



FACULTAD DE MEDICINA  
UNIVERSIDAD DE CANTABRIA

## **GRADO EN MEDICINA**

### **TRABAJO FIN DE GRADO**

**Síndrome de burnout en estudiantes de Medicina:  
existencia, causalidad y factores que influyen.**

**Burnout syndrome in medical students: existence,  
causality, and influential factors.**

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**Santander, Junio 2020**

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## ABSTRACT

**Key words:** burnout syndrome, medical students, Spain.

Burnout syndrome is an increasingly more frequent pathology that is related to people suffering a deterioration in the development of their daily activities due to highly demanding psychological requirements in their workplaces. It was the aim of this project to study its existence, prevalence, and influential factors among medical students. In order to investigate it, the Maslach Burnout Inventory was gathered to medical students from every Medical Faculty in Spain through an online survey in April 2019. 1073 students answered the survey, and the relation between their burnout levels and personal variables were analyzed.

The results suggest that burnout syndrome is a prevalent condition among medical students in Spain (68.6% of participants scored high or very high for exhaustion, 25% of participants scored high or very high for depersonalization and 13.7% of participants scored high or very high for deterioration in their academic efficacy). The most remarkable results were that family support and the years spent in the degree are the two independent factors that are more influential in the development of burnout syndrome among the variables that have been analyzed.

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**Palabras clave:** síndrome de burnout, estudiantes de Medicina, España.

El síndrome de burnout es una patología cada vez más frecuente relacionada con colectivos que sufren un deterioro en el desarrollo de sus actividades diarias debido a la elevada presión psicológica en sus lugares de trabajo. El objetivo de este proyecto era estudiar su existencia, prevalencia y los factores que influyen en su desarrollo en los estudiantes de Medicina. Para estudiarlo, se pasó el Inventario de Burnout de Maslach a estudiantes de Medicina de todas las Facultades de España a través de un formulario online en abril del 2019. 1073 estudiantes respondieron a la encuesta, analizándose la relación entre sus niveles de burnout y algunas variables personales.

Los resultados sugieren que el síndrome de burnout es una condición prevalente entre los estudiantes de Medicina de España (68.6% de los participantes puntuaron alto o muy alto en agotamiento, 25% de los participantes puntuaron alto o muy alto en despersonalización y el 13.7% de los participantes puntuaron alto o muy alto en deterioro de la actividad académica). Los resultados más destacados fueron que el apoyo familiar y los años invertidos estudiando Medicina son los dos factores independientes más influyentes en el desarrollo de síndrome burnout entre las variables que fueron analizadas.

## INTRODUCTION

Burnout syndrome is an increasingly frequent pathology that is related to people suffering a deterioration in the development of their daily activities due to highly demanding psychological requirements in their workplaces.<sup>1</sup> This pathology has recently been studied in physicians, and results show in a huge concentration of professionals affected.<sup>2</sup>

Freudenberger described burnout syndrome as the stress suffered by those people who work in contact with other people.<sup>3</sup> Maslach and Jackson gave its definitive definition as a syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do people-work of some kind.<sup>4</sup>

Within the last decades, burnout syndrome has been studied across medical professionals, concluding that physicians suffer stress levels high enough to make them develop said syndrome <sup>1, 2, 5</sup>. Although hundreds of studies have been developed in recent years <sup>1, 2, 5</sup>, nowadays there are no significant studies about the prevalence of this syndrome worldwide.

While long as the presence of this syndrome in doctors is a commonly studied matter, there are few studies related to the presence of burnout syndrome in medical students.  
<sup>3, 6, 7</sup>

When it comes to speaking about students, burnout syndrome is defined as lack of concentration, inability to focus, difficulty in retaining information, experiencing recurrent headaches, lack of sleep, feeling fatigued and helpless, not making the best efforts, and experiencing unknown hesitation due to academic stressors and performance anxiety.<sup>6</sup>

Students, especially those that are enrolled at University, are frequently immersed in situations, activities and academic events that generate stress and anxiety, like compulsory presentations, lack of time and task overload.<sup>3</sup> In such a way, when exposure to the stressors is produced habitually and students lack strategies to confront it properly, academic burnout syndrome may appear.<sup>3</sup> These students would show high levels of emotional tiredness or exhaustion, cynicism about their studies, and low efficacy in the development of academic activities.<sup>3</sup>

Maslach Burnout Inventory (MBI; Maslach y Jackson, 1986)<sup>4</sup> is the validated survey to test the burnout syndrome in health care professional, whereas Schaufeli, Martínez, Pinto, y Salanova, 2002 created the adaptation for students used in this study.<sup>7</sup> This survey tests the feelings and attitudes of students towards their academic activity, sizing 11 items grouped into three subscales (emotional exhaustion, depersonalization and academic efficacy).

