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Stress in medical residents: Care needs exploration in a public hospital[1]

Estrés en médicos residentes: Detección de necesidades en un hospital público

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Sustained poorly managed stress leads to emotional and behavioral complications, including emotional reactions detrimental to wellbeing and effective human performance. In addition to individual suffering, the consequences of chronic stress interfere with efficient work achievement, and physicians in specialized training are no exception. Objective. The present study sought to identify persistent sources of stress in medical residents and establish organizational-interpersonal factors, aiming to offer ways to improve work/training conditions that would enhance wellbeing and performance. Method. A total of 86 medical residents of a public hospital in Mexico City participated in a two-step study combining qualitative and quantitative strategies. First, a set of in-depth interviews probed sources of stress, from which a questionnaire containing 52 items further explored the type of stress sources. Results. Quantitatively, the most stressful conditions included: excessive workloads, daytime drowsiness, fatigue, exhaustion, being humiliated in front of fellow residents, and unsatisfactory-inadequate sleep. In addition to general factors frequently found in public hospitals with scarce resources, results revealed numerous inadequate ways of interpersonal instances where advanced residents and supervisors bashed, belittled, or derogated less advanced residents. Discussion. The main findings are analyzed in the context of either the absence of effective regulations or lack of their enforcement and include suggestions to improve such conditions.

Keywords: Physicians; Healthcare; Depressive symptoms; Organizational climate; Interpersonal; Chronic stress.

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El estrés sostenido y mal manejado propicia complicaciones emocionales y conductuales dañinas para el bienestar y el funcionamiento humano. Además de sufrimiento emocional, las consecuencias del estrés crónico interfieren con el funcionamiento laboral y los médicos en entrenamiento especializado no son la excepción. Objetivo. El presente estudio buscó identificar fuentes persistentes de estrés en residentes médicos e identificar factores interpersonales y organizacionales a fin de ofrecer formas de mejorar las condiciones de formación y trabajo que beneficien el bienestar y el desempeño profesional. Método. Un total de 86 residentes de un hospital público participaron en un estudio en dos fases que combinó estrategias cualitativas y cuantitativas. Inicialmente, un conjunto de entrevistas a profundidad sondeó fuentes de estrés que llevaron a construir un cuestionario de 52 reactivos para explorar los tipos y fuentes de estrés. Resultados. Cuantitativamente, las condiciones más estresantes incluyeron: cargas excesivas de trabajo, somnolencia diurna, fatiga, agotamiento, humillaciones frente a otros compañeros y sueño inadecuado e insatisfactorio. Además de factores generales habitualmente encontrados en hospitales con recursos limitados, los resultados revelaron numerosos casos de interacción inadecuada en que residentes avanzados o supervisores humillaban o agredían a los residentes menos avanzados. Discusión. Los principales hallazgos del estudio se analizan en el contexto de ausencia de regulaciones adecuadas o de formas de hacerlas valer y se incluyen sugerencias para mejorar dichas condiciones.

Palabras clave: Médicos; Atención a la salud; Síntomas depresivos; Clima organizacional; Interacción interpersonal; Estrés crónico.

INTRODUCTION

The epidemiological context of the health of the Mexican population, which has prevailed for decades leaves little room for doubts regarding the relative weight of chronic-degenerative diseases as the first cause of disability and premature death followed by causes related to accidents and insecurity (Frenk, 2017; Instituto Nacional de Estadística y Geografía, 2018).

Health care of chronic diseases, both preventive and remedial, involves a key component that health psychologists have dealt with for over six decades (Belar, McIntyre & Matarazzo, 2013; Guze, Matarazzo & Saslow, 1953). Indeed, scientific research on risk factor predictors of the development of clinically chronic states has consistently shown that the combined contribution of psychological variables interacting with genetical predispositions explain a wide proportion of the development of such diseases (Arden 2019; Cohen, 1982; Repetti, Taylor & Seeman, 2002; Shields & Slavich, 2017).

