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Original Article

Evaluation of the consequences of burnout and occupational stress on the physical health of teachers in schools and institutes in Málaga (Spain)

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ABSTRACT

Introduction. To compare the level of stress and burnout of school and high school teachers in the province of Malaga (Spain) and to identify the association between the level of stress and burnout of school and high school teachers and the presence of cardiovascular, digestive and skin diseases; musculoskeletal pain and headaches; toxic habits; and alterations in physiological and biochemical variables.

Methods. Comparative cross-sectional observational study. The scope of the study was the Occupational Risk Prevention Center of Malaga (Spain). The estimated sample was 201 teachers (91 teachers of secondary education and/or baccalaureate and 110 teachers of infant and/or primary education).

Results. The mean figures for occupational stress and burnout were higher in those teachers who taught secondary education and/or high school [(M=3,04; SD=0,7) (M=2,08; SD=0,67)] than in those who taught infant and/or primary education [(M=2,67; SD=0,59) (M=1,71; SD=0,43)], and these differences were statistically significant ($p<0.05$). A significant association was found between belonging to secondary education and/or baccalaureate levels and the variables role stress and musculoskeletal pain ($p<0.05$). For the remaining variables related to the presence of health disorders, toxic habits and alteration of physiological parameters, no statistically significant mean differences were found.

Conclusions. This work represents an approach to the knowledge of how stress and burnout affect the physical health of teachers, offering itself as a tool for the development of specific prevention strategies adapted to the reality of teachers in the province.

Keywords: Stress; Burnout; Teachers; Health

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Introduction

Occupation and health are strongly related [1]. Although work has positive influences on health, continuous exposure to certain occupational hazards can have negative consequences [2].

Both the conditions of an organization and current labor relations [2] place psychosocial risk factors as one of the main determinants of workers' health [3]. The association between these and the affectation of the state of well-being of employees is increasingly evident, being such the magnitude that this problem reaches nowadays that it is considered as one of the most important causes of disability, placing among its negative health manifestations occupational stress and burnout [4, 5].

Sometimes, the stress situation becomes chronic and the organism is not able to respond satisfactorily to the demands generated, which can have repercussions on people's health from various perspectives [6]: cardiovascular [1,7], musculoskeletal [7-9], respiratory [7], gastrointestinal [7-9], dermatological [7], mental and behavioral [9], alteration of biochemical and physiological parameters [1, 8, 10] and acquisition of toxic habits [11,12], among others.

Hans Selye [13] describes stress as "non-specific response of the organism to any demand made on it". If stress is prolonged over time, it can lead to burnout [14]. This syndrome is characterized by the presence of emotional exhaustion, depersonalization and lack of personal and professional fulfillment, and is especially prevalent in individuals who work with people.

In Europe, about 25% of workers suffer from stress, which accounts for 55% of absenteeism [15]. In Spain and according to data from the National Survey of Working Conditions conducted during 2015, 36% of respondents reported suffering "sometimes" work-related stress and 30% "always" or "almost always" [16]. The European Commission estimated in 2002 the costs associated with occupational stress at 20 billion euros per year. In Spain it is estimated that the health cost of psychosocial problems is around 150-372 million euros. Between 11% and 27% of mental disorders can be attributed to working conditions [3].

The experience of stress is lived by each person differently and can be influenced by several variables, such as gender or age and family, social or personal

environment. All of them condition the genesis of this phenomenon and therefore it should not be treated in isolation but in all its aspects [1]. With regard to the workplace, not all professions are equally prone to generate work-related stress and burnout among their workers. Health, social and educational professions are particularly susceptible to developing this work-related problem [17].

Teachers are one of the groups most affected by problems arising from exposure over a long period of time to psychosocial risks [18] and 80% of them indicate that the most worrying risks of their work are psychosocial, being one of the professional groups with the highest incidence of sick leave [19]. Psychiatric illnesses are the third cause of sick leave in this group [20].

The hypothesis was: Teachers who teach secondary education and/or baccalaureate have worse physical health than pre-school and/or primary education teachers because they are subjected to higher rates of stress and burnout.

