Prevalence of Stress, Burnout Syndrome and Psychopathology in Staff Physicians and those with Hierarchical Positions in a University Hospital

Duarte Juan Manuel*, Basile María Eugenia, Rodríguez Cairoli Federico and Appiani Francisco José

Neuropsychopharmacology Unit, Hospital de Clínicas “José de San Martín”, Facultad de Medicina, Universidad de Buenos Aires, Argentina

*Corresponding Author: Duarte Juan Manuel, Neuropsychopharmacology Unit, Hospital de Clínicas “José de San Martín”, Facultad de Medicina, Universidad de Buenos Aires, Argentina.

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Abstract

Although stress at work can affect many occupations, health professionals have a greater predisposition to develop it. Likewise, long-term stress may lead to suffering from Professional Burnout Syndrome. Someone who suffers from any of these entities may have signs of psychopathology.

The objective of this work was to determine the prevalence of work-related stress, burnout syndrome, and psychopathology in staff medical doctors and with hierarchical positions in a University Hospital. The prevalence of stress in the analyzed sample was 85.95%; the prevalence of the Professional Burnout Syndrome was 72.9%, and psychopathology was 10%. All respondents with positive results from the GHQ-12 questionnaire had positive scores for stress and burnout syndrome. Therefore, this situation needs immediate action and solutions.

Keywords: Stress; Psychopathology; Burnout

Introduction

According to the International Labour Organization, stress is the physical and emotional response to damage caused by an imbalance between the perceived demands and the resources available in an individual to face those demands. In the workplace, it is determined by the organization at work, job design, and labor relations [1]. Health professionals have a higher predisposition for several reasons, including overload, excessive responsibility, and emotional tension [2]. Long-term work stress could lead to Burnout syndrome, which consists of a combination of exhaustion, cynicism, and perceived ineffectiveness. Burnout consists of a series of physical and behavioral symptoms resulting from excessive dedication and commitment at work [3].

Chronic stressful events and Burnout Syndrome are adverse situations that could activate or amplify the expression of depressive symptoms, associated with genetic and environmental factors [4,5].

Four hundred and forty physicians are at present, working at the Hospital de Clínicas “José de San Martín” Sixty percent work on a full-time basis (35 hours per week), and forty percent are contingent physicians (less than 30 hours a week). In some specialties, staff physicians must work on 24 hours shifts (emergency unit, surgery, radiology, intensive care unit, coronary care unit, anesthesiology, psychiatry. Some professionals also work in their private offices or other private institutions, which might contribute to excessive workload.

To our knowledge, these aspects have been little evaluated [6]. Therefore, this work aims to determine the prevalence of stress, Burnout and psychopathological states in physicians with staff and hierarchical positions, of all specialties of a University Hospital, and their association with the demographic variables obtained.

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Materials and Methods

A descriptive, observational, cross-sectional study was carried out. The inclusion criteria are: medical physicians of both sexes who work at the Hospital de Clínicas "José de San Martín," with staff and hierarchical positions, full-time and contingent physicians, with clinical, surgical, only emergency or without direct contact with patients (imaging, pathology and those who belong to the Teaching and Research Department). The exclusion criteria correspond to the doctors who have a leave of absence during the study, the doctors in training (residents, visitors, or fellows), those who do not sign the informed consent or those who do not answer the self-administered questionnaires thoroughly.

They were asked to answer the following self-administered questionnaires:

1. Demographic survey: The following data were recorded: Gender, age, seniority, type of specialty (clinical, surgical, only emergencies or specialty without direct contact with the patient), type of position (hierarchical or staff doctors), type of remuneration (full-time or contingent), whether they worked on 24-hour-shifts, if they worked at multiple institutions, if they did recreational activities regularly, and the number of working days in the week (less than five days, five days, six days or seven days a week).

2. Stress inventory for health professionals: Described by Wolfgang in the year 1988 [7,8], it consists of 30 work situations that professionals would expect to face during their medical practice: they must indicate the degree of stress that each of them causes. Those 30 situations are presented using a Likert-type scale from 0 to 4 points (never to very frequently). The possible range of stress on the entire scale is 0 to 120 points. This scale was validated in the Spanish language with a high internal consistency [9,10]. A total score greater than 30 points was considered a positive test: from 31 to 60 points, moderate stress, from 61 to 89 points, high stress, and from 90 points, severe stress [10].

