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Predictors of Burnout Syndrome in university professors: An exploratory factor análisis

Predictores del síndrome de burnout en docentes universitarios: Un análisis factorial exploratorio

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ABSTRACT:

Introduction: Because of a series of psychological stress factors recognized in the teaching trajectory of university health programs, faculty are prone to experience Burnout Syndrome.
Objective: To determine the predictors of burnout syndrome among medical school teachers at the Universidad Peruana Cayetano Heredia (Peruvian University Cayetano Heredia) and Universidad Tecnológica del Perú (Technological University of Peru).
Methods: A cross-sectional study was applied to 262 teachers sampled from two of the medical school teachers in the Metropolitan Lima Region, using a random sequence generator. Data were collected using a questionnaire with consent to assess burnout syndrome using the Maslach Burnout Scale Inventory (MBI-GS) and were processed in SPSS version 23 with a significant p-value of 95%. Exploratory Factor Analysis was used to identify the determinants of burnout syndrome.
Results: The mean Cronbach's alpha of 0.85 showed that the MBI-GS assessed the same underlying construct, the results showed a low prevalence of burnout (79.4%) in the surveyed teachers. In the dimensions, burnout (43.5%) and cynicism (60.3%) scale low, while professional efficacy is high (46.6%).
Conclusions: Burnout syndrome was significantly influenced by gender and age group in all dimensions assessed with higher prevalence in teachers older than 54 years and male. However, a minority proportion of 8% was observed in teachers under 36 years of age of both genders; this shows that measures should minimize the percentage growth based on years of teaching service.

Keywords: stress factor, fatigue, cynicism, professional efficacy, burnout

RESUMEN:

Introducción: Debido a una serie de factores de estrés psicológico reconocidos en la trayectoria docente de los programas universitarios de salud, en la facultad son propensos a experimentar el síndrome de burnout.

Objetivo: Determinar los predictores del síndrome de burnout entre docentes de la facultad de medicina de la Universidad Peruana Cayetano Heredia y Universidad Tecnológica del Perú.
Métodos: Estudio transversal aplicado a 262 docentes tras muestreo de dos de las facultades de medicina de la Región Lima Metropolitana, mediante un generador de secuencias aleatorias. Los datos se recopilaron mediante un cuestionario con el consentimiento para evaluar el síndrome de burnout mediante el Inventario de Escala Maslach Burnout (MBI-GS) y se procesaron en la versión 23 de SPSS con valor p significativo de 95%. Se utilizó el Análisis Factorial Exploratorio para identificar los determinantes del síndrome de burnout.
Resultados: El alfa de Cronbach promedio de 0,85 mostró que el MBI-GS evaluó el mismo constructo subyacente, los resultados arrojaron una prevalencia baja de burnout (79.4%) en los docentes encuestados. En las dimensiones, agotamiento (43.5%) y cinismo (60.3%) la escala es baja, mientras que la eficacia profesional es alta (46.6%).
Conclusiones: El síndrome de burnout fue influenciado significativamente por el género y grupo etario en todas las dimensiones valoradas con mayor prevalencia en docentes mayores de 54 años y masculinos. Sin embargo, se observó una proporción minoritaria de 8% en docentes menores de 36 años de ambos géneros; esto indica que se deben aplicar medidas para minimizar el crecimiento porcentual con base en los años de servicio docente.

Palabras clave: factor de estrés, agotamiento, cinismo, eficacia profesional, burnout.

INTRODUCTION

Globalization, economic trends, and work competitiveness generates changes in working conditions that demand a rapid pace in work performance and this way determining transformations in the organizations that have been privileged the use of high technology, nanotechnology, artificial intelligence, among others; changes that require a fast adaptation, affecting directly the physical and mental health of the staff. The above has been generating an increase in the stress indicators in employees and the work of the university professor is not alien to this reality.