The general objective was to determine the areas of repercussion that stress and burnout have on the physical health of teachers according to the level of education they teach (early childhood and/or primary education versus secondary education and/or baccalaureate).

Besides, the following specific objectives were established: i) To determine the prevalence of stress and burnout among teaching workers according to the level of education (early childhood and/or primary education and secondary education and/or baccalaureate). ii) To identify the association between the levels of stress and burnout of teachers according to the level of education to which they belong and the presence of: cardiovascular, digestive and skin disorders; musculoskeletal pain; toxic habits and alterations of physiological variables.

Methods

Design. Population and sample

Comparative cross-sectional observational study. The scope of the study was developed in the Occupational Risk Prevention Center of Malaga (Spain).

The study population consisted of those teaching workers at non-university levels of education, belonging to the Delegation of Education of the Andalusian Regional

Government who attended the Health Surveillance Area of the Occupational Risk Prevention Center of Malaga (Spain) from June 2018 to April 2019.

They included:

- Early childhood and/or primary education teachers and secondary and/or baccalaureate teachers.

Excluded were:

- Vocational training teachers, teachers of applied arts and crafts, conservatory teachers, educators (special and auxiliary technicians), continuing education teachers and teaching staff in special regime, because studies with an appropriate population that would allow comparisons to be made were not found.
- All those who did not complete the questionnaire in its entirety.
- Those who had less than one year of seniority as a teacher.
- Those classified as particularly sensitive workers.

To calculate the sample size, it was necessary to know the total population of teachers in Malaga. According to official data, the total population of teachers in Malaga during the 2017/2018 academic year was 19,000 teaching professionals, of which 55% were pre-school and/or primary education teachers and 45% were secondary and/or baccalaureate education teachers. The confidence level was set at 95% and the precision level at 3%. The total estimated sample was 201 teachers (91 secondary and/or high school teachers and 110 kindergarten and/or elementary school teachers). The statistical program used to calculate these data was Epidat (version 3.1).

Finally, the study participants were selected by non-probabilistic consecutive sampling.

Variables and measurements

- Variables of presence of health disorders, musculoskeletal pain and toxic habits:
    - Cardiovascular disorders
    - Digestive disorders
    - Skin disorders
    - Pain
    - Toxic habits

- Physiological variables:
    - Blood pressure (BP).
    - Body Mass Index (BMI)
    - Heart rate (HR)
- Sociodemographic and job-related variables:
    - Age
    - Sex
    - Number of children
    - Years of teaching experience
    - Work center
    - Level of education provided
    - Employment status
- The psychosocial variables (outcome variables) were as follows:
    - Burnout
        - Emotional exhaustion
        - Depersonalization
        - Lack of self-fulfillment
    - Role stress

Data collection took place at the Malaga Occupational Risk Prevention Center during the health examination (initial or periodic). The variables were collected from the data obtained in the questionnaire administered and from the worker's clinical history.

All workers were given an information sheet explaining the nature and importance of the study, as well as the treatment of the data to guarantee the confidentiality of the information provided and the anonymity of the participants. Subsequently, written informed consent was requested from all the workers who voluntarily agreed to participate in the study.

Variables related to the presence of health disorders, pain and toxic habits, as well as those related to alterations in physiological parameters, were obtained from the worker's clinical history. Those whose origin was prior to the start of the current employment relationship were not included.

For the collection of psychosocial, sociodemographic and job-related variables, a questionnaire was used, the use of which was previously authorized by its author.

The questionnaire used was the Teacher Burnout Questionnaire-Revised (CBP-R) [22]. It is a self-administered, closed-ended questionnaire that assesses teachers' stress and burnout processes, in addition to other variables that could act as antecedents.

The questionnaire is composed of 66 items assessing 3 areas:

- Factor I. Stress and burnout. This first factor is composed of 32 items, which were the only ones evaluated in this study in order to present a reduced number of items while maintaining a satisfactory level of consistency. The responses to the questions were determined on a Likert-type scale (1 = strongly disagree, 2= disagree, 3= undecided, 4= agree and 5= strongly agree).
- Factor II and III. Disorganization and administrative problems. These two factors were not included in the present study because they were not the object of the study.