On the other hand, traslational research in health psychology in general and behavioral medicine in particular, has consistently shown that if professional interventions aimed at treating these diseases are not integrated through the articulated concourse of health specialists from different professions, patients and their families are exposed to an increased likelihood of disability, mortality, suffering and quality of life deterioration (Ashing, George & Jones, 2018; Plourde, Yeates & Brooks, 2018; Rahimian, Talepasand & Jabari, 2018; Riveros, Sánchez-Sosa & Del Aguila, 2009; Sánchez-Sosa, 1998).

This critical association between environment, behavior, and health prevails for the general population, and there is no reason to assume that professional health caregivers are an exception (May & Revicki, 1985; Reuben, Novack, Wachtel & Wartman, 1984).

Psychological stability and the ability to cope with stress allow individuals to function adaptively in view of environmental demands, be them physical, work-related, social, etc. (Selye, 1993; Sivan-Donin, Ben-Ezra, & Hamama-Raz, 2019; Taché & Selye, 1985).

Thus, psychological stability, resilience and adaptive skills of professional caregivers are highly relevant specially in the context of public healthcare facilities with scarce resources and near-saturation of services due to high demand (Barasa, Molyneux, English & Cleary, 2017; Morales et al., 2019; Tabchoury, 2016). Functional illiteracy of recipients is an additional condition that demands interpersonal competency (including empathy and compassion) and stress management skills by physicians, including residents (Doets, 1992; Grosche, 2013; Schenk-Danzinger, 1990; Vágvölgyi, Coldea, Dresler, Schrader & Nuerk, 2016).

Two frequently documented general sources of stress in these contexts include individual and organizational factors. The former are assumed to stem from long-standing risky family interactions in the individual's background (Colombotos, 1969; McDavid & Garwood, 1978; Repetti et al., 2002), the latter from work and supervised practice learning conditions at the institution frequently referred to as a poor or even "toxic" organizational climate (Green, Albanese, Shapiro & Aarons, 2014; Lapinski, Yost, Sexton & LaBaere, 2016; Vidal-Velazco, 2019).

Individual stress factors usually interact with organizational ones which frequently lead to sleeplessness, fatigue, rough interaction with patients and coworkers, and even substance abuse, medical errors or suicidal ideation (Duarte, Velasco, Sánchez-Sosa & Reyes, 2019; Penney, 1985; Shahrakai, Mirshekari, Ghanbari, Shahraki & Shahraki, 2011; Sørensen, Pedersen, Vedsted, Bruun & Christensen, 2016).

Some such conditions frequently stem from obsolete or unrevised hospital regulations, erratic or pernicious leadership from supervisors and authorities, abusive "initiation" practices for new coming residents and other defective institutional conditions (Berberoglu, 2018; Garcia, Ramos, Serrano, Cobos & Souza, 2011; Muñiz, Peña, de la Roca, Fonseca, Cabal & García, 2014).

Although some studies have explored stress-related psychological complaints by medical residents and students (Kwiatosz-Muc, Fijakowska, Fijakowska, Aftyka, Pietras & Kowalczyk, 2019) few studies have emphasized ecological validity in the sense of developing, from the beginning, definitions, and mea-surements on the basis of the specific conditions of the working environment of participants and an initial exploration of their personal situations. Both in studies carried out in Mexico, and others conducted abroad, (Galván, Jiménez, Hernández & Arellano, 2017; García & Torner, 2017; Guavita & Sanabria, 2006; Herrera & Gómez, 2000; Phinder, Sánchez, Castellanos, Vizcarra & Sánchez, 2014; Reyes, Monterrosas, Navarrete & Torruco, 2016) data are usually collected through the application of pre-designed questionnaires or having been constructed in other contexts than the actual hospital setting where data were eventually collected.

In addition, studies usually report instruments' technical data such as internal consistency with little reference to validation procedures actually carried out in the clinical facilities. These precautions seem especially important if studies aim at developing specific recommendations (applicable to such settings) in order to reduce individual suffering, interpersonal on the job difficulties and even medical errors (Berner, 2011; Crook-Abel, 2012; Flotta, Rizza, Bianco, Pileggi & Pavia, 2012).