If the context above already shows a worrying scenario from the employees' perspective, now with the appearance of COVID-19, the working scenario suffered significant changes because most of the activities have become teleworking.

At the global level in 2020, the International Labour Organization (ILO) [(1)] shows an estimation of 114 million in the reduction of the work occupation, 33 million in the unemployment, and 8.8%, similar to 255 million in loss of working hours.

Meanwhile, the work market in Latin America and the Caribbean affirmed that it is in intensive care and critical, which generates an economic recession due to the COVID-19. al, which generates an economic recession due to the COVID-19. The statistical data of 2020 are formed by two digits: 10.6% This way the working macro-environment affects the dissatisfaction of the employees and supports the appearance of Burnout indicators or also called the Syndrome of Burning oneself out at work (SBW). Gonzales et al., [(2)] provided evidence of this, they showed in their study that there is a low and medium risk among professors in the School of Nursing. This can be explained by the nature of the work that involves the development of activities with students and patients. This is a situation that can lead to cumulative organic effects resulting from years of work. Therefore, distance education burnout syndrome by COVID-19 is on the rise in Peruvian universities.

Burnout, an Anglo-Saxon term, is known as "burnout syndrome" in English and it was named by psychiatrist Herbert Freudenberger in 1974, he was the first who explore the term and then, Dr. Christina Maslach continued with the research and positioned the

term in 1976 worldwide as a clinical syndrome characterized by gradual exhaustion at work, referring to Burnout as adverse reactions produced by a social service job.

From the origins of Burnout term and the studies made of the Syndrome of Burning oneself out at work (SBW), a diverse definition was built, all of them based on the Herbert Freudenberger and Christina Maslach proposals, but the majority of the authors consider it as a unique phenomenon, because of the chronic stress related to work. For Olivares [3], it is “a syndrome characterized by the emotional exhaustion, depersonalization and low personal fulfillment at work that can occur among individuals whose daily tasks are limited to the service of people”

The syndrome of Burnout is a symptom picture that the employees of different organizations like schools [4], universities [5], hospitals [6], health centers, and police units [7] suffer.

Celio [4] defines Burnout syndrome as a "psychological syndrome that implies a prolonged response to chronic interpersonal stressors in the job" in his research, which is perceived through emotional exhaustion, depersonalization, and personal fulfillment. For López & Zacarias [5], it is a "disease that affects most professionals in the workplace and produces a physical and mental exhaustion causing the development of chronic illness”; while, Montero et al., [7] refer to it as "a state of loss of energy, motivation, and commitment that is accompanied by a wide range of symptoms physical and mental.”

Teles [8] in its research "Burnout among professors of higher education: an empirical study of higher education institutions in Portugal, the results show that most of the professors affected by Burnout were women" (63.4%). The (75.6%) has among 40 and 59 years old and (68.3%) are married. The (41.5%) had among 10 and 19 service years and (39.0%) among 20 and 29 service years. (48.8%) of the professors have an open-ended employment contract and (36.6%) have a temporary contract and present higher levels of Burnout, but the self-employed worker (4.9%) appears in a residual amount. The most affected professors by Burnout are Public Polytechnic Institutes (48.8%), followed by the professors of Public Universities (41.5%)

In the Peruvian university workplace, López & Zacarias [5] obtained a result of their research that in the dimension of emotional exhaustion, the 46,3% of professors present the lowest emotional exhaustion and just 35,2% of the professors obtained the highest level of emotional exhaustion. In the matter of dimension of depersonalization, it was obtained divided results because 40,1% of the professors got a high level of depersonalization, while the 44,1% had a low level and the leftover in a mid-level. In the dimension of personal fulfillment, 59% of the professors got a low level.

The university professor feels burned out because they observe and experience the ineffective work of the authorities. They do not respect the agreement and the contest; they do not attend the demands and rather attend to the political demands and generate distancing, nonconformity, passivity, conflict among colleagues causing exhaustion because they do not find an answer. A very high emotional exhaustion is evidenced in comparison with other components, such as progressive loss of energy, emotional instability, exhaustion and fatigue from work, demands of the students with many needs, which in turn are interrelated with problems that make society feel uncomfortable [4; 5; 9; 10].