3. Maslach questionnaire [11]: The version in the Spanish language presents adequate factor validation, and its scales have sufficient internal consistency [12]. The central part of the questionnaire is made up of 22 items in the form of statements. The different categories (emotional exhaustion, depersonalization, and personal fulfillment) were evaluated. Each item is answered in the form of a Likert scale, from 0 to 6 points, according to the frequency of each statement. The signs of Professional Burnout Syndrome correspond to scores of more than 26 points for the emotional exhaustion aspect, more than 9 points for the depersonalization aspect, and less than 36 points for the personal fulfillment aspect [13].

4. General health questionnaire (GHQ-12) validated in the Spanish language. It is an instrument used to assess the levels of mental health of the general population. It consists of 12 items, 6 with affirmative sentences, and 6 with negative sentences. The score is dichotomous (yes, no), with a maximum score of 12 [14]. Values from 0 to 4 points indicate the absence of psychopathology, from 5 to 6 points, subthreshold psychopathology and 7 to 12 points, presence of psychopathology [15]. The GHQ-12 showed adequate psychometric and reliability properties in the Argentine Republic [16].

The sample size calculated was 206 for a 95% CI for a universe of 440 physicians who attend the Hospital de Clínicas "José de San Martín", according to data provided by the Teaching and Research Department. The study was conducted under the ethical standards that govern human research following the 25326 National Law on Protection of Personal Data (Habeas Data Law) and the Declaration of Helsinki in its latest version (Fortaleza, 2013). The surveyed participants signed the Informed Consent designed for this purpose. The Ethics Committee of the Hospital de Clínicas "José de San Martín" approved the work.

The SPSS® package for Mac®, version 24, was used for statistical analysis. Parametric tests were performed for the quantitative variables that followed a normal distribution. Non-parametric tests were used for qualitative variables. A p < 0.05 was taken as the value of statistical significance.
Results

From the professionals that received surveys (n = 206), 25 respondents were excluded from analysis for not answering the questionnaires completely; 25 respondents issued ambiguous responses that made their analysis difficult; 25 did not return the forms provided with their responses. Forty-seven respondents were female, aged 47.73 ± 9.34 years and seventy-four, male, aged 49.92 ± 10.63 years (p = 0.22). Fourteen respondents did not respond to the variables sex or age. Thirty (22%) held hierarchical positions (Heads of Departments), and one hundred and five (78%) were staff physicians. Seventy-three (54.07%) worked in clinical specialties, forty-seven (34.81%), in surgical specialties, three (2.22%), only emergencies and twelve (8.90%), in specialties in which they have no direct contact with the patient. Thirteen (9.63%) had a 0 to 5-year-seniority, thirty-eight (28.15%), 6 to 15-year-seniority, and eighty-four (62.22%), more than fifteen-year-seniority.

Regarding the type of remuneration, seven respondents were excluded due to ambiguous responses. Of the remaining 126, 26 (20%) were independent contingent workers, and 102 (80%) were on a full-time basis. Thirty-three (24.9%) reported having to work on 24-hour-shifts, and 100 (75.1%) did not report having to do them. Two respondents did not answer the item “work on 24-hour-shifts”.

Five physicians (3.8%) reported working only in the Hospital de Clínicas, 60 (46.6%) in an additional setting (private practice, or other public or private Institution), and sixty-four (49.6%) reported having multiple jobs. Six respondents did not respond to the item related to the number of workplaces.

Seventy-nine respondents (63.2%) reported doing recreational activities regularly, while forty-six (36.8%) reported not doing them regularly; ten respondents did not respond to this item.

Four respondents (3.4%) reported working less than five days a week; Eighty (69%), five days a week; twenty-two (19%), six days a week; and ten (8.6%), seven days a week. Seventeen respondents did not acknowledge to this item.