For the evaluation of the results obtained from the questionnaire, the highest scores in each section (role stress and burnout) were related to greater problems. Like other authors [23], Likert-type scale scores were used as cut-off and diagnostic points:

- Low: 1 to 1.99 points.
- Medium: 2 to 3.99 points.
- High: 4 to 5 points.

Ethical considerations

The development of this study was authorized by the Research Ethics Committee of Malaga in the session of May 24, 2018 (code: ESTRESDOCENTES001).

The standards of good clinical practice and ethical principles established for research on human subjects in the Declaration of Helsinki, revised in Brazil 2013, were maintained at all times. Data were processed in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such

data. Informed consent was requested from all participants prior to completion of the questionnaire.

Statistical analysis

Descriptive statistics were performed on the variables, with measures of central tendency and dispersion for quantitative variables, and frequency distribution for qualitative variables. To contrast the normality of the data set, goodness-of-fit was calculated using the Kolmogorov-Smirnov test, determining the normality of the sample for all the variables studied.

Student's t-test was used to evaluate the mean difference (MD) between the psychosocial variables (role stress, burnout, emotional exhaustion, depersonalization and lack of personal relationship) with, sex, employment status of the interviewees and professional category, according to the level of teaching performed by the participants. Pearson's correlation coefficient was used to identify the presence of significant differences between psychosocial variables and age, number of children and years of teaching experience of the workers surveyed, according to the level of training provided.

Student's t-test was used to evaluate the MD between psychosocial variables (stress and burnout) and those of presence of health disorders, pain and toxic habits, according to the level of teaching provided. Pearson's correlation coefficient was used to identify significant differences between psychosocial variables and those related to the alteration of physiological parameters, both in teachers of early childhood and/or primary education and in teachers of secondary education and/or baccalaureate.

The level of statistical significance in the different analyses was set at $p<0.05$ and the confidence level at 95%. The statistical program used was IBM SPSS Statistics 20.0 software (SPSS/IBM, Chicago, IL, USA).

Results

Descriptive analysis

A total of 201 subjects were included in the study out of a total of 233 surveys delivered, representing a response rate of 86.2%.

The participants in the study belonged to 50 educational centers located in the province of Malaga. Of the respondents, 37.81% [sample(N)=76] taught kindergarten and/or primary education and 62.18% (N=125) secondary education and/or baccalaureate. 72.36% (N=55) of the teachers executing infant and/or primary education levels were female with a mean (M) age of 40 years [standard deviation (SD)=8.45] and 27.63% (N=21) male with a mean age of 39 years (SD=6.8). In the case of secondary and/or high school teachers, 43.2% (N=54) were male and 56.8% (N=71) were female with mean ages of 44.5 (SD=7.14) and 45 (SD=8.29) years respectively.

Teachers under 30 years of age included in this study do not have any children; between 30 and 39 years of age, they have one child for every 2 participants; between 40 and 41 years of age, one child per respondent; and over 50 years of age, three children for every 2 respondents.

In relation to the variables evaluated with the CBP-R questionnaire, the highest mean score achieved by teachers who taught early childhood and/or elementary education was for role stress (M=2.67; SD=0.59), as well as for those who taught secondary education and/or high school (M=3.04; SD=0.7).

Table 1 describes the mean value obtained for each variable according to the level of education taught.

Table 1. Results for Burnout and Role Stress according to groups of teachers

	CHILDHOOD AND / OR PRIMARY EDUCATION TEACHERS				**SECONDARY EDUCATION AND / OR HIGH SCHOOL TEACHERS**			
	M	SD	MIN	MAX	M	SD	MIN	MAX
BURNOUT	1.71	0.43	1	2.85	2.084	0.67	1	4.23
Emotional exhaustion	1.91	0.52	1	3.25	2.33	0.83	1	4.63
Despersonalization	1.48	0.54	1	3.5	1.72	0.69	1	4.25
Lack of realization	1.74	0.46	1	2.71	2.19	0.73	1	4.57
ROLE STRESS	2.67	0.59	1.23	4	3.04	0.7	1	4.54

Table 2 shows the prevalence of responses for each of the cut-off points and diagnoses established for the psychosocial variables (role stress and burnout).

