



## Twenty years after: prevalence and evolution of burnout in pediatrics, from 1998-1999 to 2018-2019

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Date of online publication:  
01-september-2021

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### Abstract

**Introduction:** burnout is a chronic stress syndrome, described as a process of emotional exhaustion, depersonalization, and reduced personal accomplishment. It has a high impact both on a personal level and on healthcare quality and safety, and its prevalence is high. The present study aimed to determine the prevalence of this syndrome in paediatricians in Lleida, analyse its association with different variables and compare current results with the results of a previous study conducted in 1998.

**Method:** we conducted a descriptive, cross-sectional observational study analysing sociodemographic data and Maslach burn-out questionnaire scores. We compared these data to the results of the 1998 study, in which the same information was collected.

**Results:** a total of 42 paediatricians (64%) participated in the survey, 66% were female, and the mean age was 42.1 years. Thirty-six percent had scores suggestive of burnout syndrome with emotional exhaustion. There were no differences associated with the number of hours worked, sex, marital status, or the work setting. The paediatricians with the highest level of burnout were more likely to express disappointment and depression in relation to work and or have physical and/or mental illness. On the other hand, respondents who perceived their work as a calling and felt recognised by their organizations had higher scores in the dimension of personal accomplishment. We compared the data of this sample to the data of the 1998 study.

**Conclusions:** We found a high level of burnout in 36% of respondents. The data confirmed that approximately one third of paediatricians have significant levels of burnout, which is a structural problem and therefore must be addressed with strategies not only at the individual level, but also at the level of the team and the institution.

### Key words:

- Emotional distress
- Medical professionalism
- Occupational stress
- Professional burnout

## Veinte años después: prevalencia y evolución del burnout en Pediatría, de 1998-1999 a 2018-2019

### Resumen

**Introducción:** el *burnout* es un síndrome de estrés crónico, descrito como un proceso de cansancio emocional, despersonalización y falta de realización personal. Tiene elevado impacto tanto a nivel personal como en calidad y seguridad asistencial, y su prevalencia es elevada. El presente estudio pretende determinar la prevalencia de este síndrome en pediatras de Lleida, analizar su relación con diversas variables y comparar los resultados actuales con los del estudio previo en 1998.

**Método:** estudio descriptivo transversal observacional, que valora información sociodemográfica y cuestionario de *burnout* de Maslach. Se comparan los datos con los del estudio de 1998, en el que se recogieron los mismos datos.

**Resultados:** han participado 42 pediatras (64%), 66% de mujeres, edad media de 42,1 años. Un 36% presentaban puntuaciones sugestivas de síndrome *burnout* en cansancio emocional. No había diferencias respecto a las horas trabajadas, el género, el estado civil ni el lugar de trabajo. Los pediatras con más desgaste profesional presentaban mayor decepción y depresión en relación con el trabajo, así como también mayor presencia de enfermedad física o psíquica. Por otro lado, aquellos que concebían el trabajo como una vocación y disfrutaban de reconocimiento institucional tenían valores más altos de realización personal. Se comparan los datos con los del estudio de 1998.

**Conclusiones:** la prevalencia de desgaste profesional elevado es del 36%. Se confirma la cifra de aproximadamente un tercio de los pediatras con niveles significativos de *burnout*, que está presente de forma estructural y que requiere de estrategias de abordaje, no solo individual sino también del equipo y de las organizaciones.

### Palabras clave:

- *Burnout*
- Estrés laboral
- Malestar emocional
- Profesionalismo médico

How to cite this article: Peirau M, Esquerda M, Gabarrell C, Pifarre J. Veinte años después: prevalencia y evolución del *burnout* en Pediatría, de 1998-1999 a 2018-2019. Rev Pediatr Aten Primaria. 2021;23:253-60.

## INTRODUCTION

Burnout (BO) is a disorder resulting from chronic workplace stress in individuals working in helping professions with a significant emotional involvement, including medicine. It is defined as exhaustion and progressive disillusionment resulting in cynicism and loss of purpose.

