

Professional burnout among basic life support caregivers in the Basque Country

SENDOSA BALLESTEROS PEÑA¹, SERGIO LORRIO PALOMINO¹, JAVIER ROLLÁN VALLEJOS²

¹Bilbao SAMUR - Protección Civil. Ayuntamiento de Bilbao. Spain. ²Emergentziak-Osakidetzta, Spain.

CORRESPONDENCE:

Sendoa Ballesteros Peña
SAMUR - Protección Civil
Ayuntamiento de Bilbao, Spain
E-mail:
sendoa.ballesteros@gmail.com

RECEIVED:

1-9-2011

ACCEPTED:

14-9-2011

CONFLICT OF INTEREST:

None

ACKNOWLEDGEMENT:

The authors wish to thank the participants, members of the "Unión de Técnicos en Emergencias Sanitarias de Euskadi (OSALATEK)".

Objectives: To quantify the level of professional burnout among emergency medical responders who provide basic life support in the Basque Country of Spain and to explore the association between professional burnout and conventional social and occupational variables.

Methods: Exploratory cross-sectional study of a representative sample (reporting 95% confidence intervals [CI]; precision of 9%). The sample consisted of a stratified random selection of 98 emergency medical responders. The participants answered the Maslach Burnout Inventory (MBI), a psychometric questionnaire covering social and occupational characteristics. Descriptive statistics were compiled and comparisons between subgroups were considered significant at a level of $P < .05$.

Results: Eighty-seven emergency responders (88.8%; 95% CI, 80.8%-94.3%) had MBI scores compatible with professional burnout syndrome. The global score indicated high or very high risk of burnout in 61 (62.2%; 95% CI, 51.9%-71.8%) and moderate risk in 26 (26.5%; 95% CI, 18.1%-36.4%). Responders who had been working longer in the field were at higher risk of burnout ($P = .031$). A lower educational level correlated with lower scores on the subscale for feeling drained of emotional energy ($P = .04$). Longer experience in the profession correlated with a feeling of achieving less than one should ($P = .031$).

Conclusions: The prevalence of risk of professional burnout syndrome is very high among emergency medical responders in the Basque Country and is higher than the prevalence identified among other groups of health care professionals. Spending a longer period in the profession is associated with high risk of burnout. However, additional variables should be explored to discover the possible reasons for burnout in these professionals. [Emergencias 2012;24:13-18]

Key words: Professional burnout. Emergency health services. Occupational health.

Introduction

Occupational health is created in a proper work setting with fair labor conditions, where workers can perform their functions with dignity and where they can participate in improving their conditions of health and safety. Work itself can be considered a source of health because, through it, people obtain a series of positive and favorable stimuli which favor health. However, work can also cause psychic, physical or emotional damage, according to the social and material conditions of the workplace¹. Professional burnout syndrome (PBS) is considered one of the most important types of psychosocial damage for workers².

PBS can be defined as a response to chronic work stress, involving negative attitudes and feelings towards colleagues and to one's professional role and the feeling of being emotionally drained. People in constant contact and interaction, caring for others and having a direct impact on their lives, working in organizations whose actions and achievements are evaluated and being overwhelmed by the demands of the population, are potentially affected by PBS. It occurs, therefore, very often in healthcare workers, as a result of the medical worker relationship with patients and with the organization^{3,4}. Emotional, behavioral, psychosomatic and social disorders have been described as being associated with PBS, as well as loss of work efficiency and changes in family life.

Burnout can affect communication and clinical decision making. In addition, it is associated with absenteeism from work, motivated by physical and mental health problems, and frequently gives rise to depression, use of psychotropic drugs or increased toxic habits⁵⁻⁷. A strong association has been observed between work-generated psychosocial stress and increased risk of developing physical or mental disorders⁸. Emotional or physical stress and burnout have also been documented in observational studies^{9,10} of out-of-hospital emergency medical service (EMS) workers. The conditions and nature of the work these professionals perform, responding to emergency situations, suggest they may be exceptionally vulnerable to PBS.

The aim of this study was to determine the level of professional burnout in emergency medical responders (TES in Spanish) who provide basic life support (BLS) in the Basque Country of Spain, and to explore the association between professional burnout and conventional social and occupational variables.