Since medical residents comprise a main professional caregiving workforce in public hospitals where resources of all types are scarce, their wellbeing, psychological stability and functionality become key goals for traslational behavioral research in medical settings (Hacking & Phillips, 2018; Molinuevo, Aradilla-Herrero, Nolla & Clèries, 2016; McLuckie et al., 2017).

Thus the main objective of the present study was to conduct a two-step exploration of sources of stress for medical residents in a large public hospital in Mexico City. An additional goal was to attempt the identification of two types of stressors, those stemming from the hospital working conditions and those apparently stemming from other sources such as personal and family background or conditions.

METHOD

Qualitative exploration

Participants

The hospital's teaching authorities took the initiative to request the study from totally independent researchers from UNAM's School of Psychology Graduate Division in Behavioral Medicine. The decision to contact the researchers was initially based on informal but repeated complaints by residents during the previous year. In order to probe the consistency of general sources of stress, 14 residents randomly selected from diverse specialties and years of training were invited to participate in an initial qualitative exploration through in-depth interviews.

The main reason why individual interviews were selected over other qualitative strategies such as focus groups, stemmed from a believable level of wariness informally expressed by potential participants regarding the possibility that other participants might leak reports from complainers to more advanced residents or even supervisors or authorities. In addition to possible negative reprisals against them, focus groups might subtract credibility to answers to the questions posed during the interviews (due to social desirability) and thus to the reliability of resulting data.

Procedure

A widely trusted medical executive responsible for overseeing the training of residents in the hospital and instructor himself responded to the initial concerns by residents and contacted the university graduate authorities of the program of behavioral medicine through a psychology doctoral student with mutual acquaintances at the hospital and the university. Once the request to assess the problem was accepted by the university graduate program officials, interviewing procedures were agreed upon and scheduled. All interviews were conducted in a regular meeting room with a table and surrounding chairs and good lighting, ventilation, and privacy conditions. Two professional interviewers who were also faculty of the graduate program conducted the interviews, one interacting with each participant and the other audio-recording the sessions (after a proper consent by interviewees) and taking notes.

Once the interviewer explained the general objective of the interviewing sessions and expressly confirmed the study's commitment to absolute confidentiality (interviewers never had access to the names of participants) and requesting a verbal consent, interviewing started.

During the first few minutes, the interviewer held a casual conversation with each participant to facilitate trust and rapport further. Then as part of the purpose of the interview, participants have described some general complaints frequent in medical residents such as time schedules, access to eating facilities, etc. and then were asked to describe those sources of stress they had experienced in the hospital since their arrival.

Interviews had an approximate average duration of forty minutes. The psychologist more experienced in qualitative analyses verified the coverage of thematic areas and the standardized provision of initial instructions. The last 3 of the 14 interviews revealed a stable level of saturation after no new sources of stress were described according to generally accepted for qualitative methodology (Saunders et al., 2017).

Qualitative probe results

Interviews revealed the next most consistent sources of stress. The list has no specific order since its only purpose was to locate situations that would allow for constructing more particular items.

- •Excessive workloads, especially of administrative nature (filling out forms, shift reports, etc.).
- •Little or no opportunity to rest, sleep, or relax.
- •Feeling of abandonment by academic program (school of medicine) authorities in the sense that grades and evaluations were completely left up to the hospital alone, with no chance to feedback the structure or organization of the residence program.
- •Arbitrary or biased assignment of grades, term averages, etc.
- •Rigid schedules, including incompatible activities within them.
- •Little or no opportunity to engage in minimal, indispensable house chores.
- •Extreme distancing from family and social life.
- •Abusive or humiliating treatment/demands by more advanced residents ("R+") or supervisors in front of their fellow residents.
- •Unjustified punitive filing by supervisors or Rs+ of memos or reports against the resident.
- •Arbitrary, biased, and selective punitive actions against some residents and extreme tolerance of others.
- •Unjustified, arbitrary, abusive work requests by Rs+ or supervisors.
- •Shortage of medical materials and equipment in poor conditions.
- •Sleeping as the only available way to reduce or manage stress.