Given that this phenomenon may produce a huge impact on medical students' development, it is vital to study the prevalence and risk factors of this syndrome within this collective, in order to develop strategies that may improve the symptoms and reduce the consequences. Having explained that, the aim of this project is to analyze the presence of burnout symptoms within this collective, and to look for the influential factors that may contribute to its development.

## METHODS

### SETTING AND PARTICIPANTS

This project was designed as a cross sectional study based on the results obtained from a survey conducted between April and May of 2019, given to medical students from all over Spain. The survey was targeted at medical students from the first year to the last one (in Spain, the Medicine Degree lasts for six years).

The target population was reached by sending the survey to the CEEM (Medical Students Council), that distributed it within the Medical Faculties of Spain that participate in this organism. The representatives of the faculties that are not represented in CEEM were contacted independently to pass on the survey. Students from 32 out of the 42 Medical Faculties of Spain were reached and filled in the survey (the number of participants from each University may be found in *Supplementary Table 3*).

The only inclusion criterium was to be student of any Medical School in Spain, without any exclusion criteria.

### GATHERED INFORMATION

The information was gathered through a web-based questionnaire. This survey was anonymous, and it included questions about the personal situation of the participants and questions collected from the validated survey to study burnout syndrome.<sup>7</sup>

The first part of the survey included questions related to personal aspects of the students as gender, age, vocation, family support or year of the medical degree among others (detailed in *Supplementary Table 1*).

Burnout related questions were divided in three subscales which contained several questions each. These three subscales evaluate exhaustion, cynicism and academic efficacy levels, and their questions (detailed in *Supplementary Table 2*) were meant to be answered with the degree of agreement from 1 (completely disagree) to 10 (completely agree) of the students with the affirmations given.

## **ETHICAL ISSUES**

The creation, distribution and use of this questionnaire were authorized by the University of Cantabria Ethics Committee before the beginning of this project. The only condition asked by the committee was to include an informed consent at the beginning of the survey, which was included. It was compulsory to sign the informed consent before starting to answer the questions.

## **STATISTICAL ANALYSIS**

In order to analyze the relation between the score in the burnout scales with the personal variable, three artificial scores were created. Exhaustion (how tired students feel during the development of their daily academic activities), depersonalization (how sceptic students feel about the importance of their studies) and academic efficacy (how effective students feel developing their daily academic activities) are obtained by adding up the punctuation scored in each question of each subscale.

The academic efficacy subscale was inverted in order for the analysis, given that the affirmations contained in this subscale were positive, whereas the affirmations in the other subscales were negative. It was necessary to invert it to obtain a scale scoring higher in more burned students, as the other scales do.

Once the scores of each subscale were obtained, the relation with the personal variables was studied. The T-test was used to relate the burnout levels with gender and vocation, whereas the ANOVA test was used to relate the burnout level with age, year of the degree, years in the degree and family support. Finally, a multiple linear regression was used to analyze which of these factors influence the score in each burnout subscale.

The statistical analysis was carried out with the software Stata/SE 16.

## RESULTS

One thousand and seventy-three answers were collected with the survey. Descriptive data relating to the personal information collected can be found in Supplementary Material (*Supplementary Table 3*). It shows that almost 75% of the participants were women. Nearly 88% of the participants feel vocation for their medical studies and that 85% of the participants also feel they have family support. It can also be appreciated that approximately 86.2% are less than 24 years old, that the majority (63.3%) of people who answered the survey are between their third and fifth year and that 86.95% of the students answering the survey have been studying medicine for 5 years or less.

The five medical schools with more answers to the survey were the University of Cantabria (197), the University of Alcala (173), the University of Navarra (154), the University of Barcelona (86), and the University of Granada (72). Given that the five of them had a reasonable number of answers, it was possible to compare their results in order to find if the University where the students study influence burnout levels.

Burnout subscales means were 14.83 out of 32 for depersonalization, 27.5 out of 40 for exhaustion and 22.38 out of 48 for academic efficacy, as it is reflected in *Supplementary Table 4*. All three were positively correlated with each other (*Supplementary Table 5*).

There is a strong relation between the years studying Medicine and the year of the degree, showing that the majority of the students (93%) that have participated are in the year of the degree in which they are meant to be. There is also relation between those two variables and age. These are the two strongest relations between quantitative variables shown in *Supplementary Table 6*.

The three burnout subscales have been divided in five grades to show burnout levels in medical students. As it is shown in *Table 1*, 68.6% of participants suffer high or very high levels of exhaustion, 25% of participants suffer high or very high levels of depersonalization and 13.7% of participants suffer high or very high levels of deterioration in their academic efficacy.