Table 2. Cut-off points and diagnosis for psychosocial variables

	CUT POINT	CHILDHOOD AND / OR PRIMARY EDUCATION TEACHERS		SECONDARY EDUCATION AND / OR HIGH SCHOOL TEACHERS	
		%	N	%	N
BURNOUT	LOW	73.7	56	50.4	62
	MEDIUM	26.3	20	48.8	60
	HIGH	0	0	0.8	1
ROLE STRESS	LOW	11.8	9	6.5	8
	MEDIUM	86.8	66	83.7	103
	HIGH	1.3	1	9.8	12

On the other hand, Table 3 shows the descriptive analysis carried out on the physiological variables.

Table 3. Physiological variables

		CHILDHOOD AND / OR PRIMARY EDUCATION TEACHERS				SECONDARY EDUCATION AND / OR HIGH SCHOOL TEACHERS			
		M	SD	MIN	MAX	M	SD	MIN	MAX
HR		66	11.13	43	97	65.6	10.98	45	109
BP	SBP	117.75	13.62	89	163	128.28	101.14	90	118
	DBP	74.64	10.22	50	105	75.75	9.52	33	104
BMI		24.77	5.44	18.04	45.06	25.70	4.56	17.36	46.09

HR: Heart Rate; BP: Blood Pressure; SBP: Systolic Blood Pressure; DBP: Diastolic Blood Pressure; BMI: Body Mass Index

The 38.2% (N=47) of the teachers who teach secondary education and/or baccalaureate werw overweight and 14.6% (N=18) obese, compared to 27.6% (N=21) and 10.5% (N=8) of the teachers of infant and primary education, who were overweight and obese, respectively.

Table 4 presents the frequency analysis for the variables of presence of health disorders, pain and toxic habits.

Table 4. Prevalence of health disorders, pain and toxic habits

	CHILDHOOD AND / OR PRIMARY EDUCATION TEACHERS				SECONDARY EDUCATION AND / OR HIGH SCHOOL TEACHERS			
	YES		NO		YES		NO	
	%	N	%	N	%	N	%	N
CARDIOVASCULAR DISORDERS	23.7	18	76.3	58	24.4	30	75.6	93
DIGESTIVE DISORDERS	18.4	14	81.6	62	22	27	78	96
SKIN DISORDERS	17.1	13	82.9	63	13	16	87	107
OSTEOMUSCULAR PAIN	50	38	50	38	57.7	71	42.3	52
TOXIC HABITS	13.2	10	86.8	66	11.4	14	88.6	109

Analysis of the sociodemographic and job-related variables

The statistically significant mean difference ($p< 0.05$) between sociodemographic and job-related variables (independent variables) and psychosocial variables (role stress, burnout, emotional exhaustion, depersonalization and lack of personal relationship) was studied, the latter being outcome variables.

Age

Based on the age of the subjects, 5 levels were created corresponding to 5 age intervals, G1< 30 years, G2= 30- 39 years, G3= 40- 49 years, G4= 50- 59 years and G5> 60 years.

A significant association ($p< 0.05$) was found for the variables lack of fulfillment, burnout and depersonalization in teachers who teach secondary education and/or high school, while this association was not found in teachers who teach pre-school and/or elementary education.

For each age interval, the means of the psychosocial variables increase progressively, reaching their maximum value in G5, after which these figures decrease (Table 5).

Table 5. Mean psychosocial variables for each age interval

	LACK OF REALZATION (M)	BURNOUT (M)	DESPERSONALIZATION (M)
<30	1.42	1.35	1.37
30-39	2	1.85	1.47
40-49	2.22	2.15	1.78
50-59	2.46	2.3	1.98
>60	2.07	1.91	1.68

Sex

There are significant differences for the role stress variables in teachers who teach secondary education and/or high school. The mean level of stress in men is 2.89 (SD = 0.72) and in women 3.15 (SD = 0.67).

