

Prevalence of burnout syndrome in orthopedic surgeons in Spain

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Purpose. To determine the degree of professional burnout in Orthopedic Surgeons in Spain and the influence of different factors affecting this condition.

Materials and methods. This is a transverse descriptive study. We posted an anonymous self-administered questionnaire to 435 practicing orthopedic surgeons throughout Spain. The questionnaire included: a) the *Maslach Burnout Inventory (MBI)*, that assesses Depersonalization (DP), Personal Accomplishment (PA), and Emotional Exhaustion (EE); b) social and demographic variables; and c) proposals of measures to decrease work related stress.

Results. The questionnaire was answered by 169 orthopedic surgeons (38.85%), of which 93.3% were male, the average age of the respondents was 49, and 60.4% did emergency shifts. Work contracts were permanent in 117 cases (78.5%), interim in 22 cases (14.8%) and temporary in 6 cases (4%). Of the respondents, 44.1% had high levels of Emotional Exhaustion burnout, 64.6% had high levels of depersonalization burnout and 24.5% had high levels of Personal Accomplishment burnout. Having several children, a permanent contract, and working in the private sector were variables associated with a better score in the burnout scale ($p < 0.05$). Different suggestions put forward to decrease burnout were: improvement in salary, decrease in the number of patients seen per day, and an increase of professional prestige.

Conclusion. The degree of professional burnout in Spanish orthopedic surgeons is greater than that found in other countries, especially as far as rates of Depersonalization and Emotional Exhaustion are concerned. There is a greater prevalence of burnout in orthopedic surgeons working in

the public sector in comparison with those working in the private sector. Health Policy measures are necessary to prevent professional burnout and improve the current situation.

Key words: burnout, prevalence in orthopedic surgeons.

Prevalencia del síndrome de burnout o desgaste profesional en los cirujanos ortopédicos de España

Objetivo. Determinar el grado de desgaste profesional en los cirujanos ortopédicos de España y la influencia de diversos factores sobre éste.

Material y método. Se trata de un estudio transversal descriptivo. Se envió a 435 cirujanos ortopédicos en activo de toda España un cuestionario auto administrado y anónimo, que incluía: a) el *Maslach Burnout Inventory*, que valora despersonalización (DP), logros personales (autoestima) (LP) y cansancio emocional (CE); b) variables sociodemográficas y c) propuesta de medidas a adoptar si hay estrés laboral.

Resultados. Contestaron el cuestionario 169 cirujanos ortopédicos (38,85%), varones el 93,3% y con una media de edad de 49 años, el 60,4% realizaba guardias. El tipo de contrato es fijo en 117 casos (78,5%), interino en 22 (14,8%) y temporal en 6 (4%). Un 44,1% de los participantes presentó un alto desgaste profesional en cansancio emocional, un 64,6% en despersonalización y un 24,5% en realización personal. Tener varios hijos, un contrato fijo y trabajar en el sector privado son factores que se asocian con mejores puntuaciones en las escalas de *burnout* ($p < 0,05$). Como sugerencias para mitigar el *burnout* destacan la petición de una remuneración económica más satisfactoria, disminuir el número de pacientes por día en la consulta y un aumento del prestigio profesional.

Conclusiones. Los niveles de desgaste profesional entre los cirujanos ortopédicos españoles son superiores a los encontrados en otros países, sobre todo en despersonalización y cansancio emocional. La prevalencia de *burnout* es superior en el ámbito público frente al privado. Se necesitan intervenciones en política sanitaria para paliar y prevenir esta situación.

Palabras clave: burnout, *desgaste profesional*, estudio de prevalencia, cirujanos ortopédicos.

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The term burnout is a synonym of professional wear, a literal Spanish translation of which is “*estar quemado*”. Professional burnout syndrome refers to a type of institutional and work-related stress which is seen in some professions, such as those related to the practice of Medicine, in which health-workers are in daily contact with people in intense emotional states, who are suffering pain, sickness or mental disease¹.

Professional burnout syndrome can have psychosomatic, behavioural, emotional, family and social repercussions. It may be a cause of absenteeism or low performance at work.

Published studies of other medical disciplines show a progressive increase in professional burnout, especially in primary health care physicians and in certain specialties such as Oncology or Infectious Diseases^{2,3-6}. To date, there is no published study on the prevalence of burnout syndrome in Orthopedic Surgeons⁷.