Method

We performed an exploratory cross-sectional study from February to July 2011. Inclusion criteria were any EMS worker in BLS units of the Basque Country Emergency Health Transport Network. The volunteer sector was not included in the study. We used random sampling proportionally stratified according to work sector (NGO, private enterprise or public administration). The sample size was determined for a confidence interval of 95% and an accuracy of 9% for the least favorable situation ($P = q = 0.5$). For data collection we used an anonymous double format (paper and electronic) survey of socio-demographic and professional work variables designed ad hoc for the research and psychometric testing to measure PBS. The paper questionnaires were administered directly by the research group and its computerized version was administered using email.

The survey on socio-demographic and work variables recorded data on age, sex, marital status, educational level, age, professional employment status and workplace. For the psychometric assessment of burnout we used the validated Spanish version of the Maslach Burnout Inventory Human Services Survey (MBI-HSS), intended for use with care-providing services which entail intense involvement with their patients. The MBI measures the frequency and intensity of PBS¹² and is the

most widely used tool in most studies, considered a valid instrument for measuring the syndrome¹³. It consists of 22 multiple choice items (scored with a Likert scale from 0 to 6) with three subscales that assess, in turn, the three dimensions accepted as defining PBS: a) emotional exhaustion (EE), consisting of 9 items, where the score is directly related to the intensity of the syndrome (the higher the score, the greater the degree of exhaustion, b) depersonalization (DP), consisting of 5 items, where the score is also directly connected, and c) lack of personal accomplishment (LPA), composed of 8 items; in this case, the score is inversely related to levels of burnout.

To categorize the total scores on each subscale, we used cutoff values described in the literature¹¹. For the dimension EE, a score of 27 or higher was considered a high level of exhaustion, 19-26 moderate and <19 corresponded to low level exhaustion. For the dimension DP, a score of 10 or higher was considered high, 6-9 moderate and <6 low. For the LPA dimension, a score of 33 or less was considered as high, 34-39 as moderate and >40 as low.

Since the relationship between the score and the degree of burnout is dimensional¹⁴, we considered that alteration in one or more dimensions indicated the presence of PBS, based on other studies^{15,16} following the same approach. Likewise, to quantify the overall degree of PBS, participants were classified into four levels: a) low level PBS for workers whose scores fell within the cutoff values in all three subscales of the MBI, b) moderate level for scores exceeding these limits in at least one subscale, c) high level for a high scores on any of the three subscales and d) very high level for high scores on at least two of the three subscales.

Statistical analysis was performed using the software packages SPSS 17 and EpilInfo 3.5.1. The results for categorical variables are expressed as absolute frequency and percentage distributions with 95% confidence intervals (CI) obtained using the Miettinen exact method. Quantitative variables are expressed using measures of central tendency, dispersion and range. For contrast hypothesis testing we used chi-square or Fisher exact test, Mann Whitney U test or Kruskal Wallis H test and Pearson correlation coefficients, and bilateral significance level was taken as 95% ($p < 0.05$). The magnitude of association with PBS was assessed by calculating the odds ratio (OR) and 95%CI (considering variable effect "affected-unaffected by PBS"). To calculate the internal consistency of each item in the MBI evaluation questionnaire we

used the Cronbach statistic α and acceptable values were considered as $\alpha > 0.50$ ¹⁷. For the graphic representation of data we used bar charts with their respective standard error bars (95%CI) and box diagrams.

Results

Ninety eight emergency responders participated in the study (46 from NGOs / non-profit associations, 47 from private medical transport enterprises and 5 from public administration units); 79 (80.6%) were men with a mean age of 34.1 years (standard deviation SD: 7.2, range 20-52) and 19 (19.4%) were women with a mean age of 33.7 years (SD: 4.8; range: 26-4). Mean professional working time in this sector was 9.8 years (SD: 5.7). Eighty seven workers (88.8%, 95% CI 80.8-94.3%) presented MBI-HSS scores compatible with PBS; 61 subjects (62.2%, 95% CI 51.9-71.8%) had high or very high-level PBS, and 26 (26.5%, 95% CI 18.1 to 36.4) moderate (Figure 1).

Regarding the MBI scale dimensions, DP had the greatest number of people affected with 67 workers (68.4%, 95% CI 58.2-77.4%), followed by LPA with 61 workers (62.2%, 95% CI 51.9-71.8%) and EC with 37 (37.7%, 95% CI 28.2-5.12%) (Figure 2). The median scores obtained for each subscale are depicted in Figure 3.