In teachers who teach pre-school and/or elementary school these differences appear in the variable lack of accomplishment. In men the mean rate of lack of fulfillment is 1.79 (SD= 0.39) and in women 1.71 (SD= 0.49).

Number of children

No significant association was found for any psychosocial variable and any level of training provided.

Years of teaching experience

Taking into account the years of experience in the profession, 3 groups were created, G1< 10 years, G2= 10-20 years and G3>20 years.

A statistically significant association was found between the differences in the means of teachers teaching at secondary and/or high school levels and the variables lack of fulfillment, burnout and depersonalization.

For teachers at infant and/or elementary school levels, these differences appeared in all the psychosocial variables evaluated (role stress, burnout, emotional exhaustion, depersonalization and lack of personal relationships).

Table 6 shows the mean value of each variable for each interval of work experience, according to the level of training provided.

Table 6. Mean of psychosocial variables for each work experience interval

	CHILDHOOD AND / OR PRIMARY EDUCATION TEACHERS (M)			SECONDARY EDUCATION AND / OR HIGH SCHOOL TEACHERS (M)		
	<10	10-20	>20	<10	10-20	>20
BURNOUT	1.67	1.74	1.86	1.93	2.09	2.04
Emotional exhaustion	1.86	2.02	1.85	2.15	2.36	2.57
Despersonalization	1.38	1.55	1.82	1.55	1.72	2.04
Lack of realization	1.76	1.74	1.86	2.07	2.17	2.42
ROLE STRESS	2.51	2.9	2.73			

Level of teaching provided

There are significant differences in all the psychosocial variables evaluated (role stress, burnout, emotional exhaustion, depersonalization and lack of personal relationship), being for all of them $p<0.01$.

Analysis of the variables of presence of health disorders, musculoskeletal pain, toxic habits and alteration of physiological parameters.

From the bivariate analysis carried out a significant association ($p<0.05$) was found between belonging to secondary education and/or high school and the variables role stress and musculoskeletal pain. In turn, there were significant differences ($p<0.05$) between the presence of musculoskeletal pain and the BMI value for the same group.

The M of the burnout variable for teachers with pain is 2.15 (SD= 0.64) and without pain is 1.98 (SD= 0.7). In the case of role stress, the mean is 3.16 (SD= 0.64) for those with pain and 2.86 (SD= 0.75) for those without pain.

For the rest of the variables related to the presence of health disorders and toxic habits, no statistically significant MDs were found.

Finally, as for the MD between psychosocial variables and those related to the alteration of physiological parameters, no significant differences were identified for any group.

Discussion

This work represents an approximation to the knowledge of how stress and burnout affect the physical health of teachers in Malaga, differentiating at all times those who teach secondary education and/or high school from those who teach infant and/or primary education.

The teaching activity includes a series of tasks in which human relations are the fundamental pillar, being, therefore, a group of those who suffer the greatest mental and professional wear.

In this study, considering the level of classification of stress and burnout rates into low, medium and high, it is striking that almost two thirds of teachers who teach secondary education and / or high school are at a medium level, with these rates being significantly lower in infant and / or primary school teachers, where just over half of them are at a low level for these two psychosocial variables. However, the results described in this section are similar to those obtained by Ratto et al (2015) [23] in their study, in which they relate Burnout at Work Syndrome (BWS), with psychosocial factors, such as role stress, through the use of the CBP-R questionnaire in school teachers.

These results could be a consequence of the high professional burnout to which they are subjected due to exposure to various stressors such as the lack of social support from organizational entities and the length of the working day [24]. Other authors prefer to emphasize workload, the deterioration of human relations, the technification of teaching and role ambiguity as important sources of stress among teachers [25, 18].

Role stress is the variable with the highest score obtained in the questionnaire, followed by emotional exhaustion, lack of fulfillment, burnout and depersonalization, at both educational levels. Although the ranking order according to the figures achieved is the same for the two groups included in this study, the values obtained are significantly higher in those who teach secondary education and/or high school.