This is not a novel concept, as burnout was already described in the 1970s by Freudenberger<sup>1</sup> and later defined by Maslach<sup>2</sup>, who identified 3 dimensions of burnout and developed the Maslach Burnout Inventory (MBI). These three dimensions are:

- Emotional exhaustion (EE), or feelings of being psychologically drained. There are different predictors of EE, including high levels of perceived stress, lack of acknowledgment in the job, pressure due to a lack of time or lack of incentives.<sup>2,3</sup>
- Depersonalization and cynicism (DP), which start out as a coping mechanism and progress to an unfeeling and impersonal response toward patients and colleagues.
- Personal Accomplishment (PA), involving a loss of feelings of personal achievement and the perception of reduced professional efficacy.

Maslach describes the development of BO as a continuum traversing these dimensions, starting with the emotional and physical exhaustion of the individual in relation to work. Depersonalization develops as a result of protracted emotional exhaustion, with negative attitudes towards work and the workplace. The third component, PA, develops later, with emergence of feelings of incompetence, powerlessness and decreased productivity, even when positive results are being accomplished.<sup>3-5</sup>

Traditionally, emotional exhaustion has been perceived as the most characteristic feature of burnout, but depersonalization is the dimension that has the most detrimental effect.<sup>3</sup>

Burnout is considered a silent global health care predicament<sup>6</sup> due to its substantial impact both at the individual and health care level, and a global crisis<sup>7</sup> due to its high prevalence. The consequenc-

es of a high level of BO are significant<sup>8,9</sup>; BO has been associated with decreased empathy,<sup>10,11</sup> poorer quality of life, job dissatisfaction, increased depression symptoms and conflicts in the household,<sup>12</sup> and an increased overall risk of mental health disorders.<sup>13</sup>

When it comes to clinical practice, a higher BO score correlates to decreased health care quality,<sup>14-16</sup> an increased frequency of medical errors (mainly associated with DP),<sup>17</sup> poorer vital sign monitoring,<sup>10,18</sup> poorer attitude towards patients,<sup>19</sup> and a poorer learning environment in teaching hospitals<sup>20</sup> and in medical residencies.<sup>21</sup>

Maslach and Leiter<sup>22</sup> defined seven risk factor categories for BO:

1. Work overload, not primarily in terms of work hours but of an excessive work demand and uncertainty.<sup>23,24</sup>
2. Having no control in the workplace, no agency to organise workflow, lack of participation in organizational decision-making or lack of clear expectations leading to role conflict.
3. Lack of recognition for performed work.
4. Lack of community or social support for the individual.
5. Perceived unfairness of the management.
6. Conflict between individual and organizational or professional values.
7. Personal factors that do not fit with workplace expectations and hinder coping.

The prevalence of BO in the health care field is high, and BO is found in every medical speciality with a frequency that ranges from 20 to 80%.<sup>25,26</sup> In paediatrics, several studies have found a high prevalence ranging from 25 to 70%, depending in part on the specific setting (for instance, BO is more prevalent in paediatric intensive care units), in every case with a clear impact on health care quality.<sup>27-30</sup> Burnout is not associated with sociodemographic characteristics, ethnicity or race, and the results on its association with sex are heterogeneous.<sup>3,5,9,26</sup>

Interventions on occupational and psychosocial factors seeking to improve workloads, autonomy

or the management of personal factors have been shown to improve BO.<sup>31-33</sup>

Twenty years ago, a pioneering study on BO in paediatrics practice was conducted in the population of paediatricians working in inpatient and outpatient settings in the Lleida health care area.<sup>34</sup> In the 1998-1999 period, the overall prevalence of BO in paediatricians was 26%, and the salient findings were the association of BO with the number of worked hours and the higher prevalence of BO in paediatricians working in primary care compared to those working in hospitals. The aim of our study was to determine the current prevalence of BO in the same area and analyse changes in comparison to the 1998-1999 period.