Thirty-three professional emergency responders (33.7%, 95% CI 24.4-43.9%) had scores suggestive of PBS in only one sub-scale, 30 professionals (30.6%, 95% CI 21.7-40.7%) in 2 sub-scales and 24 (24.5%; 95% CI 16.3-34.2%) in all 3 sub-scales. We observed a positive correlation between EE and DP ($r = 0.517, p < 0.001$) and a negative correlation between EE and LPA ($r = -0.307, P < 0.01$). The internal consistency of each subscale calculated using the Cronbach coefficient α yielded the following values: 0.901 for EE; 0.625 for DP and 0.777 for LPA.

Bivariate analysis showed no statistically significant relationship between PBS level and sex ($p = 0.686$), age ($p = 0.726$), marital status ($p = 0.239$), educational level ($p = 0.712$), employment status ($p = 0.253$) or workplace ($p = 0.261$), as shown in Table 1. However, workers with medium-high professional activity time showed the highest levels of PBS: high / very high ($H_{(2)} = 6.978; p < 0.05$).

Regarding the association between socio-occupational variables and scores on each one of the three subscales, we observed a significantly lower

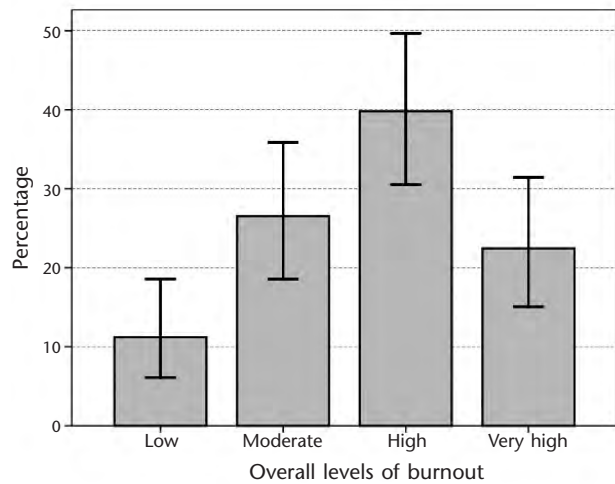


Figure 1. Percentage distribution according to the degree of burnout syndrome on the Maslach Burnout Inventory - Human Services Survey scores (MBI-HSS).

association between EE and low educational level ($H_{(2)} = 6.445; p = 0.04$), compared with higher educational level (high school or college). For the dimension DP, women tended to score lower than men ($p = 0.051$), and men tended to score better than women in the subscale LPA ($p = 0.051$). Those emergency responders with longer professional activity time showed significantly higher scores on the LPA scale reflecting lack of achievement ($r = 0.218, P = 0.031$).

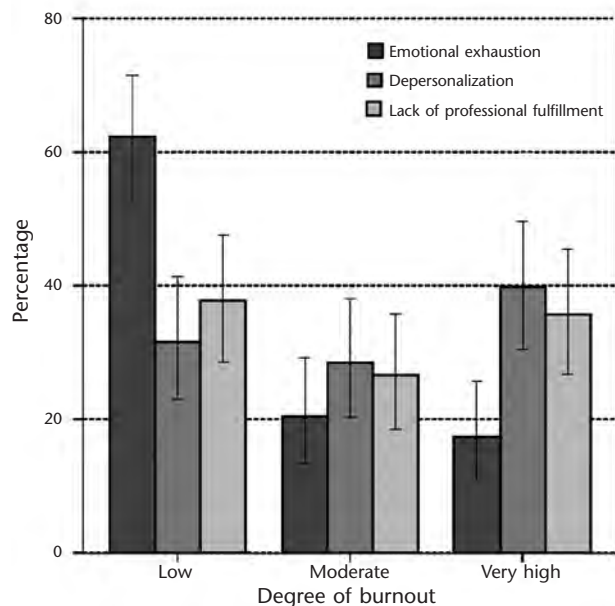


Figure 2. Percentage distribution according to degree of burnout for each of the three dimensions defining burnout syndrome.