In a study carried out to evaluate the psychological burnout of a group of 264 teachers in the city of Lima, the mean value of the variables emotional exhaustion, lack of fulfillment and depersonalization, occupy the same ranking order as in this research [30]. According to the author of the study, both emotional exhaustion and depersonalization are two of the characteristics that define the psychological exhaustion to which teachers are subjected, and the latter can lead to negative coping strategies.

On the other hand, and despite the fact that both groups of teachers included in this study have to cope with significant psychological burnout, the teachers who teach in the classroom are more likely to have a high level of emotional exhaustion.

Levels of secondary education and / or baccalaureate "suffer" more than those of infant and / or primary, being the differences in means of psychosocial variables for each study group statistically significant. These results are consistent with those obtained in a study held among Malaga teachers during 2017. In it, the existing association between psychosocial risk, measured with the "Scale sources of stress in teachers", and the educational center of work (school or institute) is evaluated [21].

Among the reasons that could justify these differences are the characteristics of the students themselves, which influence the levels of stress and/or burnout of teachers. Adolescent students are more demanding due to their greater anatomophysiological development, which together with the increase in physical and verbal aggression and the increase in responsibilities assumed by teachers without sufficient authority to carry them out, could lead to greater suffering from these processes [29].

Age is also an influential factor. Prior to the unification of all university studies as Degrees, the training period of teachers was longer than that of teachers and, therefore, the age for incorporation into the labor market was also higher [26]. In this study it can be observed that as teachers get older, burnout increases. However, when teachers reach 60 years of age, these figures decrease, and the association between the variables age and burnout, in teachers who teach secondary education and/or high school, is statistically significant.

In a study carried out in 2000 among working-age workers in Finland, it was found that the relationship between the variables burnout and age did not follow a linear distribution, so that younger people suffer more stress than older ones and that as the age

of the worker increases, their psychological burnout increases until it reaches its peak at around 60 years of age, at which point it begins to decrease [28].

All this could be due to the different stages, both at a professional and personal level, through which the worker passes during his working life. The effects of stressors on the worker accumulate over the years, but as the years go by, effective coping strategies are also incorporated that could lead to a decrease in the average burnout figures in the last years of professional activity.

Gender is also a factor that could influence the differences found in the stress and burnout rates of the different groups of teachers participating in this study. In this research it has been identified that role stress is significantly higher in women than in men and at secondary and/or high school levels. Role stress is caused by role performance within the organization and encompasses role ambiguity, role conflict and role overload [31]. Both quantitative and qualitative role overload may be influenced by the dual presence that many women have to cope with. Dual presence is a health risk since it involves increased workload, which can lead to a decrease in responsiveness on the part of the female worker increasing her chances of stress and burnout [27,28].

The years of teaching experience can also influence the professional burnout suffered by the teacher, with a greater suffering of this process being related to greater work experience [26]. Just as it happens with increasing age, over the years, the ability to respond to the continuous threats of stressors is diminished, and this can have a negative impact on the health of the worker.

According to the data that can be extracted from this study, as the years of work experience of teachers increase, there is an increase in the mean of the psychosocial variables for each study group.

The fact of having children could act as a protective factor against stress, since a greater maturity state is assumed in people who are fathers or mothers. The greater problem-solving capacity of childhood and the support received by the family could improve the resilience of these workers [32]. However, in this study, no significant differences were found between stress and/or burnout rates and the number of children.

On the other hand, it was not possible to accept the hypothesis of this study since no significant results were obtained that relate stress and/or burnout with a worse

state of physical health, except for the results obtained in teachers who teach secondary education and/or high school in which there are statistically significant mean differences between the variables presence of musculoskeletal pain and BMI.

Although the relationship between the presence of musculoskeletal pain and greater psychosocial suffering is not statistically significant, it should be noted that professionals with pain suffer more stress and burnout than those who do not.