Stress

The prevalence of stress in the analyzed sample was 85.95%. No significant difference was found in the Wolfgang questionnaire scores (p = 0.773) according to sex, seniority (p = 0.08), position (hierarchical or staff doctor) (p = 0.672), type of remuneration (p = 0.921), depending on whether or not they perform recreational activities (p = 0.67), the number of days per week worked (p = 0.87), or the number of workplaces (p = 0.477). However, all respondents belonging to the specialties without direct contact with the patient (n = 10) and those who exclusively work at the emergency service (n = 3) had scores compatible with stress.

Professional burnout syndrome

One-hundred sixteen respondents fully answered the Maslach questionnaire (19 were excluded due to incomplete answers). The prevalence of Professional Burnout Syndrome in the study population was 72.9%: Of these, 31.9% had symptoms of exhaustion, 38.5% of depersonalization, and 36.3% of personal fulfillment problems.

No associations were found between the frequency of the Professional Burnout Syndrome and gender (X² = 0.64, p = 0.48), the position held (X² = 0.506, p = 0.31), the type of remuneration (X² = 0.738, p = 0.27), the fact of working on 24-hour-shifts (X² = 0.382, p = 0.344), the number of working days per week (X² = 4.26, p = 0.23), and the number of workplaces (X² = 1.915, p = 0.384).

However, the group that performs a specialty without direct contact with the patient had a 100% frequency of Professional Burnout Syndrome; and the group of respondents aged between 6 and 15 year-seniority had a significantly higher frequency of this syndrome (94.1%, versus 69.2% in the age group between 0 and 5 years, and 62.3% in the age group of over 15 years; X² = 11.60, p = 0.03).
Psychopathology

Fifteen respondents did not complete the GHQ-12 questionnaire thoroughly. One-hundred twenty completed surveys were analyzed.

According to the questionnaire mentioned above, the prevalence of psychopathology in the study population was 10% (n = 12): seven respondents (6.67%) had subthreshold psychopathology, and 5 (3.33%) presented psychopathology.

No association of psychopathology was found with gender ($\chi^2 = 0.686$, $p = 0.57$), seniority ($\chi^2 = 1.57$, $p = 0.45$), the position held ($\chi^2 = 0.114$, $p = 0.636$), the type of remuneration ($\chi^2 = 0.114$, $p = 0.636$), the performance of recreational activities ($\chi^2 = 0.505$, $p = 0.47$), the number of working days per week ($\chi^2 = 2.008$, $p = 0.57$), or the number of places of work ($\chi^2 = 5.280$, $p = 0.07$). However, none of those who did not work on 24-hour-shifts, who had positive scores on the GHQ-12 questionnaire, presented psychopathology criteria; 83% of those who worked 12-hour-shifts and who had a positive result from this questionnaire presented psychopathology. 100% of the respondents with surgical specialties and those without direct contact with the patient, who presented positive results in this questionnaire, had psychopathology criteria according to GHQ-12.

All respondents (100%) with positive results from the GHQ-12 questionnaire (with subthreshold psychopathology or psychopathology) had positive scores for stress and burnout syndrome.

Discussion

The analyzed data showed a prevalence of 85.95% of stress, 72.41% of exhaustion syndrome and 10% of psychopathology. Furthermore, a significant association was found between stress frequencies and Burnout Syndrome. All respondents with subthreshold or established psychopathology criteria had positive scores for stress and burnout syndrome.

In the present work, 31% of this syndrome was associated with emotional exhaustion, 38% with depersonalization, and 36.3% with the failure of personal accomplishment.

The only study previously carried out in the Argentine Republic that evaluated the three variables was carried out in cardiology residents: 80% revealed Professional Burnout Syndrome, with 67% depersonalization, 71.7% emotional exhaustion and 10% with lack of personal accomplishment; 48% reported having depressive symptoms, and a high percentage, being stressed. The associated causes were the high number of hours worked per week and the fact of having an extra job [6].

A study investigating the presence of professional burnout syndrome in resident and non-resident doctors of the public and private health systems of the Province of Mendoza found that 51.2% had a high risk of emotional exhaustion; 34.8% of depersonalization, and 7.8% of lack of personal accomplishment [17].