By the end of each interview, participants were asked if there were conditions, experiences, or positive aspects of their work representing sources of satisfaction or wellbeing. The structure of the question was: "*What encourages you to keep working toward your degree under these conditions?*". The four most frequent responses were:

- •Having helped patients in difficult or complicated situations
- •Expressions of gratefulness and recognition by patients and their families
- •Occasions or cases in which "R+" support us
- •Noticing that we are really learning

Finally, the interviewer asked for actions residents carried out to manage stress stemming from their hospital work. There was little variability in responses, and the following two were the most frequent:

- •Talking to other fellow residents of their level about things that made them miserable
- •Talk to friends and go to gatherings or parties

Quantitative study

All previous results were used to develop a 52-item questionnaire on the basis of responses to the qualitative probe. The questionnaire was then applied to 72 residents of a new class year at the end of their first year as residents, in the main auditorium of the hospital. The questionnaire's format included three inclusive choices, i.e., participants could answer one, two or all three of the following choices: a) it actually happened to me; b) I know it happened to other fellow residents; c) a blank space where they could write a description of other sources of stress not covered by the questionnaire. Again, data collection was completely anonymous, and their informed consent was secured by telling them their participation was completely voluntary and that staying in the auditorium and answering the questionnaire meant they agreed to participate. No resident left the auditorium or turned their response sheets unanswered. This session lasted approximately 40 minutes.

RESULTS

Table 1 shows the 18 main sources of stress expressed by over half of the participants in terms of the percentage of residents, including sources added in written form. Percentages ranged from 52.2% and 50.8% respectively for denigrating comments by R+s and demands for submissive or acquiescent attitudes-behaviors ending up in emotional distress. Percentages for excessive workloads, daytime drowsiness, and fatigue/exhaustion were 91.5, 89.8%, and 76.3%, respectively.

DISCUSSION

The general objective of the present study was to explore the main sources of stress in medical residents in a public hospital in Mexico City. Results consistently point in the direction of a multiplicity of sources with a predominance of defective interpersonal interactions with more advanced residents and hospital supervisors. Although a specific association among sources of stress and emotional or functional distress was beyond the purpose of the study, it seems clear that participants flagged many of them as linked to anxiety or depressive symptomatology and presumably to poorer medical or academic performance. It is notorious that even a simple, informal categorization suggests that 6 out of 18 high-incidence sources of stress can be identified as part of the institutional organization, administrative features. Some such examples include *excessive workloads, administrative chores interfering with studying or practicum, unnecessary long working hours, having to pay for own food for the impossibility of accessing the hospital eating facilities in time, and low-insufficient income*.

Table 1.
Main source of stress

Source-Item	Percentage of Residents
1. Excessive workloads	91.5%
2. Daytime drowsiness, fatigue, exhaustion	89.8%
3. Being humiliated in front of fellow residents	76.3%
4. Unsatisfactory/inadequate sleep	74.6%
5. Administrative chores interfering with studying or practicum	71.2%
6. Unnecessary long working hours	69.5%
7. Cynic demeaning comments by R+s ("*we took it and did not bitch*")	69.5%
8. Having to pay for own food for lack of dinette timely access	69.5%
9. Little or no chance to read/study	66.1%
10. Being forced to do things fast, *no matter what*	64.4%
11. Unfair irrational reprimands	62.7%
12. Being offensively treated by R+s	62.7%
13. Low/insufficient income	57.6%
14. Yearning for family and friends	57.6%
15. Arrogance/contempt beha-viors by R+s	57.6%
16. Denigrating comments on our professional abilities	54.2%
17. Having to act submissively obedient	54.2%
18. Feeling depressed	50.8%

Four of 18 sources could be classified as consequences affecting the personal and professional performance of the residents; examples include *daytime drowsiness, fatigue/exhaustion, unsatisfactory/inadequate sleep, and feeling depressed*. Although a particular source: yearning for family and friends was expressed by half of all participants, it is highly likely that it is especially distressing for residents originally living away from Mexico City.

