self-esteem, possibly contributing to better stress management by allowing fulfillment of their daily personal and family economical goals and challenges (32, 33).

According to recent studies, and in contrast to the obtained results in this study, PGY-1 residents have reported significantly less satisfaction with lifestyle than those in PGY-II and III because of higher experienced stressful life. Exercise, hobbies, and use of alcohol were found to be coping methods (34).

It should be noted that the overall profile of the physicians evaluated in this survey study differs from that of other geographically close hospitals as this cohort works in a private institution. The mentioned institution has an overall

lower patient volume, and has very specific work, academic and educational infrastructure conditions. At this center, physicians attend to private patients, who are of a predominantly high socioeconomic profile, and whose demands of care and expectations of the service received are high.

Finally, it is of utmost importance to acknowledge that there is significant perception of moderate to high distress in the training physicians of the hospital, with a notable lack of adequate measures of improvement such as areas of recreation, suitable spaces, and access to better work schedules and wages, as well as frequent psychological support. Without intervention, a similar trend in the upcoming months and years is foreseen with moderate and high levels of stress predisposing to states of depression, suicidal ideation, and hopelessness compromising the level of care provided to the Mexican population. Limitations for the development of this study, can be summarized in availability of the health professionals to answer the written version survey, considering the multiple and important tasks while at the hospitals, but it's important to mention, that stress and quality of life improvement projects and surveys are always well received, mainly by a population as particular as the one in healthcare.

The findings of this study are valuable because distress in medical professionals in Latin America is often underestimated. In this manuscript the present researchers demonstrated how healthcare professionals in a private hospital in Mexico are affected by stress.

According to the results of this study, all physicians in training at a private hospital in Mexico City were exposed to stress, with the majority experiencing moderate to severe distress. On average distress levels appear highest in the later

years of training with newly hired residents being more likely to display milder distress. Differences also exist between residencies with high-demand residencies such as general surgery, anesthesiology, obstetrics and gynecology showing higher levels of moderate to severe distress, particularly in the advanced years of training. Overall, the study raises questions but also opportunities for improvement in all residency programs and medical internships, as well as at the institutional level. Attempts to decrease perceived levels of stress can allow physicians to flourish as individuals, both physically and psychologically, ultimately improving the quality of patient care. Several factors are always needed to understand the stress perception of the individual, and each hospital and training facility can be a positive laboratory of understanding, of its own different working conditions to develop a better labor environment, safer for both the patients and the physicians in training. At our site, the study will contribute to design and adjust the academic schedule, resting times, and administrative work currently managed by medical residents and interns, and a commission was created to evaluate further measures to decrease stress in the long term.

Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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