GRADES	Burnout level		
	Exhaustion (5-40)	Depersonalization (4-32)	Academic Efficacy (6-48)
Very low (1-2)	15	243	64
Low (3)	50	194	222
Medium (4-5)	272	368	636
High (6)	570	213	147
Very high (7-8)	166	55	4

*Table 1. Grades of burnout levels.*



Table 2 displays the association between burnout scales and categorical variables. As it is shown, female gender is more likely to present higher levels of exhaustion; and the existence of vocation seems to protect against depersonalization and low levels of academic efficacy. Moreover, the year of the medical degree correlates positively with higher levels of exhaustion and depersonalization, and negatively with academic efficacy levels.

Variable	Category	n	Burnout Levels					
			Exhaustion		Depersonalization		Academic Efficacy	
			Mean $\pm$ Sd	p	Mean $\pm$ Sd	p	Mean $\pm$ Sd	p
Sex	Male	266	26.1 $\pm$ 7.7	< 0.001	15.5 $\pm$ 7.5	0.07	21.9 $\pm$ 7.5	0.25
	Female	804	27.9 $\pm$ 6.9		14.6 $\pm$ 6.9		22.5 $\pm$ 6.7	
Vocation	No	130	28.2 $\pm$ 7.1	0.27	16.7 $\pm$ 7.4	0.001	24.3 $\pm$ 7.3	<0.001
	Yes	943	27.4 $\pm$ 7.2		14.6 $\pm$ 7		22.1 $\pm$ 6.8	
Year of the medical degree	1	167	25.5 $\pm$ 7.0	< 0.001	11.4 $\pm$ 5.9	< 0.001	21.2 $\pm$ 6.4	0.002
	2	123	25.9 $\pm$ 7.1		13.6 $\pm$ 6.8		22.3 $\pm$ 7.5	
	3	225	27.1 $\pm$ 6.9		13.7 $\pm$ 6.4		21.4 $\pm$ 6.6	
	4	200	28.2 $\pm$ 7.1		16.1 $\pm$ 7.3		23.6 $\pm$ 6.7	
	5	254	29.0 $\pm$ 7.0		16.7 $\pm$ 7.3		23.2 $\pm$ 7.0	
	6	104	28.6 $\pm$ 7.4		17.3 $\pm$ 7.1		22.4 $\pm$ 7.1	

Table 2. Categorical variables associated with burnout levels.

When it comes to dealing with quantitative variables, age and years studying the medical degree are related to higher levels of burnout in the three scores (Figures 1 and 2), and family support protects against higher levels of burnout in the three subscales (Figure 3).