In a study of compilation of scientific papers presented at conferences of the Argentine Society of Medicine, an average of 50% of depersonalization, 43% of emotional exhaustion, and 57% of disorders of personal fulfillment in medical doctors were found: the variables were associated to a greater extent with the masculine gender, the lowest professional seniority, the lack of leisure activities and the vast number of working hours and night shifts [18].

In the present study, although all the specialties surveyed presented variable percentages of stress, those surveyed who held positions exclusively in the Emergency Service, and those who developed specialties without direct contact with the patient, had, in their entirety, positive scores. No significant association of stress frequency was found with the rest of the independent variables studied.
On the other hand, the frequency of burnout syndrome was significantly higher in the group of professionals with a 5 to 15-year seniority: this could correspond to 44 - 55 years of age: in this life stage, productivity is higher, and there is a greater tendency towards economic stabilization, according to Yates [19].

In addition, a significantly greater association was found in professionals who practice specialties without direct contact with patients. One debate may be whether the choice of specialty could be linked to previous personality traits or the specialty’s working modality that determines the findings. This will be discussed later, but ultimately it is the unresolved discussion between “predisposition and environment”.

The prevalence of psychopathology (subthreshold or established) was 10% in the studied group. All respondents with a surgical specialty, and with specialties without direct contact with the patient, with GHQ-12 Scale scores higher than 4 points, had established psychopathology; on the other hand, those with clinical specialties with a positive score for psychopathology, the result was subthreshold.

On the other hand, the group belonging to physicians who work on 24-hour shifts had established psychopathology, according to GHQ-12. On the other hand, those who did not work on 24-hour shifts, the psychopathology found was subthreshold. Finally, all the respondents with a positive score for psychopathology had positive scores for stress and Professional Burnout Syndrome; both entities are related.

Many authors evaluated the presence of a predisposing personality for the choice of a medical specialty: some did not find such an association [20], while others detected an association between personality and the choice of specialty [21-33]. However, a uniform pattern was not found in the scientific articles consulted.

The first study that defined stress arose from the observation of those agents that generate a vital response in the body to resist that agent or stressor. This physiological response was called general adaptation syndrome. Stress is an interaction between the environment and the reaction of the individual [34,35]: the individual could subjectively determine the magnitude of this response. In 1989, Eysenck reinterpreted the Yerkes-Dodson law so that high levels of alertness, motivation, or anxiety (stress) lead to better performance up to a certain point, after which it decreases [36].

Stress can be beneficial, distressing, or dangerous. From an emotional point of view, it may produce psychological disorders and a state of acute and chronic anxiety [37]. The stress system interacts with several circuits of the central nervous system: the mesocorticolimbic system, the amygdala, the hippocampus, the pro-opiomelanocortin neurons, and the system of regulation of temperature and appetite. Besides, with other main systems, with higher vulnerability to oncological, metabolic, or immunological-infectious pathologies [38].

Occupational stress arises from the pressure of the institutional organization, from the pressure of patients, colleagues, or the individual themselves. It may manifest as a state of activation, leading to the inability to do the job. It may also lead to rituals of avoidance of work activity (for example, absenteeism), compulsive eating, anger at colleagues, irritability, apathy at work, rigidity in work methods, lack of communication, confusion, and forgetfulness. In physicians, the doctor-patient relationship and interaction with colleagues are affected [37].

A sample of 200 individuals, which included social workers, psychiatric nurses, lawyers, prison staff, and childcare workers, had signs compatible with professional burnout syndrome [39]. The physician suffering from this syndrome has an increased risk of making mistakes. Like stress, this syndrome increases the risk of suffering from somatic diseases [39]. The relationship between Burnout and poor health is bidirectional: poor health predisposes to suffer from this syndrome, and the result of this syndrome is poor health. The physical consequences are correlated with the consequences of prolonged stress [40].

Some personality traits are associated with a greater or lesser risk of Burnout. The person suffering from this syndrome would not only be a victim of the circumstances, but they would also be active elements that interact with the demands of their profession [41,42].