It is especially striking that most expressed sources of stress can be attributed to severe defects in interpersonal interactions that several authors have identified a reflecting *mobbing* or *bullying* and *burnout* in healthcare settings (Cohen, Rollnick, Smail, Kinnersley, Houston & Edwards, 2005; García-Izquierdo, Esteban, García-Izquierdo & Hernández, 2006; Shaw & Anderson, 2018; Vidal-Velazco, 2019).

Even though the present study represents an exploratory approach to this problem, it is highly likely that such conditions prevail in most other public hospitals since their structure and organization are very similar countrywide, including a chronic scarcity of resources. In principle, these results might prove applicable to most other hospitals in regions similar to Mexico in terms of country development and culture.

An additional contribution of the present study is the availability of data reflecting conditions that point in the critical direction of designing and applying systematic reforms of institutional and organizational policies and regulatory norms, including serious disciplinary sanctions for dysfunctional or abusive behaviors by advanced residents, supervisors and even authorities, in fact, by anyone working in healthcare facilities.

Other interventions relate to two types of modalities: preventive or remedial. On the one hand, the education and training of physicians, nurses, social workers, hospital administrators, etc. should include, from the beginning, well documented curricular contents on interpersonal and stress management abilities, imparted by capable psychologists. As expected, such contents and training should be based on scientific research and evidence-based interventions. On the other hand, hospitals would benefit from installing well-endowed counseling services staffed by well-trained experts in behavioral medicine.

It should be noted, however, that neither educational or remedial initiatives will fulfill their purpose in the absence of authorities and administrators well committed to enforcing adequate norms and procedures including mechanisms for reliably receiving confidential bona fide complaints since research shows that lack of enforcement frequently leads to impunity (Roth & Puri, 1967; Triandis & Lambert, 1961).

Several informal comments from both participants and hospital authorities during the conduction of the present study suggested that a specific type of abusive "subculture" sometimes seems to prevail in some hospitals, where higher rank personnel mistreats lower hierarchy individuals. A possible historical reason might stem from the appearance that the Mexican public health system was almost a replica of the late XIX century French system, which had a few military nuances regarding structure and hierarchies. In agreement, several complaining residents argued that sometimes hospital authorities were aware of aggressions and did little or nothing about them, even when some such episodes involved serious threats or blatant harassment.

The suggested subculture sketched above was reflected by comments from some "R+s" while they defended themselves when summoned to respond to maltreatment accusations before at the UNAM committee. Their most frequently expressed contention included such comments as "*they are a bundle of undisciplined individuals*". However, during conversations among themselves in hallways and waiting rooms, their most frequent assertions were: "*the same things happened to us, and we were not whining around*" or "*they are just a lazy bunch*" or "*they can't brave anything*".

The main findings of the present study suggest that the main sources of stress and dysfunction for participating medical residents derive from conditions of the so-called organizational climate (Berberoglu, 2018; Garcia et al., 2011; Muñiz et al., 2014; Vidal-Velazco, 2019). Thus it seems clear that changing these conditions will require definite decisions and by all constituents of the health system, including a real commitment from higher authorities and regulatory/legislative levels.

One next challenge in this line of research involves creatively designing, implementing, and evaluating interventions ranging from preventive to assistential or remedial and examining their effect on sound dependent variables including recipients (patients and their families) satisfaction rates. It seems clear that the wellbeing of professional caregivers is essential to effective and efficient healthcare institutions, especially those operating in conditions of scarcity of resources. Such applied studies, probably traslational in nature, will openly require solid scientific methodology and a true feasibility of institutional adoption (Maslach & Leiter, 2017; Sánchez-Sosa, 2018).

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