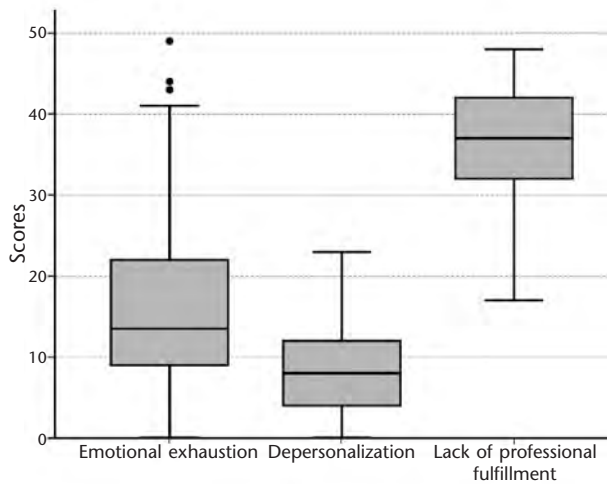


Figure 3. Scores, by subscale, obtained in the Maslach Burnout Inventory (MBI-HSS).

Discussion

The results of this study show the prevalence of professional burnout syndrome is very high, between 80.8 and 94.3%, in Basque Country emergency medical responders. This prevalence is higher than that reported in national studies on healthcare workers¹⁸⁻²¹ and close to that reported for emergency medical personnel in New York²² (almost 100%), or for medical residents in Madrid²². Furthermore, between 51.9% and 71.8%

had high levels of PBS, especially in those with long-standing service, indicating an evolutionary process. Unfortunately, we have not found publications at the national level on the prevalence of burnout in emergency medical responders to be able to make a fair comparison with these results. Regarding the effect of the social variables studied, except for professional activity time, we found no other significant differences associated with higher levels of PBS. The relationship between milder PBS and brief work experience is a common finding reported by numerous authors²⁴⁻²⁶. On comparing the results for each subscale with the socio-occupational variables, statistically significant relationships were found between educational level and level of emotional exhaustion: workers with lower educational qualifications were less affected than those with higher academic qualifications. In contrast, those with longer occupational experience showed greater levels of professional frustration. As mentioned, this highlights the evolving nature of PBS symptoms.

The findings of this study do not adequately explain the high prevalence of PBS and suggest that the origin of PBS symptoms does not lie in the social characteristics of workers, but in other more complex factors that have not yet been identified. Some aspects worthy of further study to identify the etiological factors of PBS could be bad work atmosphere, lack of professional and so-

Table 1. Analysis of the association between professional burnout syndrome and factors of exposure

	Total n (%; 95%CI)	Affected n	Not affected n	Crude OR (95%)
Sex				
Male	79 (80.6; 71.4-87.9)	69	10	0.38 (0.02-3.3)
Female	19 (19.4; 12.1-28.6)	18	1	1 (reference)
Age				
> 40 years	19 (19.4; 12.1-28.6)	16	3	0.59 (0.08-4.3)
31-40 years	49 (50.0; 39.7-60.3)	44	5	0.98 (0.2-5.3)
≤ 30 years	30 (30.6; 21.7-40.7)	27	3	1 (reference)
Work sector				
Public	5 (5.1; 1.7-11.5)	4	1	0.49 (0.03-13.8)
Private	47 (48.0; 37.8-58.3)	42	5	1.02 (0.2-4.5)
NGOs	46 (46.9; 36.8-55.3)	41	5	1 (reference)
Marital status				
Married/stable partner	46 (46.9; 36.8-57.3)	39	7	0.46 (0.10-1.9)
Single/Divorced	52 (53.1; 42.7-63.2)	48	4	1 (reference)
Academic				
University education	11 (11.2; 5.7-19.2)	9	2	0.39 (0.03-4.7)
Baccalaureate/PT	62 (63.3; 52.9-72.8)	55	7	0.68 (0.09-4.0)
Basic education	25 (25.5; 17.2-35.3)	23	2	1 (reference)
Employment status				
Substitute	15 (15.3; 8.8-24.0)	12	3	0.31 (0.03-2.7)
Interim	55 (56.1; 45.7-66.1)	49	6	0.63 (0.08-3.8)
Fixed	28 (28.6; 19.9-38.6)	26	2	1 (reference)
Professional seniority				
< 10 years	49 (50.0; 39.7-60.3)	43	6	0.81 (0.2-3.3)
≥10 years	49 (50.0; 39.7-60.3)	44	5	1 (reference)

OR: odds ratio; CI: confidence interval NGOs:Non-government organizations; PT: Professional Training.

cial recognition, work overload and the pressure of emergency care work or low wage remuneration.

The major limitations of this study include the degree of participant sincerity when answering the questionnaire, although the results of the reliability test of internal consistency were satisfactory. Apart from this, we would also highlight the enormous difficulty of stratified random sampling in a population widely dispersed throughout the Basque Country.