## MATERIAL AND METHODS

The study universe encompassed all paediatricians practicing in the province of Lleida. We obtained their contact information through the Pediatres-dePonent platform. We contacted paediatricians by sending a form through electronic mail in which we explained the study and requested their participation. We obtained written informed consent from participants. Of the 66 paediatricians registered in the platform, 42 participated in the survey. The form had different sections: sociodemographic data, work data and the Maslach Burn Out Inventory (MBI). We classified MBI scores as low between 1 and 33 points, medium between 34 and 66 points and high between 67 and 99 points. At the scale level, we considered results abnormal if the EE score exceeded 31 points, the DP score 13 points and the PA score 30 points (based on ranges established for Spanish paediatricians)<sup>3</sup>; with higher burnout corresponding to higher levels of EE and DP and lower levels of PA.

We compared the data obtained in the survey to the data from the study by Esquerda *et al.*, who analysed the same variables in a cohort of paediatricians in the same province in the 1998-99 period.<sup>34</sup>

The data from both studies were anonymised and entered in a spreadsheet and analysed with the

SPSS software. In the analysis of quantitative data, we compared means with the Student *t* test after verifying the assumptions of normality (Kolmogorov-Smirnov test) and homogeneity of variance (Levene test). For comparisons of more than 2 groups, we used one-way analysis of variance (ANOVA) with the Bonferroni correction. We analysed the association between 2 quantitative variables with the Pearson correlation coefficient and the association between two or more qualitative variables with the chi square test. All tests were two-tailed with an alpha level of 5%.

## RESULTS

The mean MBI score was 65.3, indicative of a medium-high level of BO. The percentage of paediatricians with high BO was 36%, compared to 26% in the 1998-99 period. This increase was not statistically significant.

**Table 1** summarises the sociodemographic characteristics of the sample and **Table 2** the BO scores by subscale (EE, DP and PA) in addition to the responses to the work self-evaluation questionnaire, comparing the 1998-1999 and 2018-2019 samples.

We found a statistically significant association between sex and the EE subscale, as EE scores were higher in female compared to male paediatricians (26.6 vs. 20.3;  $t = 2.28$ ;  $p = 0.025$ ). There were no significant differences between the sexes in the DP or PA subscales. We also did not find significant differences in the association of BO levels with marital status, work setting, care setting, private practice or work hours.

Paediatricians aged 51-55 years were more likely to have low PA compared to all other age groups (**Figure 1**). On the other hand, the variables associated with higher levels of PA were perceiving work as a vocation ( $t = 2.299$ ;  $p = 0.02$ ) rather than a source of income, and perceiving recognition from the organization for the work performed ( $t = 2.06$ ;  $p = 0.04$ ).

The perceived opportunity for promotion was inversely and independently associated with EE

Table 1. Sociodemographic characteristics				
	2018-19		1998-99	
	n	%	n	%
<b>Sex</b>				
Male	14	33.3	13	38.2
Female	28	66.7	21	61.8
<b>Residential setting</b>				
City of Lleida	29	69.7	25	73.5
Other	13	30.3	9	26.5
<b>Mean age</b>	42.1 years		42.15 years	
<b>Private practice</b>	9	21.4	12	35.3
<b>Marital status</b>				
Single		8.19		11.8
Married/domestic partnership		32.8		79.4
Divorced, widowed		3.9		8.8
<b>Work setting</b>				
Hospital	10	24	8	23.5
Primary care	30	71	24	70.6
Other	2	5	2	5.9
<b>Presence of disabling disease</b>	9	21.4	6	17.6
<b>Considers pay:</b>				
Very low or low	22	52.4	27	79.4
Adequate	12	28.6	6	17.7
High or very high	8	19.1	1	2.9

