

Analysis of Burnout Syndrome in Healthcare Professionals

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Abstract

Introduction: Burnout Syndrome is an important problem that affects healthcare professionals to a greater extent than other workers. It has been estimated that approximately a 50% of physicians suffer from this syndrome. It is a problem that affects doctor's well-being that can cause health problems on those professionals. Consequences of this syndrome not only affect the physician but also, a doctor affected by this syndrome is more likely to make medical errors and it also makes it harder to achieve the patient's adherence to treatment.

Materials and Methods: To check which factors can be linked to the onset of the syndrome, we have performed a study based on collecting data by a survey sent to Spanish doctors. This survey was divided in two parts, first one containing questions related to sociodemographic variables that we considered might be linked to the syndrome and second one, with the questions of the Maslach Burnout Inventory.

Results: Then we proceeded to the statistical analysis of the obtained data, concluding that prevalence of this syndrome remains similar compared to previous studies.

Conclusion: It was also concluded that the difficulty of the computer systems that professionals use, as well as the time physicians spend with their patients in relation with the time they spend doing tasks in their computers also effects on the onset of Burnout Syndrome.

Keywords: Burnout • Electronic health record • Physician • Specialization • Stress

Introduction

The world health organization defines Burnout Syndrome as a result of chronic stress in the job being unsuccessfully managed. This definition has 3 elements: the feeling of exhaustion, less energy and less effectiveness in the work. (WHO|Burn-out an "occupational phenomenon": International Classification of Diseases, n.d.) [1]. This concept appeared in the late 60's as a way of measuring stress [2]. This syndrome is an important problem. Some previous studies confirmed that this is a bigger issue in health care professionals compared to other professionals, almost doubling its prevalence [3,4]. The relevance of the problem is the relation between less efficacy in the job and the higher risk of making mistakes. It has been found a relation between satisfaction with the job and the patient's adherence to the treatment [3]. Some studies reported that women have higher stress and burnout levels than men [3,4]. Overwork can be a major contributor to increased stress levels and, consequently, to the "Burnout" of the healthcare professional [5-8]. On the other hand, a difference has been observed between the prevalence of this syndrome depending on the medical specialty, so ones such Preventive Medicine are associated with a lower prevalence of "Burnout" while in others, such as Emergency Medicine, the association is

greater [3]. It has been shown that working with patients with a high degree of anxiety or pain affects the healthcare professional by increasing their level of stress. This would explain that specialties with a greater number of patients with pain or anxiety are those in which the prevalence of "Burnout" in their healthcare professionals is higher [9]. A study associated the empathy of health professionals with the prevalence of "Burnout", observing that those professionals with higher rates of "Burnout" were the most empathic with the patient, however, those results were not significant [10]. Rotating shifts and on call shifts of health professionals have a consequence in the alteration in the sleep rhythm of these workers, which increases stress and consequently, the prevalence of Burnout in these professionals also increases [11]. Among the consequences of this problem is the increase in professional absenteeism and that causes an increase in the care burden on other medical professionals, also increasing bad habits such as alcohol consumption or drug use and causes changes in the diet of healthcare professionals, which may lead them to over-eat or under-eat [5,8,12,13].

Objectives

The objectives of this study are:

- Study the possible relationship between the sex and age of the professionals with the risk of "getting burned".
- Analyze if there is a connection between the syndrome and the years that the professional has been working.
- See if there are differences between the specialties when it comes to suffering from "Burnout".
- Observe if the time spent with the patient, relating this to the time spent writing in the medical history, causes any effect on the prevalence of "Burnout".
- Check which autonomous communities have the highest prevalence of the syndrome, as well as those with the lowest prevalence.
- Relate the satisfaction of the doctor with his professional decision with the risk of "getting burned".

Materials and Methods

A sociological study has been carried out with the aim of knowing data about the "Burnout" syndrome in medicine. For this, a survey has been carried out with a total of 37 questions, the first 15 refers to sociodemographic variables and the remaining 22 correspond to the questionnaire Maslach [14]. A total of 237 professionals participated, 124 were women and 113 men, from different autonomous communities and different specialties, from December 17th 2020 to January 6th 2021. For data analysis, the Graph Pad Prism 8.0.2 computer program was used. To carry out this work we had the approval of the University of Extremadura Bioethics Commission. SAID committee decided to approve the implementation of the project considering that it conforms to essential ethical standards and that it complies with current regulations in this regard.