The high prevalence of PBS and its social and professional consequences warrant further research to identify and quantify the causal factors in each community and to develop strategies of prevention and intervention in the organizational context of emergency responder work. PBS is a pernicious process in the field of healthcare, affecting not only individual workers but also the professional group. It may have negative repercussions on performance and quality of the care provided²⁷. Awareness of the extent of problem could favor the creation of interventions to identify the causes and to develop coping or prevention strategies by the institutions responsible, as befits an intelligent society that should care for its caregivers.

References

- 1 Parra M. Conceptos básicos en Salud Laboral. Santiago de Chile: Organización Internacional del Trabajo; 2003.
- 2 Bresó E, Salanova M, Schaufeli WB, Nogareda C. NTP 732: Síndrome de estar quemado por el trabajo o burnout (III): instrumento de medición. [online]. Madrid: Instituto Nacional de Seguridad e Higiene en el Trabajo - Ministerio de Trabajo y Asuntos Sociales - Gobierno de Spain; 2007. (Consultado 13 Junio 2011). Disponible en: http://www.insht.es/InshtWeb/Contenidos/Documentacion/Fichas-Tecnicas/NTP/Ficheros/701a750/ntp_732.pdf
- 3 Aiken LH, Sloane DM. Effects of organizational innovations in AIDS care on burnout among urban hospital nurses. *Work and Occupation*. 1997;24:453-77.
- 4 Thomaé MNV, Ayala EA, Sphan MS, Storti MA. Etiología y prevención del síndrome de Burnout en los trabajadores de la salud. *Revista de Postgrado de la Vía Cátedra de Medicina*. 2006;153:18-21.
- 5 Aiken LH, Clarke SP, Sloane DM. Hospital nurse staffing and patient mortality, nurse burnout and job dissatisfaction. *JAMA*. 2002;288:1987-993.
- 6 Flórez Lozano JA. Síndrome de estar quemado. Barcelona: Edikete med; 1994.
- 7 Moreno B, Oliver C, Pastor JC, Aragonese A. El Burnout, una forma específica de estrés laboral. *Manual de psicología clínica*. Madrid: Siglo XXI; 1990.
- 8 Siegrist, J. Condiciones laborales y desigualdades en salud. Hacia la equidad en Salud: Monitorización de los determinantes sociales de la salud y reducción de las desigualdades en salud. [online] Madrid: Ministerio de sanidad y política social - Gobierno de Spain; 2010. (Consultado 2 Junio 2011). Disponible en: <http://www.sespas.es/adminweb/uploads/docs/Documento%20Presidencia%20Esp.%20Hacia%20la%20Equidad%20en%20Salud.pdf>
- 9 Alexander DA, Klein S. Ambulance personnel and critical incidents. *Br J Psychiatry*. 2001;178:76-81.
- 10 Van Der Ploeg E, Kleber RJ. Acute and chronic stressor among ambulance personnel: predictors of health symptoms. *J Occup Environ Med*. 2003;60:40-6.
- 11 Seisdedos N. Manual MBI, Inventario Burnout de Maslach. Madrid: Ediciones TEA; 1997.
- 12 Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory. 3rd Ed. Palo Alto: Consulting Psychologist Press; 1996.
- 13 Gil-Monte P. Validez factorial de la adaptación al español del Maslach Burnout Inventory General Survey. *Salud Pública Mex*. 2002;44:33-40.
- 14 González Rodríguez VM, González Corrales R, de la Gándara Martín, JJ. El médico con burnout. Conceptos básicos y habilidades prácticas para el médico de familia. 1ª ed. Madrid: IMC; 2004.
- 15 Martínez García M, Centeno Cortés C, Sanz-Rubiales A, del Valle ML. Estudio sobre el Síndrome de Burnout en profesionales de Enfermería de Cuidados Paliativos del País Vasco. *Revista Médica de la Universidad de Navarra (Pamplona)*. 2009;53:3-8.
- 16 Ramírez AJ, Gram J, Richards MA, Cull A, Gregory WM, Learning MS, et al. Burnout and psychiatric disorder among cancer clinicians. *Br J Canc*. 1995;71:1263-9.
- 17 George D, Mallery P. SPSS/PC+ Stepby: A Simple Guide and Reference. Belmont: Wadsworth Publishing Company; 1995.
- 18 Bernaldo de Quirós M, Labrador FJ. Evaluación del estrés laboral y burnout en los servicios de urgencia extrahospitalaria. *Int J Clin Psychol*. 2007;7:323-35.
- 19 Amutio Kareaga A, Ayestaran Etxebarria S, Smith JC. Evaluación del burnout y bienestar psicológico en los profesionales sanitarios del País Vasco. *Revista de Psicología del Trabajo y de la Organizaciones (Madrid)*. 2008;24:235-52.
- 20 Sánchez Rodríguez Manzaneque A, de Lucas García N, García-Ochoa Blanco MJ, Sánchez Ferrer C, Jiménez Fraile JA, Bustinza Arriortua A. Estrés laboral en el profesional de un servicio de emergencias prehospitalario. *Emergencias*. 2001;13:170-5.
- 21 Fonseca M, Sanclemente G, Hernández C, Visiedo C, Bragulat E, Miró O. Residentes, guardias y síndrome de burnout. *Rev Clin Esp*. 2010;210:209-15.
- 22 Essex B, Benz Scott L. Chronic stress and coping strategies among volunteer EMS personnel. *Prehosp Emerg Care*. 2008;12:69-75.
- 23 Fernández Martínez O, Hidalgo Cabrera C, Martín Tapia A, Moreno Suárez S, García del Río García B. Burnout en médicos residentes que realizan guardias en un servicio de urgencias. *Emergencias*. 2007;19:116-21.
- 24 Atance JC. Aspectos epidemiológicos del Síndrome de Burnout en personal sanitario. *Rev Esp de Salud Pública (Madrid)*. 1997;71:293-303.
- 25 Ríos Riesquez MI, Godoy Fernández C. Burnout y salud percibidos en una muestra de enfermería de urgencias [online]. *Revista electrónica de la Sociedad Española de Enfermería de Urgencias y Emergencias*. 2007; 56.
- 26 Albadejo R, Villanueva R, Ortega P, Astasio P, Calle ME, Domínguez V. Síndrome de Burnout en el personal de enfermería de un hospital de Madrid. *Rev Esp Salud Pública*. 2004;78:505-16.
- 27 Vahey DC, Aiken LH, Sloane DM, Clarke SP, Vargas D. Nurse Burnout and Patient Satisfaction. *Med Care*. 2004;42(Supl. II):57-76.