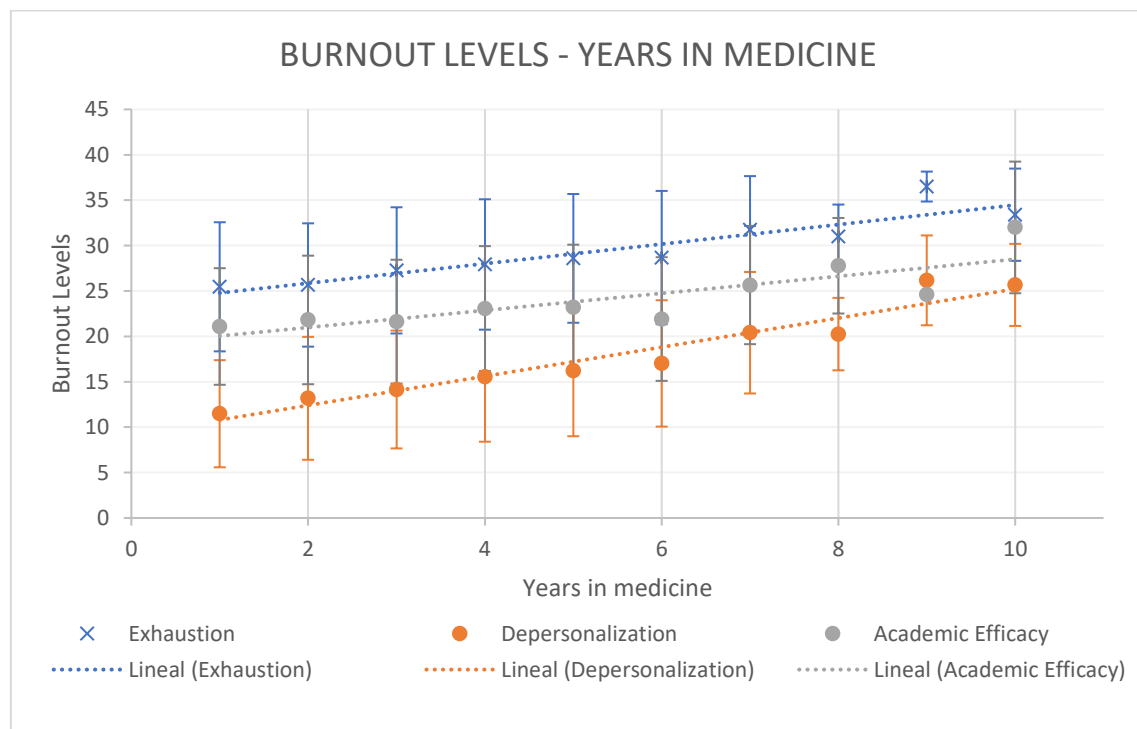
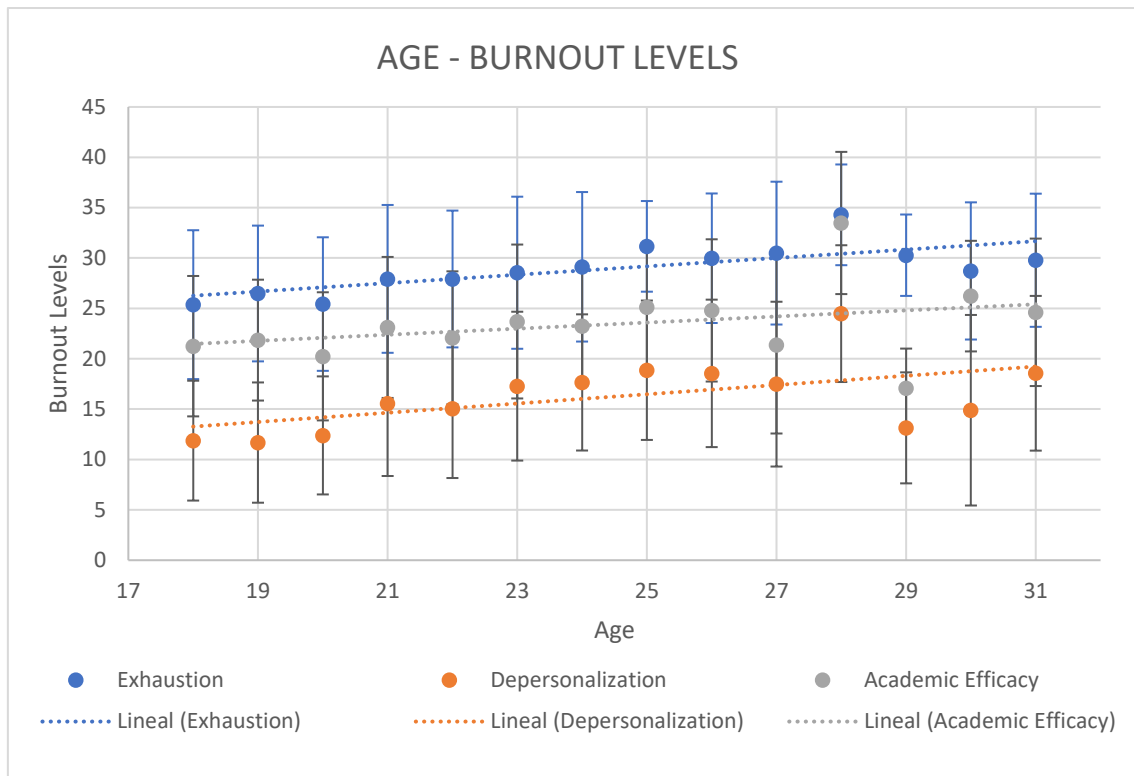
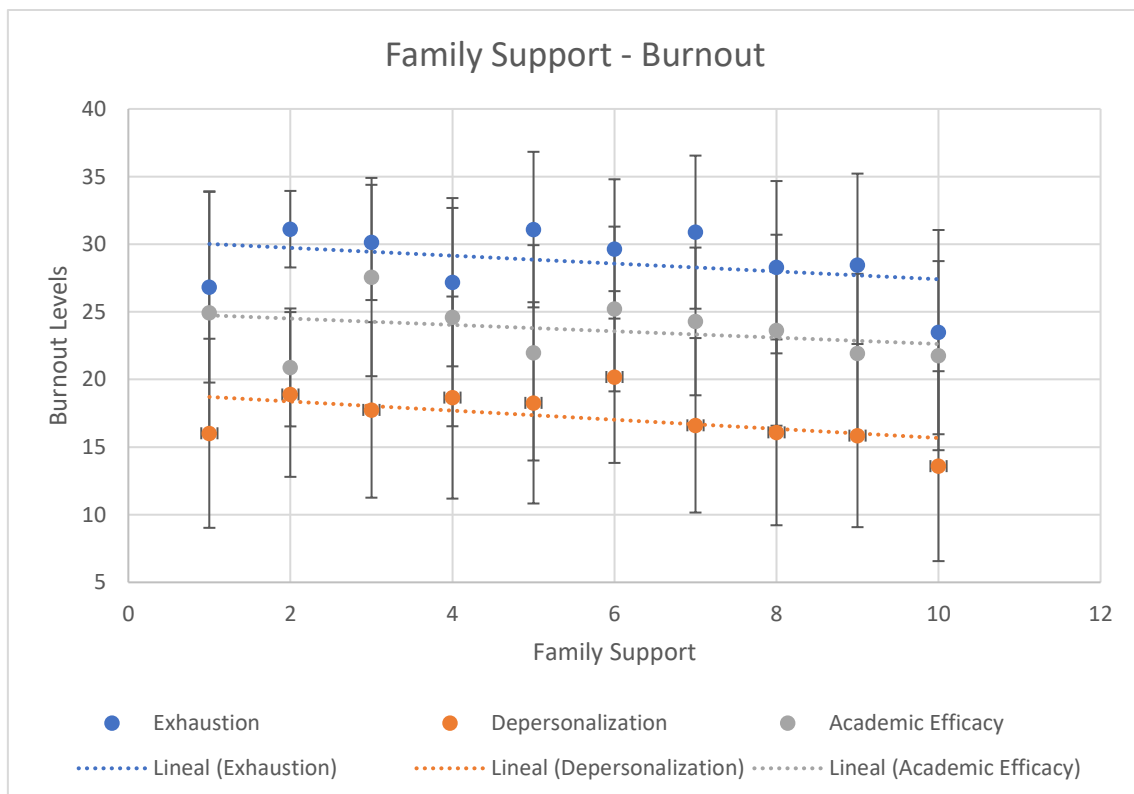