For the university professor, who throughout history has been confronted not only by the level of challenge and importance of his work (at intellectual and formative level)but also by the constant evolution and changes in the paradigms of knowledge of higher professional education. It has catalyzed informative approaches and proposals that have adapted to new needs according to the new context: the application of new methodologies and didactics for the teaching of asynchronous classes, the effectiveness of new learning methods, adaptation to technological tools; and evidence of the effectiveness of teaching performance. In this sense, the emotional and physical exhaustion involved negative attitudes, overwhelming and exhaustion of emotional resources [11].

There is much evidence to support a close relationship between working conditions such as organizational factors and specific personality traits with burnout, but there are no data regarding the impact of each of these aspects on teachers during the COVID-19 health emergency in metropolitan Lima. So, the purpose is to determine the predictors of burnout among teachers of the School of Medicine of Universidad Peruana Cayetano Heredia (Cayetano Heredia University) and Universidad Tecnológica del Perú (Technological University of Peru.) The study is presented as an opportunity to understand the importance of a psychological balance of School's university professors and its relationship with their performance effectiveness in a sui generis scenario during COVID-19. The results will design support and contingency plans to improve the work professors during stressful situations and future anticipation plans. It is evaluated the causes of stress and levels of burnout experimented by Peruvian university professors and then evaluate the prevalence of the disorder presented.

Experience and antecedents of Burnout Syndrome

The self-efficacy starts at how the professor perceives the beliefs he has about his capacity. Self-efficacy "is the capacity perceived of someone to do certain actions and achieve specific results" [12]. The researchers explore the efficiency and excellence of university professors, and one of their concerns is the core competencies of university teachers, with teaching excellence predominating. Effective learning depends on the mastery of the subject, enthusiasm, and professor-student interaction.

According to Ozamiz et al., [13], another important factor is that professors must adapt to virtual technological means as pedagogical tools, accomplish the development of the created programs in record time because of the circumstances that lead to uncertainty and anxiety in the university community in front of a "new reality" in which the professor must response fast and sometimes, without knowledge for its implementation considering that uncertain future. Different studies showed a deterioration in the teaching performance accompanied by exhaustion, stress, and propensity to develop feelings of worthless, lonesomeness, and self-destructive thoughts.

According to Levites [14], teaching is one of the professions most affected by Burnout syndrome because of the demands of skills and commitments to perform side activities of teaching. How the professors respond to these situations, emotions and feelings are reflected in their psychological well-being and emotional stability, which can lead to dissatisfaction in the workplace, generating a state of mental, emotional,

and physical exhaustion, better known as emotional burnout syndrome or burnout syndrome.

Ramirez et al.,[15] emphasize that the COVID-19 pandemic is a global public health emergency, which has had unprecedented and essentially unprecedented effects on psychophysiological health in the 21st century. The World Health Organization (WHO) defines COVID-19 as the infectious disease caused by the recently discovered coronavirus. Both the new virus and the disease were unknown before the outbreak originated in the city of Wuhan in China in December 2019. It compares the impact of previous epidemics such as severe acute respiratory syndrome (SARS-CoV) in 2003 and Middle East respiratory syndrome (MERS-CoV) in 2012, where about 35% of survivors of the first outbreak reported psychiatric symptomatology during the early recovery phase, and with MERS-CoV about 40% of those affected required psychiatric intervention.

Undoubtedly recognize the impact of COVID-19 on the mental stability of all people by the year 2021. The stress, uncertainty generated by the situation of loss, and instability because of the pandemic have generated emotional imbalances that may evolve into mental health problems in the medium term with implications in family and work environments.