Therefore, since we considered it was important to know the situation of Orthopedic Surgeons we set ourselves the following objectives:

- a) to determine the prevalence of professional burnout syndrome in Orthopedic Surgeons;
- b) to detect any possible associations between this syndrome and social or demographic variables in our environment;
- c) to learn what the physicians themselves proposed to improve the situation.

MATERIALS AND METHODS

We carried out a transverse, descriptive study of a group of 435 orthopedic surgeons, chosen at random, made up of orthopedic surgeons from throughout Spain and including all those practising in the Province of Jaén. We used an anonymous posted self-administered questionnaire that included an introduction letter and a stamped addressed envelope to be returned anonymously. The aim of the study was not mentioned so as not to cause any emotional bias.

The physicians surveyed had to be currently practicing Orthopedic Surgeons.

Residents in the specialty were excluded from the surveyed population.

The survey had three parts:

1. A survey on social and demographic variables that we designed. This contained information on personal and work-related variables: age, sex, marital status, number of children, years as a physician, type of work contract, number of shifts in the emergency ward, employment in the public or private sector.

2. Maslach Burnout Inventory (MBI) self-administered questionnaire. A validated translated version of the original⁸ was used, which has been used in many studies^{9,10}. It is a 22 item questionnaire with 7 answer options (Likert scale 0–6:

Table 1. Values for the three subscales of the Maslach Burnout Inventory: the sum of the points of the items of each subscale determines if the degree of professional burnout in each of the three parameters is low, moderate, or high

Level	Low	Medium	High
Emotional Exhaustion	≤ 18	19-26	≥ 27
Depersonalization	≤ 5	6-9	≥ 10
Personal Achievement	≤ 33	34-39	≥ 40

each item has a score and all are added up at the end) with the following subscales:

- a) Emotional Exhaustion (EE): feelings of being emotionally exhausted by one’s work (9 items).
- b) Depersonalization (DP): an unfeeling and impersonal response towards patients (5 items).
- c) Personal Accomplishment (PA): feelings of competence and successful personal achievement in one’s work (8 items).

Scores high in EE and DP and low in PA correlate with a greater level of burnout (Table 1).

3. An opinion questionnaire that we designed, with 10 proposals to decrease and/or prevent burnout syndrome, inviting the participants to mark the 3 proposals they considered most important. There was also a space for suggestions (Table 2).

In the statistical analysis continuous quantitative measures were expressed by the mean± standard deviation, and quantitative measures were expressed by means of discrete numbers accompanied by percentages. The association of variables was analysed using ANOVA.

RESULTS

We received a total of 169 completed questionnaires (response rate: 38.85%) of which 20 were excluded because they had not been correctly filled out or were received outside the time period for this survey (2 months).

Table 2. Ten suggestions to improve professional burnout included in the questionnaire (the respondents had to mark the three most important).

Decrease the number of patients seen a day
Establish a more streamlined relationship with primary health care
Improve quantity and quality of continued education
Decrease bureaucratic procedures during consultations and surgery
Determine clear aims, based on the physicians’ opinions
Increase salary
Increase professional prestige
Decrease the number of shifts in the emergency service
Increase specialization in surgical procedures
Improve team relationships (trauma surgeons, anaesthetists, nurses, etc.)

Table 3. Percentage of Trauma Surgeons with low, medium and high scores in each category of professional burnout

Level	low	Medium	High
Emotional Exhaustion	28,3%	27,6%	44,1%
Depersonalization	4,8%	30,6%	64,60%
Personal Achievement	24,5%	22,3%	53,2%

The group surveyed consisted of 139 males (93.3%) and 10 females (6.7%), aged from 33–69 years (mean 49.75 ± 8.43).

The results were the following:

Marital status: 144 (96.6%) were in a stable relationship and 5 (4.4%) were not.

Number of children: 18 (12.1%) had no children, 15 (10.1%) had one, and 115 (77.2%) had more than one.

Type of work contract: 117 (78.5%) permanent, 22 (14.8%) interim, and 6 (4.1%) had temporary contracts.

Years as a professional: 91 of those surveyed (61.1%) had practiced for more than 20 years, 19 (12.8%) for 15–20 years, 14 (9.4%) for 10–15 years, 19 (12.8%) for 5–10 years and 6 (4%) for less than 5 years.

Shifts in the emergency room: 59 (39.6%) did not do shifts in the emergency room, 7 (4.7%) did 1–2 shifts a month, 34 (22.8%) did from 3–4 shifts and 49 (32.9%) did 5 or more shifts a month.

Employment in the public or private health sector: 56 (37.6%) worked exclusively in the public sector, 14 (9.4%) exclusively in the private sector and 79 (53%) worked in both the public and private health sectors.