Figure 1. Years studying the medical degree associated with burnout levels.



*Figure 2. Age associated with burnout levels.*



*Figure 3. Family support associated with burnout levels.*

Table 3 shows the results of the multiple regression carried on between the personal variables and the three subscales of burnout.

Regarding exhaustion subscale, it can be seen that year of the degree, vocation and family support have negative relation with the increase of exhaustion levels, whereas years studying Medicine, age and female gender correlate positively. Nevertheless, statistically significant relation is shown between exhaustion and years studying Medicine, female gender and family support.

When it comes to speaking about depersonalization subscale, it can be seen that year of the degree, vocation and family support have a negative relation with depersonalization levels, whereas years studying Medicine, age and female gender correlate positively. Notwithstanding, statistically significant relation is shown only between depersonalization and vocation (negative relation), years studying Medicine (positive relation) and family support (negative relation).

Coming to depersonalization subscale, it can be seen that year of the degree, vocation and family support have a negative relation with academic efficacy levels, whereas years studying Medicine, age and female gender correlate positively. Nonetheless, statistically significant relation is shown between depersonalization and year of the degree (negative relation), vocation (negative relation), years studying Medicine (positive relation) and family support (negative relation).

	Exhaustion				Depersonalization				Academic efficacy				
	Coef.	95% CI		p value	Coef.	95% CI		p value	Coef.	95% CI		p value	
Year of the degree	-0.49	-1.21	0.24	0.186	-0.56	-1.25	0.13	0.114	-1.4	-2.14	-0.74	0.000	
Vocation	-0.77	-2.06	0.51	0.239	-1.83	-3.06	-0.6	0.004	-2.4	-3.59	-1.11	0.000	
Years studying Medicine	1.05	0.34	1.76	0.004	1.44	0.76	2.11	0.000	1.56	0.88	2.24	0.000	
Age	0.13	-0.15	0.4	0.360	0.14	-0.13	0.4	0.312	0.08	-0.18	0.35	0.543	
Gender	M	2.04	1.08	3.01	0.000	-0.52	-1.45	0.4	0.266	0.79	-0.14	1.73	0.095
	F	5.87	-2.02	13.76	0.145	4.85	-2.69	12.4	0.208	3.36	-4.27	10.99	0.388
Family Support	-0.35	-0.56	-0.13	0.002	-0.52	-0.73	-0.31	0.000	-0.4	-0.63	-0.21	0.000	

Table 3. Factors that influence exhaustion, depersonalization and academic efficacy subscales.

M – Male; F – Female

To sum up, there are only two personal variables that influence the three subscales simultaneously. As it is shown, time spent studying the degree is the factor relating to time that has been demonstrated to be the main risk factor to increase burnout levels in the three subscales; whereas family support seems to be the only protective factor effective against the three items valued in burnout syndrome.