A situation of stress maintained over time can produce a high physiological activation that leads to greater muscular tension and generates pain. The manifestation of the worker's suffering in the form of pain is a more than common problem. Both pain and psychosocial distress can lead to sadness and depression, decreasing the worker's physical activity, increasing their sedentary lifestyle and therefore favoring weight gain [33].

In this study, it has been identified that 57.7% of respondents who teach secondary education and / or high school have musculoskeletal pain compared to 50% of infant and / or primary school teachers, data that are similar to those collected in the National Survey of Working Conditions [16]. According to this survey, 28% of the education teachers interviewed stated that their work negatively affects their health, with the most prevalent health problems being: back pain (46%), muscular pain in the shoulders, neck and upper extremities (45%) and general fatigue (45%).

As for the health problems detected in this study, cardiovascular, digestive and skin disorders stand out in order of prevalence, this order being the same for both study groups.

The figures for SBP and DBP are slightly higher in teachers who teach secondary education and/or high school, which may be a consequence of the greater professional wear and tear to which they are subjected or their higher average age, since as age increases, the risk of suffering arterial hypertension increases [34].

In relation to the presence of toxic habits in the study population and specifically smoking, it is noteworthy that between 11 and 13% of respondents reported smoking, figures that are well below the prevalence of smoking in Spain [35].

Finally, given the cross-sectional nature of this study, it is suggested as a future line of research that a longitudinal study should be carried out to establish relationships between the level of stress and burnout of teachers in Malaga and its impact on physical

health in the form of certain health disorders, alterations in physiological parameters and a higher prevalence of toxic habits. However, there is a large body of literature supporting that a maladaptive response of the organism to one or more stressors can have harmful consequences on the health of the worker, with these consequences being worse in prolonged stressful situations [6-12].

Limitations

The main limitation of this study is its cross-sectional design. Given that it was not feasible to follow up the workers over time due to a lack of human resources, this design was chosen, suggesting that future studies with similar characteristics but of a longitudinal nature should be carried out.

Due to a purely temporal limitation, it was not possible to reach the estimated sample size for each teaching level, but it was possible to reach the overall sample size for both levels (201 teachers), and the results may have been influenced by this.

Finally, the non-inclusion of factors I and II of the CBP-R questionnaire could have interfered with the results obtained because the causes (antecedent factors) that could be generating the situation of stress and/or burnout and that could be acting as confounding factors were not known.

Conclusions

This work is intended to be a tool to be used by the Occupational Risk Prevention Services in order to develop specific prevention strategies adapted to the teaching reality of the province. The following conclusions can be drawn from this study:

- Teachers in the province of Malaga (Spain) are subjected to significant mental and professional burnout, with teachers who teach secondary education levels and / or high school being the most adversely affected.
- The means obtained for the psychosocial variables are classified for both professional groups in the following order (from highest to lowest): role stress, emotional exhaustion, lack of fulfillment, burnout and depersonalization.
- Burnout increases with the age of the professional (secondary education and/or baccalaureate), decreasing when the professional is around 60 years of age.

- Role stress is higher in women than in men when they teach at secondary education and/or baccalaureate levels.
- Teachers (early childhood and/or primary education and secondary education and/or baccalaureate) suffer more as they have more years of work experience in teaching.
- Teaching professionals (early childhood and/or primary and secondary education and/or baccalaureate) with tenure suffer more stress and burnout than those who are interim teachers.
- There are no differences in the rates of stress and/or burnout between teachers who have children and those who do not (early childhood and/or primary and secondary education and/or baccalaureate).
- No association can be established between stress and/or burnout rates and the suffering of health disorders, pain, alteration of physiological variables and acquisition of toxic habits.
- The health disorders of teachers (early childhood and/or primary and secondary education and/or high school) are classified according to their prevalence in the following order: cardiovascular, digestive and skin disorders.
- The BMI of the professional who teaches secondary education and/or baccalaureate is associated with the presence of musculoskeletal pain.
- SBP and DBP is higher in personnel located at secondary education and/or baccalaureate levels.
- Tobacco consumption in the participants of this study is lower than in the Spanish population.

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