Results

In our work, we observed that the prevalence of this problem in health professionals was 46.84% (considering a medium risk of suffering Burnout that is, obtaining a score greater than 16 in the emotional fatigue part, greater than 6 in the derealization and lower than 34 in personal fulfillment). These data indicated a similar prevalence compared to previous studies, which agreed that the prevalence of this syndrome in healthcare personnel was around 50% of all medical professionals [3,4].

Sex

To verify if it exists differences between sex and "Burnout", we have made a T-test. We can see that men have higher personal realization than women, and women have more emotional tiredness than men. These results are showed in Table 1.

Age

To confirm the scoring in the Maslach questionnaire separated by age, the higher prevalence of Burnout is in 29-34 years old group. In the same table, we can see higher levels of depersonalization in the 35-45 years old group (Table 2) [14].

Table 1. In this table are shown the results comparing the emotional tiredness and personal fulfillment in men (n=113) respect to women (n=124) and we can observe that emotional tiredness is higher in women, and personal realization is higher in men.

	Emotional tiredness	Personal fulfillment
♂	26.26	32.72*
♀	29.32*	30.68

Note: (*) p-value <0.05

Table 2. It is shown the results about emotional tiredness and depersonalization respect to age (n=237). There is more emotional tiredness in 29-34 years old group, and there is more depersonalization in 35-45 years old.

Age	Emotional tiredness	Depersonalization
25-58	24.96	13.29
29-34	31.62*	14.46
35-45	28.76	15.38
46-55	29.24	11.71
>55	26.06 ^a	10.61

Note: (*) p-value <0.05 respect to 25-28 group; (a) p-value <0.05 respect to >55 years old.

Table 3. The results of emotional tiredness, depersonalization and personal realization respect to specialties (n=237).

	Emotional tiredness	Depersonalization	Personal fulfillment
Anesthesiology	28.74	14.16	31.11
General surgery	25.87	11.57	34.63
Gynecology and obstetrics	32.2	13.2	38.8*
Emergency medicine	22.44	12.78	30
Family medicine	29.58	12.76	31.31
Intensive medicine	31.4	14.6	30.8
Internal medicine and infectology	26.37	12.73	31.5
Oncology	33.25	17.5	33.5
Otorhinolaryngology	30.33	12.83	30.5
Pediatrics	25	10.82	30.82
Psychiatry	26.4	13.2	32.8
Radiology	33.07	15.29	25.57
Others	22.29	12.38	33.5

Note: (*) p-value <0.05

Specialty

As it is showed in Table 3, we compared the specialties with emotional tiredness and depersonalization, and the specialties with major emotional tiredness are Oncology, Radiotherapy, Gynecology and Obstetrics, and the ones with the less emotional tiredness are Emergency and Pediatrics. The specialties with higher levels of depersonalization are Oncology, Radiology and Intensive Medicine, respect to the lower levels that are Pediatrics, General Surgery and Internal Medicine and Infectology. This table shows that the higher levels of personal realization are found in Gynecology and Obstetrics, General Surgery and Oncology, and the lower levels are in Radiology, Emergency Medicine, and Otorhinolaryngology. Our results differed from previous studies, which stated that the specialties with the highest prevalence of "Burnout" were primary care, oncology, palliative care and intensive medicine [11]. While the specialty with the lowest risk of Burnout was preventive medicine [2]. However, due to the lack of significance of our analysis, we could not say that there has been a major change from these studies. In the particular case of internal medicine, the results seemed to coincide with those of an article that stated that the total prevalence of the syndrome among Spanish internists is 33.34% [15]. However, when analyzing the three criteria that define the Burnout Syndrome separately, our data differed from those of the previous study, which showed that the prevalence of emotional tiredness among Spanish internists was 55%, the depersonalization of 61.7% while the low personal accomplishment was 58.6%. Table 4 Shows that depersonalization levels were also higher in those doctors who have spent more time with the patient. Another factor that we believe could contribute to the appearance of the syndrome in physicians was the time they spent with patients. To check the possible relationship between these factors with the increase in "Burnout", we divided the sample into five groups:

- 100% of the time dedicated to performing tasks on the computer.
- 75% of the time dedicated to performing tasks on the computer and 25% dedicated to the patient.
- 50% of the time dedicated to IT tasks and 50% dedicated to the patient.
- 25% of the time at the computer and 75% with the patient.
- 100% of the time dedicated to the patient.