Finally, the five Universities with the higher amount of answers have been compared to analyze if any difference may be found depending on the University where participants are studying. It is shown that the University where the participants are studying influence burnout levels in the three subscales. As it can be seen in *Table 4*, the participants studying in the University of Navarra presented the lowest levels of burnout in the three subscales while the participants studying in the University of Granada showed the highest ones. Cantabria and Alcala presented similar results, slightly lower than the University of Barcelona.

University	n	Burnout Levels					
		Exhaustion		Depersonalization		Academic Efficacy	
		Mean $\pm$ Sd	p	Mean $\pm$ Sd	p	Mean $\pm$ Sd	p
<b>Navarra</b>	154	24.8 $\pm$ 8.1		12.3 $\pm$ 6.6		20.9 $\pm$ 6.6	
<b>Cantabria</b>	197	27.8 $\pm$ 7.3		15.5 $\pm$ 6.9		22.2 $\pm$ 6.6	
<b>Alcalá</b>	173	28.8 $\pm$ 6.5	< 0.001	14.7 $\pm$ 7.1	< 0.001	22.3 $\pm$ 6.7	< 0.001
<b>Barcelona</b>	86	28.9 $\pm$ 6.1		16.4 $\pm$ 6.8		24.6 $\pm$ 7.3	
<b>Granada</b>	72	31 $\pm$ 6.7		18.5 $\pm$ 6.9		26.1 $\pm$ 6.6	

*Table 4. Comparison between the five Universities with higher amount answers.*

## DISCUSSION

It is crucial to understand the burnout syndrome in medical students, and several studies have been carried out in other countries such as Chile <sup>8</sup>, México <sup>9</sup>, China <sup>10, 11</sup>, Brazil <sup>12, 13</sup> or USA <sup>14, 15</sup> concerning this pathology and highlight the true transcendence of this syndrome.. Nevertheless, up until now scarce attention had been paid to determine its existence, prevalence or risk factors in Spain <sup>16</sup>. Given this, the results of this study will mainly be compared with studies of medical students from other countries.

One of the main results of this study is to conclude that a high percentage of medical students score high in one or more subscales composing burnout syndrome. It appears that in one of them, exhaustion subscale, more than 68% of the participants scored high or very high levels, something that should be worrying, given that Dahlin et al have demonstrated that high level of exhaustion in medical students are associated with poor health <sup>17</sup>, both somatic and psychiatric <sup>18</sup>. Therefore, burnout may not only affect medical students' professional development, but also it may negatively affect their health.

It is also worrying that 25% of the participants showed high or very high levels of depersonalization. And what is of the outmost concern is that nearly 14% of the participants recognize a decrease in their academic efficacy, which is the last consequence of exhaustion and cynicism.

These results agree with the ones obtained in a multicentric study carried out in Chile among 1395 medical students that showed that 1 out of 2 students suffers burnout syndrome during the degree. <sup>19</sup> The problem with these results is that higher levels of burnout during the development of the medical degree are associated with lower interest in the medical profession <sup>15</sup>, which may lead to worse medical performance associated to lower levels of empathy among future physicians. <sup>14, 20</sup> It is demonstrated that higher levels of burnout are negatively associated to empathy in physicians <sup>21</sup>, leading to worsening in medical performance. This is one of the reasons why it has been suggested that burnout in physicians is rooted in their formative period. <sup>22</sup>

Although worrying, the result obtained in this study may show that burnout levels in Spanish Medical Schools are not as dramatic as they would be in Medical Schools from other countries. Berretos School of Health Sciences carried out a study among their students that showed that, although exhaustion levels could be compared to the ones obtained in this study, the other subscales results were extremely higher than in this research. <sup>12</sup> That may mean that differences could exist in burnout depending on which country students study their Medical Degree.

Relating to that issue, burnout levels may not only depend on the country where you study, but also on the University where the student is studying. The results of this study agree with other studies<sup>9</sup> concluding that burnout levels are different depending on the University. Apparently, medical students studying the degree in state Universities are more likely to score higher in burnout subscales than those studying in private Universities.<sup>9</sup>

Having presented the prevalence of burnout symptoms among medical students in Spain, it is time to analyze what factors may influence the development of this syndrome within this population. The most striking results are those from the two factors analyzed that show statistically significant relation with the three subscales configuring burnout syndrome: family support and years spent in the degree.

How many years the participants have been studying Medicine is a detrimental factor for exhaustion, depersonalization and academic efficacy. These results grant it with the merit of being the most influential variable related to time (age and year of the degree also are referred to time). These results also open the door to thinking that the cause of the increase of burnout levels is not the age nor the year of the degree, but the time spent in the degree, given that this variable shows a collinear relationship to the other two, and could perfectly explain why burnout levels also increase with the year of the degree and age.