In Ecuador, Argilagos et al.,[16] studied the university teachers from two universities in Ecuador, and under the data got, it can be established that the burnout syndrome is high, with more prevalence in the dimension of emotional wear (55.7%), followed by depersonalization (60.0%) and the low level of personal fulfillment (65.7%).

In Peru, there have been several studies on Burnout, but it is important to note that Peruvian studies with the analysis of psychometric properties of the MBI-GS are few, but among them is Salcedo et al.,[17] who in their results showed that, given the health emergency that is being experienced, it affects differently the levels of depersonalization, emotional exhaustion and personal fulfillment of Burnout Syndrome; in addition, he states that, in teachers, there is a medium prevalence with 82.2%, regarding emotional exhaustion; similarly, a high level prevails with 59.8%, and concerning depersonalization, a low level prevails with 53.3%. Finally, personal fulfillment prevails at a high level with 57.9%. According to Tacca & Tacca[9], there was a positive correlation with personal fulfillment. Men show greater emotional exhaustion and depersonalization, while women show greater resilience and personal fulfillment.

While Arias et al.,[18] psychological symptoms and the perception of professor efficacy were mostly significant after a correlational analysis, the correlations between Teachers´ Sense of Efficacy Scale (TSES), and Burnout were most significant and the global Burnout index was negatively, significantly, and moderately associated with the perception of professor efficacy, so for the authors, as the subjects showed greater confidence in their abilities as professors, their Burnout scores were lower. As well as statistically significant findings of differences in the degrees of emotional exhaustion and personal achievement, (F=4.12; p= 0.0172) professors with a low degree of emotional exhaustion felt more competent or with greater personal achievement (F=3.238), than subjects who felt emotionally exhausted in high and/or medium degree (F= 4.119). It can also be said that according to the study, there are significant differences based on gender, marital status, and the teaching level of the professors that results in higher levels of burnout for female school professors and moderate

levels of depersonalization for university professors, in whom negative correlations were obtained with the number of children and burnout syndrome.

Likewise, the study of Sánchez [19] stands out because showed that there's a significant difference among the Emotional Exhaustion dimension with 62.61% and the variable age, showing that younger professors are more predisposed to get exhausted emotionally. In the same way, García[20] shows that 50% of the staff are prone to suffer from burnout syndrome. In the emotional exhaustion dimension, 20% have emotional exhaustion and 50% are prone to suffer from it.

In consequence, the social demands like the professor-student interactions are daily and generate rates of physical and psychological exhaustion. "The exhaustion affects the personal and social functioning. This decrease in the quality of work and both physical and psychological health can be costly, not only for the worker but for all those affected by that person" [21].

Palacios [9] stated that because of his research, most of the participants did not present burnout syndrome per se, but high levels of emotional exhaustion, medium levels of cynicism, and high levels of professional efficiency were observed.

Ibarra [22] found a high percentage of professors with a low level of emotional exhaustion (66%), a low feeling of personal fulfillment (38.20%), and a high percentage of professors between medium and upper depersonalization (72.9%). Regarding demographic and work variables, significant differences were found with gender in the measurement of emotional exhaustion and depersonalization.

Likewise, Carrillo [23] determined that there is a relationship between the variables Burnout Syndrome and work satisfaction and that it is a weak negative correlation, and also, 55.4% of the teachers have a high level of Burnout Syndrome and 67.9% had a regular work satisfaction.

Aguilar & Aquino[11] found the following results: that 80.1% of professors have a low level of Burnout Syndrome, i.e. low depersonalization, low emotional exhaustion, and reduced personal fulfillment, especially in hired professors; it was also found that 72.3% correspond to older adults, of whom 43.9% are female.

The results show that fatigue and cynicism present a high and positive correlation among them and a negative relation with the professional effectiveness whose value is the highest with cynicism correlation. It is also perceived that demands are positive and are significantly related to Burnout, but just in Burnout and cynicism dimensions and not in Professional Effectiveness.