Next, we analyzed the risk using an ANOVA test. We found that the professionals who dedicated 100% of their working hours to the patient were those who presented a greater risk of suffering emotional fatigue, followed by those who dedicated 100% of their working hours to performing computer tasks and then by those who occupied 25 % of their time to the patient, as can be seen in Table 5. In this table is showed that those who spent 100% of their working hours performing computer tasks were those who had a greater risk of suffering depersonalization. After them, the next group with the highest risk was the one that dedicated 25% of their working day to the patient and then the one that dedicated 100% of the time to the patient. Table 5 shows that the doctors with the highest risk of having a low personal fulfillment were those who occupied 100% of the working day in performing tasks on the computer, followed by those who dedicated 100% of the time to the patient, and after these, those who dedicated 25% of the time to it. When analyzing those professionals who met the "Burnout" criteria in our sample based on the time they dedicated to the patient, we verified, as can be seen in Table 5, that those who dedicated 50% of the time to the patient were those with a lower prevalence of "Burnout", followed by the group that dedicated 75% to them (p value <0.05).

Table 4. Emotional fatigue, depersonalization, personal fulfillment and Burnout levels are shown as a function of time spent with the patient (n=237).

	Emotional fatigue	Depersonalization	Personal fulfillment	Burnout
0%	31.33	15.25*	27.5	50%*
25%	30.96	14.44	30.1	44.90%
50%	25.522	12.11	32.8	16.30%
75%	24.14	10.92	33.2*	24.50%
100%	39.5*	13.33	29.83	50%*

Note: It is observed that the group with the least emotional fatigue is the one that dedicates 75% of the time to the patient. We can also see that there is greater depersonalization in the group that dedicates 0% of the time to the patient. Regarding personal fulfillment, higher levels are observed in those who dedicate 75% of the time to the patient (*) p value <0.05 with respect to those who dedicate 100% of their working day to the patient. Shows the percentage of medical professionals who meet the three criteria that define Burnout Syndrome in relation to the time they dedicate to the patient. It is observed that those who dedicate the entire working day to the patient or to carry out computer tasks are those who present a higher prevalence of the syndrome, while those who dedicate 50% of the time to the patient have the lowest prevalence, followed by those who dedicate the 75% of the time to the patient (*) (p value <0.05) with respect to those who dedicate 50% of their working hours to the patient.

Table 5. Depersonalization is shown in relation to the different autonomous communities. Depersonalization is higher in Murcia (*) p value <0.05 with respect to Extremadura. In addition, the percentage of subjects who meet the burnout criteria is shown according to the different autonomous communities (n=237).

Region	Depersonalization	Burnout
Andalucía	11.7	25.30%
Baleares	15.7	25%
Cantabria	12.8	27.30%
Castilla la mancha	14.3	29%
Castilla y León	13.5	37.10%
Extremadura	10.9	12.90%
Madrid	13.9	72.7%*
Murcia	16.8*	53.80%

Note: It is observed that the group of doctors who practice their profession in Madrid is the one with the highest prevalence of the syndrome (*) p value <0.05 with respect to Extremadura.

Region

One of the objectives of this study was to discover which autonomous community had health professionals with a higher level of "Burnout". To verify this, we divided the sample between autonomous communities. Next, we carried out an ANOVA test to compare the risk of each autonomous community. As can be seen in Table 5, we found that Cantabria was the autonomous community with the highest level of emotional fatigue among its doctors, followed by Andalusia and Murcia. Regarding depersonalization, Table 5 shows that the autonomous community with the highest level of this was Murcia, followed by the Balearic Islands and Castilla La Mancha. As we can see in Table 5, when dividing the score obtained in each section of the Maslach scale among those subjects who met the "Burnout" criteria (scores greater than 26 in the emotional fatigue/E.F. section, greater than 9 in the depersonalization/D. and under 34 in the personal fulfillment/P.F.) and those who did not, and when analyzing what percentage of subjects in our sample met these criteria, we found that the order of Autonomous Communities with the highest to lowest prevalence of Burnout was as follows:

- Madrid: with a total percentage of "Burnout" of 72.73% (72.73% of E.F., 72.73% of D. and 81.82% of low P.F)
- Murcia: 53.85% of total "Burnout" (61.54% of E.F., 84.62% of D. and 76.92% of low P.F)
- Castilla y León: 37.14% of total "Burnout" (60% of E.F., 80% of D. and 71.43% of low P.F)
- Castilla La Mancha: 29.03% total (51.61% of E.F., 83.87% of D. and 54.84% of low P.F)
- Cantabria: 27.27% total (72.73% of E.F., 72.73% of D. and 54.55% of low P.F)
- Andalusia: 25.29% total (58.62% of E.F., 58.62% of D. and 56.32% of low P.F)
- Balearic Islands: 25% total (41.67% of E.F., 91.67% of D. and 66.67% of low P.F)
- Extremadura: 12.9% total (22.58% of E.F., 64.52% of D. and 38.71% of low P.F)

Discussion and Conclusion

After analyzing the data obtained in our research, we can conclude that the current prevalence of Burnout Syndrome in our country is 46.84%, which indicates a similar prevalence compared to previous studies. This seems to indicate that the current situation due to the Coronavirus pandemic, despite having increased the workload on health professionals, has not greatly increased the "Burnout" of these professionals. Further studies may be needed to see if a change has actually happened. Regarding to sex, women are the group with a higher prevalence of Burnout in relation to men. The fact that women have a higher level of stress could justify that they also have a higher prevalence of Burnout Syndrome, since this is closely related to stress.

If we look at the risk associated with age, the group with the highest prevalence of the syndrome is the professionals aged between 35 and 45 years, followed by the age group between 29 and 34 years, while the one with the lowest prevalence is the professionals between 46 and 55 years old. Those professionals between 29 and 34 years old are, in general, in their first years as associated physicians. At this age, they no longer have the support

of a tutor to back their clinical decisions, but instead have full responsibility. This could be a factor that increases stress and therefore, the burnout of these professionals.

When we analyze Burnout in relation to the number of years working, we see that those who have been working between 1 and 5 years (residents) are those with the lowest personal fulfillment. In this period of their working life, decisions are made under the supervision of a tutor which could explain their low personal fulfillment, since the "merit" of correct diagnosis and treatment is not theirs alone. In addition, in the first years of residency, they still do not have the clinical skills and experience of doctors who have been working longer, which makes reaching a diagnosis more complex for them and this could lead to less personal fulfillment.

The specialties with a higher level of personal fulfillment are Gynecology and Obstetrics, General Surgery and Oncology, while those with a lower level are Radiology, Emergency Medicine and Otorhinolaryngology. It would be interesting to investigate the factors that justify this finding.

Those doctors who sleep between 6 and 8 hours experience greater personal fulfillment than those who sleep less than 6 or more than 8. Therefore, sleeping between 6 and 8 hours turns out to be a protective factor against the risk of suffering low personal fulfillment.

Dedicating 100% of the working day to the patient, as well as dedicating 100% of it to performing computer tasks related to patient care is associated with a higher prevalence of Burnout. The percentage of time dedicated to the patient in relation to that dedicated to performing computer tasks should be 50/50 so that it involves a lower risk of "burning" the professional, thus constituting a protective factor against the syndrome.

The autonomous community with the greatest emotional fatigue is Cantabria, while the one with the highest level of depersonalization is Murcia. When we analyze the percentages of total burnout in the autonomous communities, we observe that the one with the highest prevalence of the problem is Madrid, followed by Murcia and Castilla y León, while those with the lowest prevalence are Extremadura, followed by the Balearic Islands and Andalusia. These data could be justified by the fact that, when the survey was sent, communities such as Madrid had the highest hospital burden due to the Coronavirus pandemic, while in Extremadura the hospital burden was much lower. It would be interesting to carry out a new survey to see if these data changes depending on the epidemiological curve of the Coronavirus.

The prevalence of Burnout is higher in professionals who are not satisfied with their decision of studying Medicine. This could justify the importance of "vocation" when choosing to study this career. The risk of suffering from Burnout Syndrome could increase in those subjects who decide to study Medicine for reasons other than vocation.

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