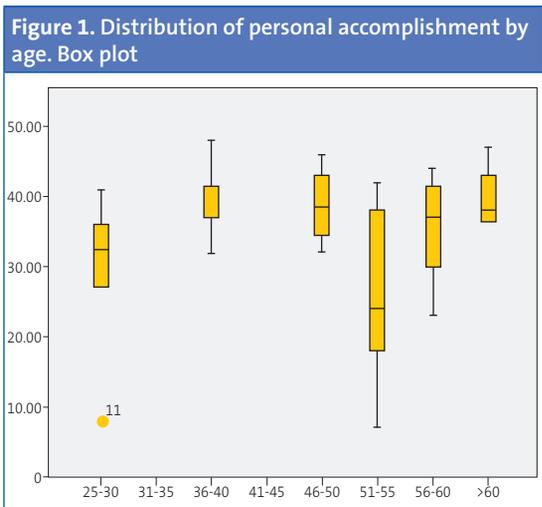
( $t = -2.305$ ;  $p = 0.026$ ). Other variables associated with higher EE and DP scores were: wanting to change professions ( $t = 2.5$ ;  $p = 0.016$ ), having disabling disease ( $t = 2.14$ ;  $p = 0.039$ ) or having experienced some form of physical or psychological im-

pairment in recent years ( $t = 4.18$ ,  $p < 0.0001$ ). When it came to remuneration, participants that perceived remuneration as low had lower PA scores compared to participants that perceived their pay as adequate or high ( $t = 2.3$ ;  $p = 0.024$ ).

**Table 2. Results of the Maslach Burnout Inventory (MBI) and the work self-evaluation questionnaire. Comparison of 1998-1999 and 2018-2019 samples**

Survey period	2018-19	1998-99	Statistical significance
MBI, emotional exhaustion (EE), mean	26	23	NS
MBI EE >31 (burnout) (%)	35.7	26.5	NS
MBI, depersonalization (DP), mean	7	8	NS
MBI DP >13 (burnout) (%)	14.3	17.6	NS
MBI, personal accomplishment (PA), mean	35.4	34.3	NS
MBI PA <30 (burnout) (%)	23.8	23.5	NS
Fulfilling work (%)	92.9	73.5	$p = 0.029$
Considers profession a vocation (%)	81.0	70.6	NS
Recognition from the organization (%)	19	26.5	NS
Promotion opportunities (%)	33.3	47.1	NS
Would choose the same profession again (%)	83.3	85.3	NS
Would change profession (%)	23.8	23.5	NS
Has tried stress relief techniques (%)	73.8	44.1	$p = 0.008$
Work-related physical or psychological disorder (%)	63.4	44.1	NS

NS: not significant.



**Table 3** presents the variables significantly associated with every dimension of BO. We ought to highlight that engagement in stress relief activities was significantly associated with a higher level of DP ( $t = 3.171$ ;  $p = 0.003$ ).

## DISCUSSION

The response rate for the survey was 64%, which is considered high for this type of sample and was equivalent to the participation in the previous study (of 75%). One third of the paediatricians (36%) had scores indicative of BO, a result consistent with other studies,<sup>7,8</sup> and greater compared to the 26% reported in 1998 in the same geographical area.<sup>34</sup> Although the raw scores in our sample were higher, the difference was not statistically significant. Nevertheless, we must take into account that the prevalence 20 years ago was already high and that it continues to be high, which suggests that BO is a structural problem.

We found a significant association between BO and sex in the EE subscale, in which female paediatricians had higher scores. This was consistent with several previous studies that show that in female physicians, work overload is compounded by the demands of family and housework.<sup>35,36</sup>

The age interval most strongly associated with BO was 51-55 years, corresponding to the mid-career period, an inflection point that could be interpreted as a paediatrics mid-life crisis. Older participants may have been able to adjust and reduce their strain.

We found a higher increase in BO scores in hospital-based paediatricians, both in the EE and DP subscales, compared to those working in primary care. A possible explanation is that in 1998, adequate working conditions in hospitals were maintained so that BO levels in hospital-based paediatricians were lower, whereas nowadays the work overload also affects hospital settings, which may have resulted in an increase in BO.

Higher levels of BO are associated with a higher prevalence of disabling disease and physical or mental health impairments, in addition to an increased frequency of sick leaves in recent years. It is possible that BO makes physicians more vulnerable to disease or, conversely, that physicians with diseases are more vulnerable to BO. Future studies could explore the direction of this association.