Desgaste profesional en los técnicos de emergencias sanitarias del soporte básico del País Vasco

Ballesteros Peña S, Llorio Palomino S, Rollán Vallejos J

Objetivos: Cuantificar los niveles de desgaste profesional entre los técnicos en emergencias sanitarias (CTES) de los recursos de soporte vital básico (SVB) del País Vasco y estudiar su asociación a las variables sociolaborales más habituales.

Métodos: Estudio exploratorio de corte transversal sobre una muestra representativa (intervalo de confianza del 95% y precisión del 9%) compuesta de 98 TES, obtenida mediante una técnica aleatoria estratificada por sector de trabajo, a los que se les administró una encuesta sobre las características sociolaborales y el *Maslach Burnout Inventory* (MBI) como test de evaluación psicométrica. Posteriormente se realizó la estadística descriptiva y el contraste de hipótesis para una significación del 95%.

Resultados: Presentaron puntuaciones en la escala MBI compatibles con síndrome de desgaste profesional (SDP) 87 trabajadores (88,8%; IC95% 80,9-94,3%), los niveles globales de afectación fueron considerados como elevados o muy elevados en 61 sujetos (62,2%; IC95% 51,9-71,8%) y moderados en 26 (26,5%; IC95% 18,1-36,4). Presentaron mayores proporciones de afectación global en grado elevado los TES con mayor experiencia laboral ($p < 0,05$). Los TES con un nivel académico más bajo presentaron menores puntuaciones en la subescala cansancio emocional ($p < 0,05$) y una mayor antigüedad en el sector se correlacionó con un mayor sentimiento de falta de logro profesional ($p < 0,05$).

Conclusiones: La prevalencia del SDP en los TES del SVB del País Vasco es muy elevada y es superior a la documentada en otros profesionales del ámbito sanitario. Una mayor antigüedad profesional se asocia a niveles elevados de SDP, sin embargo deben explorarse otras variables como posibles causas del síndrome en este colectivo. [Emergencias 2012;24:13-18]

Palabras clave: Agotamiento profesional. Servicios médicos de urgencia. Salud laboral.