These results give some explanation to the results shown by some studies<sup>10, 16, 23-25</sup> that claims that burnout levels show shocking increases each year of the medical degree, without analyzing each year of the degree separately. Although these studies affirm that each year of the medical degree independently elevates burnout levels, it would probably be more accurate to say that it is caused by spending more years under the pressure and stress of the medical degree, and not directly to the year of the degree being studied.

Family support shows to be of the utmost importance when it comes to speaking about burnout development. The three subscales evaluating burnout syndrome are influenced by this factor, provoking a positive effect among the students that feel higher levels of family support. This hypothesis is strengthened by several studies that posed the idea that social isolation and vulnerability worsen burnout syndrome,<sup>8, 11</sup> and that strong family relationships and a correct motivation provided by these ease medical student's performance and protect them. This study demonstrates that burnout levels decrease with the increase in family support against exhaustion, cynicism and deter in academic efficacy.

## CONCLUSIONS

Concluding, the results of this article suggest that burnout syndrome is a prevalent condition among medical students in Spain, in all of its three subscales. It should also be noted that family support and the years spent in the degree are the two independent factors that influence the development of burnout syndrome among the variables that have been analyzed. Finally, the University where the degree is studied strongly influences burnout syndrome development.

All in all, burnout syndrome among medical students is a relevant but scarcely studied condition that must be deeply studied and that precise solutions to avoid its development and implications should be sought. Being conscious of the extreme relevance of this syndrome among medical students, it is necessary that soon from now more studies are published concerning this situation in this country.

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## ACKNOWLEDGEMENTS

The development of this study has taken a lot of hours and hard work, but I cannot say that I am the only person that has worked hard in order to carry out this research. That is the reason why it is necessary to include some acknowledgements to the people that have helped me most with this project:

- To Javier Llorca and Jéssica Alonso, the directors of this project, who always had a moment to talk and who have led me through the darkness of my first research. Thank you for believing in this project and for spending your time working with me.
- To the members of the statistics area of the “Ciencias Médicas y Quirúrgicas” department of the Faculty of Medicine who have collaborated with this study.
- To my family, and specially to my mother, given that they have been always available to hear my ideas and to share my emotions. Thank you for never getting tired of hearing me talking about the same things.
- To Sandra Borja, who was always there to help me when I got stuck, bringing fresh ideas to keep on writing. Thank you for being always by my side.
- To Eleanor Calver, who has made possible to understand this study. Thank you for teaching me, trusting me, and checking my work.
- To all my friends that have contributed to the development of this project, specially to Blanca Lucio and Javier de la Hera. Thank you for trusting me and for helping me so much times.
- To the student’s representatives of the Faculty of Medicine of the University of Cantabria, who helped me to collect the surveys, and what is more important, who raised in me the interest for the Medical Education.
- To the Faculty of Medicine of the University of Cantabria, given that it has led me to the final point of my Medical Degree.

Without the help of these people, it would have been impossible for me to develop this project, and I want them to know how proud and lucky I feel of having shared this research with them. Thank you very much.

## SUPPLEMENTARY MATERIAL

**SUPPLEMENTARY TABLE 1:** *Personal questions of the survey*

QUESTIONS RELATED TO PERSONAL INFORMATION
1. In which University are you studying?
2. What year of the Medicine degree are you studying?
3. How many years have you been studying the Medicine degree?
4. How old are you?
5. Did you start studying Medicine because of your vocation?
6. Do you feel family support to study Medicine?
7. What is your gender?

**SUPPLEMENTARY TABLE 2:** *Burnout questionnaire subscales and questions*

QUESTIONS RELATED TO BURNOUT SYMPTOMS	
EMOTIONAL EXHAUSTION	I feel emotionally drained by my studies.
	I feel used up at the end of the day at University.
	I feel tired when I get up in the morning and I have to face another day at the University.
	Studying or attending a class is really a strain for me.
	I feel burned out from my studies.
DEPERSONALIZATION	I have become less interested in my studies since my enrollment at the University.
	I have become less enthusiastic about my studies.
	I have become more cynical about the potential usefulness of my studies.
	I doubt the significance of my studies.
ACADEMIC EFFICACY	I can effectively solve the problems that arise in my studies.
	I believe that I make an effective contribution to the classes that I attend.
	In my opinion, I am a good student.
	I feel stimulated when I achieve my study goals.
	I have learned many interesting things during the course of my studies.
	During the class I feel confident that I am effective in getting things done.