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Occupational stress and Professional Burnout Syndrome affect mental health in health workers. Anxiety and depression frequently coexist and are influenced by individual factors [43]. From a psychological point of view, Burnout Syndrome is indistinguishable from other types of depression or stress and represents a failure in achieving job satisfaction. These entities are not independent in between and would belong to the same pathological spectrum [40]. In a recent meta-analysis, a standardized suicide rate of 1.44 has been found, with a higher risk in physicians than in the general population. Women pose an even higher risk. The highest percentage of suicides was found in general practitioners [44]. However, due to social stigma, doctors seek help less frequently since the disease would be seen as a sign of weakness and failure; this is wrong, since the modality and conditions of medical work are, at present, unhealthy [43].

One matter of discussion is whether the presence of established or subclinical psychopathology in our work is a consequence of stress and general exhaustion syndrome or the outcome of psychopathological features. Physicians who have greater satisfaction with their careers develop a type of learning that has been called "Deep learning style": they have low neuroticism, higher extroversion, greater empathy, and greater openness to new experiences; On the other hand, those who have less satisfaction with their careers acquire "Surface-disorganized" learning (superficial and disorganized): they develop higher neuroticism and less scrupulousness [45,46]. It would be advisable to carry out studies that search for a correlation between personality traits and the choice of specialties: they might help us better understand the findings of the present research.

It is worrying that more than 80 percent of the surveyed doctors show clear signs of stress. This situation calls for immediate action and solutions. Among the possible clues, those dependent on the Institution and the physician himself should be taken into account. The labor organization ought to provide adequate training for professional practice. Teamwork, collaboration, and training in managing work stress and the presence of workplace conflicts should be encouraged. Behaviors that combat stress should be advised and facilitated: the encouragement of adequate rest, relaxation exercises, and meditation through extracurricular activities [47]. Strategies based on the development of resilience help improve communication skills with colleagues and patients, adequately face job demands, strengthen work relationships, exercise empathy and compassion, and optimize medical reasoning and decision making [48].

There have been several intervention studies that have described beneficial strategies for Burnout; however, the limitations of those studies include short follow-up sessions, narrow focus on simple interventions rather than combined approaches, and a small number of randomized controlled trials. Physician-oriented approaches include mindfulness, resiliency training, stress management training, communication skills, training exercise programs, and small group programs on sharing work experiences [49]. Some authors have proposed the implementation of mindfulness procedures and cognitive behavioral therapy: they have found some improvements in mood, empathy, personality factors, empathy, and burnout [50,51]. However, a recent systematic review concluded that, although mindfulness-based interventions might lead to positive impacts, due to methodological limitations, these interventions cannot be standardized in professional development programmes [52].

SMART (stress management and resiliency training) therapy encourages learners to focus their attention in the external world, and cultivate and guide their interpretations by gratitude, compassion, acceptance, meaning, and forgiveness. Besides, it stirs up paced-breathing meditation once or twice a day [53].

Health care institutions should encourage social connectedness through Schwartz Rounds or interprofessional health care teams [54].

A systematic review and meta-analysis conducted by Panagioti., et al. revealed that controlled interventions to reduce Burnout in physicians were associated with small significant reductions in Burnout. However, higher effects were observed in organization-directed interventions in comparison with physician-directed interventions, as Burnout is a problem of the whole health-care system: physician-directed interventions might be effective only when supported by institutional approaches [55]. Finally, a recent systematic review on strategies adopted to prevent mental disorders and improve quality of life and well-being in physicians revealed that there is no consen-
sus on what the most effective measures are [56]. More randomized-controlled studies should be conducted in order to solve this issue on the prevention of stress, Burnout, and mental disorders.

Conclusion

The frequency of Stress in the analyzed sample was 85%; the frequency of Burnout was 72.9%; and the frequency of psychopathology, screened through GQH-12 was 10%: 6.7% had subthreshold psychopathology, and 3.33%, established psychopathology. These are striking results, and some action ought to be taken as of both the Institutions and the physicians themselves to prevent these situations from endangering professionals’ as well as patients’ well-being.

Conflict of Interest

None to declare.

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