The perception of the medical profession as a calling had a protective effect, as described in previous studies,<sup>3,12</sup> with a gradual decline in PA scores associated with the perception of inadequate pay or poor working conditions. The perception of inadequate remuneration was associated with lower PA scores, and therefore with the development of BO.

**Table 3.** Variables significantly associated with emotional exhaustion, depersonalization and low personal accomplishment

	Emotional exhaustion		Depersonalization		Low personal accomplishment	
	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
Unfulfilling work	10.76	0.002	2.349	0.024	2.612	0.013
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Disenchanted with work	0.652	<0.0001	0.355	0.021	-0.422	0.005
Depression	0.537	<0.0001	0.381	0.013	-0.569	<0.0001

*r*: Pearson correlation coefficient.

In contrast, the perception of being recognised by the organization was associated with higher PA scores.

Surprisingly, participants that engaged in stress relief activities were more likely to have BO. A possible explanation is that stress relief activities were not pursued preventively, but rather reactively, once clinicians experienced difficulties, in an attempt to alleviate them.

Thus, we have found a high and sustained prevalence of BO over time (one third of paediatricians, in both hospital and primary care settings), which confirms that this is a structural problem.

Thus, it ought to be recognised as such and strategies should be implemented to address it. Individual strategies have exhibited highly variable outcomes, and the interventions used and studied most extensively involve mindfulness, stress management and small support groups.<sup>31-33,37,38</sup> Some studies have found that these interventions have a greater impact on the EE and DP dimensions. Strategies combining individual and structural/organizational interventions seem to achieve better outcomes.<sup>38</sup>

Its persistence through time, high prevalence and known impact on both patient care and health providers themselves make BO a systemic problem as opposed to a personal one. Thus, burnout could be understood as a poor fit between the practice of medicine and the health care system and a loss of autonomy for physicians in the provision of care. Most health care systems have been shifting towards target-oriented management models, with an increasing organizational dehumanization, a high administrative and bureaucratic burden and very high expectations of clinicians.<sup>6</sup>

In comparing the aviation and health systems, Samra concluded that strategies for addressing BO should include interventions to manage work complexity at the individual, team, and organizational levels.<sup>39</sup> This requires a comprehensive approach adaptable to the limitations of both individual providers and the health system to meet the demands of the population. Participation in

decision-making and in work structuring have also been identified as important factors in the management of BO.

As Lemaire and Wallace remarked,<sup>40</sup> BO is “a system level problem requiring a system level response.” These authors proposed, firstly, tackling all toxic aspects of medical practice that cause and sustain burnout, fostering clinical leadership and a supportive organizational culture. Secondly, that the medical profession and healthcare organizations should view the wellbeing of doctors as integral to professionalism and as central to patient care, as BO has been clearly linked to patient safety concerns and suboptimal patient care. Thirdly, that the wellbeing of doctors should be recognised as a quality indicator for all healthcare systems. Lastly, the authors stated the need for an internationally coordinated research effort to identify evidence-based strategies to reverse the rising tide of burnout globally.

## CONCLUSION AND LIMITATIONS OF THE STUDY

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The current prevalence of BO in paediatricians practicing in Lleida is 36%, higher compared to 1998 (26%). Scores indicative of job burnout were significantly associated with the perception of clinicians of their work environment, and not with the type of practice, care setting or work hours.

Further research is required to test this hypothesis and develop strategies to improve the current situation.

The possible limitations of the study include selection bias due to the paediatricians that did not participate in the survey, which also entails a risk that the sample may not be representative of all paediatricians in the region. In addition, the sample was obtained from a specific population, which precludes extrapolation of the results to other populations, which would require performance of additional studies.

## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare in relation to the preparation and publication of this article.

## ABBREVIATIONS

**BO:** burnout • **DP:** depersonalization and cynicism • **EE:** emotional exhaustion • **MBI:** Maslach Burnout Inventory • **PA:** personal accomplishment.

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## ACKNOWLEDGMENTS

We thank all the paediatricians that participated in the study.

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