**SUPPLEMENTARY TABLE 3: Results of the personal questions**

MEDICAL STUDENTS (1073)				MEDICAL STUDENTS (1073)			
		<i>n</i>	%			<i>n</i>	%
<b>GENDER</b>	Male	266	24.79%	<b>YEARS STUDYING MEDICINE</b>	1	185	17.24%
	Female	804	74.93%		2	115	10.72%
	Others	3	0.28%		3	211	19.66%
<b>AGE</b>	18	114	10.62%		4	192	17.89%
	19	99	9.23%		5	230	21.44%
	20	163	15.19%		6	99	9.23%
	21	186	17.33%		7	23	2.14%
	22	197	18.36%		8	9	0.84%
	23	166	15.47%		9	2	0.19%
	24	68	6.34%		>10	7	0.65%
	25	27	2.52%	<b>VOCATION</b>	Yes	943	87.88%
	26	17	1.58%		No	130	12.12%
	27	9	0.84%	<b>FAMILY SUPPORT</b>	High >7	914	85.18%
	28	3	0.28%		Medium	132	12.30%
	29	4	0.37%		Low <3	27	2.52%
	30	6	0.56%	<b>GEOGRAPHIC UBICATION (considering North over Extremadura, Madrid and CLM)</b>	Madrid	227	21.16%
	>30	14	1.30%		Cataluña	116	10.81%
<b>YEAR</b>	1	167	15.56%		Islands	8	0.75%
	2	123	11.46%		North	497	46.32%
	3	225	20.97%		South	225	20.97%
	4	200	18.64%				
	5	254	23.67%				
	6	104	9.69%				

University		<i>n</i>	%
<b>UNIVERSITY</b>	University of Alcalá	173	16,12%
	Alfonso X el Sabio University	1	0,09%
	Autonomous University of Barcelona	12	1,12%
	Autonomous University of Madrid	18	1,68%
	University of Barcelona	86	8,01%
	University of Cádiz	15	1,40%
	University of Cantabria	197	18,36%
	Carlos the Tirth University of Madrid	0	0,00%
	University of Castilla la Mancha - Albacete	8	0,75%
	University of Castilla la Mancha – Ciudad Real	2	0,19%
	Catholic University of Valencia	0	0,00%
	CEU Cardenal Herrera	19	1,77%
	CEU San Pablo	0	0,00%
	Complutense University of Madrid	7	0,65%
	University of Córdoba	19	1,77%
	European University of Madrid	8	0,75%
	University of Extremadura	24	2,24%
	Francisco of Vitoria University	14	1,30%
	University of Girona	1	0,09%

University of Granada	72	6,71%
International University of Cataluña	0	0,00%
University of Balear Islands	2	0,19%
Jaime the First University	0	0,00%
University of La Laguna	6	0,56%
University of Palma de Gran Canaria	0	0,00%
University of Lleida	0	0,00%
University of Málaga	38	3,54%
Miguel Hernández University	0	0,00%
University of Murcia	3	0,28%
University of Navarra	154	14,35%
University of Oviedo	40	3,73%
University of the Vasque Country	24	2,24%
Pompeu i Fabra University	0	0,00%
Rey Juan Carlos University	6	0,56%
Rovira i Virgili University	17	1,58%
University of Salamanca	30	2,80%
University of Santiago de Compostela	24	2,24%
University of Sevilla	13	1,21%
University of Valencia	12	1,12%
University of Valladolid	1	0,09%
University of Vic	0	0,00%
University of Zaragoza	27	2,52%

**SUPPLEMENTARY TABLE 4:** Results of burnout subscales

	DESCRIPTION				
	Average	Median	Standard Deviation	p25	p75
<b>Depersonalization</b>	14.83	14.1	7.09	8.67	19.56
<b>Exhaustion</b>	27.50	28.3	7.16	22.89	33.00
<b>Academic Efficacy</b>	22.38	22.3	6.89	17.67	26.22

**SUPPLEMENTARY TABLE 5:** Pearson's correlation coefficient between the burnout scales.

	Exhaustion	Depersonalization	Academic Efficacy
<b>Exhaustion</b>	1.0000		
<b>Depersonalization</b>	0.5343	1.0000	
<b>Academic efficacy</b>	0.3640	0.4688	1.0000

**SUPPLEMENTARY TABLE 6:** *Pearson's correlation coefficient between personal variables and burnout scales.*

	<b>Year</b>	<b>Time</b>	<b>Age</b>	<b>Support</b>	<b>Exhaustion</b>	<b>Deperson.</b>
<b>Time</b>	0.93					
<b>Age</b>	0.70	0.77				
<b>Support</b>	-0.11	-0.14	-0.19			
<b>Exhaustion</b>	0.18	0.21	0.18	-0.12		
<b>Deperson.</b>	0.27	0.31	0.27	-0.19	0.53	
<b>Efficacy</b>	0.09	0.15	0.14	-0.14	0.36	0.47

"Year" = year of the degree; "Time" = years studying Medicine; "Support" = family support.