In the opinion questionnaire, which referred to measures to prevent and/or decrease burnout syndrome, the options chosen by the majority were: “better salary” (65.1%); “decrease in the number of patients seen by day” (52.35%); and “increase in professional prestige” (44.97%).

The mean absolute scores from the different scales were 25.39 ± 12.47 points for EE; 11.82 ± 4.96 points for DP and 38.41 ± 7.47 for PA.

These results corresponded to an intermediate degree of professional burnout for EE and PA and a high degree for DP (Table 1).

An alarming level of burnout syndrome was found in this sample: 44.1% of those surveyed had high scores for EE, 64.60% had high scores for DP, and

24.5% had very low PA scores (Table 3).

The statistical analysis of the different variables studied found statistically significant differences ($p < 0.05$) for burnout between:

1. Children: Orthopedic Surgeons who had more than one child had a higher PA score than those who had only one child or none at all.

2. Type of contract: Orthopedic Surgeons with a permanent contract had a higher PA score than those who had an interim or temporary contract.

Table 4. Comparison between different samples. Percentage of responses with a high degree of Emotional Exhaustion and Depersonalization, and a low degree of Personal Achievement, in the different samples analysed

	Orthopedic Surgeons	Primary health care physicians National sample ¹⁰	International sample of several specialties including Orthopedic and Trauma Surgeons ¹¹
Emotional Exhaustion	44,1	41	37,4
Depersonalization	64,60	52	42,1
Low Personal Achievement	24,5	42,3	31,3

*The worst results for each group are in bold.

3. Work environment: Orthopedic Surgeons who worked in the private sector had a lower DP score than those that worked in the public sector or those who worked in both private and public health sectors.

The Orthopedic Surgeons who worked in the private sector had a higher PA score than those that worked in the public sector.

There were no statistically significant differences in any of the subscales of burnout due to age, sex, marital status or number of monthly shifts in the emergency service.

DISCUSSION

No published studies have been found in the literature (MEDLINE, *Índice Médico Español*, Internet) dealing specifically with burnout syndrome in Orthopedic or Trauma Surgeons.

There are plenty of studies on burnout syndrome in primary health care physicians and other specialties. There is only one study in which Orthopedic Surgeons are included, but their data is analyzed together with that of other specialists and not in separate detail¹¹.

If we compare the data obtained in our study with the data of this international study and with the largest published study on Spanish primary health care physicians, we find a high degree of professional burnout among Spanish Orthopedic Surgeons, especially related to depersonalization^{10,11} (Table 4).

It is important to highlight the high rate of burnout among Orthopedic Surgeons in our country, since this reflects a greater degree of emotional exhaustion and depersonalization than that seen in the studies of other specialties.^{12,13}

It is surprising, however, that personal achievement scores, though low, are better than those seen in other studies, which means that Orthopedic Surgeons are relatively happy with what they have achieved in life.

Burnout syndrome has serious consequences (lack of motivation, frustration, depression, drug dependency), but it

also affects the family of the professional (separations, domestic violence), the employer (absenteeism, low performance, etc.) and — and this is undoubtedly the most serious consequence — the patients, who are treated iatrogenically or do not have a satisfactory relationship with their physician¹⁴.

With reference to social and demographic variables, the results of this study were in line with those published, in the sense that social and demographic variables have a very poor correlation with the degree of professional burnout^{15,16}. However, in our study we have found statistically significant differences related to work environment, number of children and type of work contract.

The proposals to decrease professional burnout were very similar to those found in other studies. It must be pointed out that what professionals demand most frequently — even more than improvement in work conditions — is a better salary.

The high percentage of responses obtained is noteworthy, and is similar to that obtained by other postal surveys¹². This leads us to think that the subject of professional burnout has awoken great interest in Orthopedic Surgeons.

Finally, we must be aware of the major limitations or biases of this study, since it depends on the degree of sincerity of the professionals who answered the questionnaire. Nonetheless, different authors have considered this questionnaire to be one of the best on professional burnout and it is the most widely used.

To conclude, the prevalence of professional burnout in Spanish Orthopedic Surgeons is very high, higher than that found in other countries and in other specialties. We consider that the fact that working in the private sector leads to a lower degree of professional burnout is highly significant.

Improving work conditions for Orthopedic Surgeons is both an individual and an institutional responsibility, it is also essential so that they may efficiently carry out high quality work with maximum personal satisfaction, especially in the public health care sector.

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