In the same way, more than half of the professors experience emotional exhaustion, like loss of energy, burnout, and perceive negatively their work, as well as they present traits of cynicism and insensitivity in the depersonalization dimension; they do not feel good concerning personal fulfillment [10].

METHODOLOGY

This is a descriptive investigation since the empirical evidence is used to reach conclusions to show the level of burnout experienced by medical teachers in COVID-19. The fieldwork was made from July to September 2020. Professors from different universities in Peru took part in the research, who were carrying out academic activities virtually, either synchronously or asynchronously at the time of applying the instrument. Specifically, the research team, knowing the reality of the Peruvian university system, determined the following profile as inclusion criteria: a person with at least 10 years of experience in his or her professional field, at least a Master's degree, male or female, who has worked for at least 5 years as a university professor. Within these parameters, the sample ended up the same as appears in Table 1.

Table 1. Participants according to areas

Professional specialization	Count	Percentage
General Medicine	94	35.88
Statistics	22	8.4
Biochemical	17	6.49
Engineering	52	19.85
Social sciences	77	29.38
TOTAL	262	100.00

Source: Own elaboration

According to the age group, the sample was formed as shown in Table 2.

Table 2. Participants according to age group

Age	Count	Percentage
Less than 36	19	7.25
36-44	46	17.56
45-54	77	29.39
Greater than 54	120	45.8
TOTAL	262	100.00

Source: Own elaboration

Applying the basic statisticians of the total of respondents, 63% were male and 37% were female with ages ranging from 27 to over 68 years, with M_{age} = 53 years old, DE

$_{age}$ = 11.3. With professors that come from private universities, the M $_{age}$= 51.3 years old, DE $_{age}$ = 11.4, while in public universities the average age was 56.23 with DE $_{age}$= 10.58.

It's pertinent to point out that the original instrument is the MBI-GS scale (Maslach Burnout Inventory Educators Survey) of 21 items, adapted by Maslach et al., [24] to apply to different occupational groups, as it has a general content since it is aimed at different occupational contexts. Then, Schaufeli et al., [24] make a reduced version of 16 items. The official translation for the Spain version was made by Salanova et al., [26] with a Likert Scale of 6 alternatives (0 to 6) composed of 3 dimensions: Fatigue, Cynicism, professional efficiency [24].

Procedure

Before the fieldwork, a Focus Group online was held with 12 professors from the Universidad de Lima (University of Lima) and Universidad Nacional Mayor de San Marcos (National University of San Marcos) to socialize and verify whether the arguments of the test were understandable. Then, through Google Forms, surveys were administered between July and September 2020 to determine the level of stress experienced by professors. In the first part of the Google Forms presentation, the purpose of the research was communicated objectively and clearly to the professors, leaving them free to accept or reject voluntarily, before starting and completing the virtualized scale. In this way, informed consent was evidenced, guaranteeing anonymity and confidentiality in the treatment of the responses.

Thus, 327 surveys were initially collected. Subsequently, they underwent a quality control process, in which professors from foreign universities, professors who did not hold a master's degree, and professors from Higher Technological Institute were dismissed. In Peru, they are not considered as a university rank. Thus, 65 surveys were eliminated because they did not fit the required profile, leaving a sample of 262 participants.

For statistical validation, an exploratory analysis was first carried out to detect extreme values, and it was found that there were no such values. Then, it analyzed the factorial structure of the test, applying the Confirmatory Factor Analysis (CFA) and finding strong estimators using the Lavaan package through the application R. The results indicated that: (1) Item 1: I feel emotionally exhausted because of my work, and Item 2: I feel tired at the end of the workday, have similar content and must be correlated in the model, (2) Items: 07: My work inspired me, 13: I get carried away by my work and 14: I am engaged in my work, which correlates with fatigue and cynicism dimensions, reason that they were removed from the model. Similar results were obtained in the research of Martínez et al., [27], just as Juárez et al., [28].

RESULTS

In Table 3, the factor loading of each item of the survey is presented, these must fulfill the condition to be major to 0.45. In this sense, items 3, 6, 8, 9 are the most representative in the measurement ($p = 0.000 \leq 0.05$). However, item 5 is recommended to exclude future studies in the faculties of medicine to not affect the load of the study sample ($p = 0.122 > 0.05$).

Table 3. Factor loading of each item of the survey MRI-GS

Dimension	Item No.	Arguments of the items	Factor Loading	p-value
Fatigue	1	I feel emotionally exhausted because of my work.	0.83	0.001
	2	I feel tired at the end of the workday.	0.83	0.018
	3	I feel fatigued when I wake up in the morning and have to deal with another workday.	0.90	0.000
	4	I feel stressed about working all day.	0.89	0.040
	6	I feel burned out because of my work.	0.90	0.000
	8	I become disinterested since I started the work.	0.98	0.000
Cynicism	9	I have lost enthusiasm in my work.	0.93	0.000
	15	I doubt the value of my work.	0.76	0.036
	5	I can solve the problems that arise in my work effectively.	0.53	0.122*
Professional Efficiency	10	I strongly believe I am good at working	0.88	0.012
	11	I am fulfilled when I accomplish something in my work.	0.92	0.050
	12	I have done many worthwhile things in my work.	0.89	0.022
	16	I am sure that I am efficient in doing tasks in my work.	0.81	0.093

*No statistical significance. Source: Own elaboration

The correlations of the three dimensions are presented in Table 4. There is a moderate association between Cynicism and Fatigue (0.69), while Professional Efficiency was inversely proportional to the rest of the dimensions (-0.41) and (-0.21) respectively. It inferred that the professors decrease the quality of pedagogical praxis if fatigue and cynicism increase in each working day.

Table 4. Correlations among Burnout Dimensions

Dimensions	**Fatigue**	**Cynicism**	**Professional Efficiency**
Burnout	1.00		
Cynicism	0.69 (p =0.000)	1.00	
Professional Efficiency	-0.41 (p =0.032)	-0.21 (p =0.039)	1.00

Source: Own elaboration

Table 5 shows the results of the appreciative scale by age group; it is evidenced that Group 4 of professors older than 54 years old have the highest prevalence of Burnout with 45.80%, followed by group 3 between 45 and 54 years old (29.39%). In contrast, group 1 of professors under 36 years old is the highest-rated. It shows that fatigue influences representatively on the sample.

Table 5. Average assessment scale of the dimensions by age group

Scale and percentage		**G1: less than 36**	**G2: 36-40**	**G3: 45-54**	**G4: greater than 54**	**Total**
Lower	Count	7	17	36	54	114
	%	2.67	6.49	13.74	20.61	43.51
Middle	Count	6	12	23	36	77
	%	2.29	4.58	8.78	13.74	29.39
Upper	Count	6	17	18	30	71
	%	2.29	6.49	6.87	11.45	27.10
Total	Count	19	46	77	120	262
	%	7.25	17.56	29.39	45.80	100.00

Source: Own elaboration

In the same way, Table 6 confirms that the male group (62.60%) presents a higher Burnout index than the females (37.40%). This shows that the gender of medical school professors matters in assessing the prevalence of Burnout, measured in all dimensions (Fatigue, Cynicism, and Professional Effectiveness).

Table 6. Average assessment scale of the dimensions by gender.

Fatigue level/ Gender		Female	Male	Total
Lower	Count	41	73	114
	%	15.65	27.86	43.51
Middle	Count	29	48	77
	%	11.07	18.32	29.39
Upper	Count	28	73	71
	%	10.69	16.41	27.10
Total	Count	98	164	262
	%	37.40	62.60	100.00

Source: Own elaboration

DISCUSSION

The results of the research show on average a low tendency in the levels of Burnout with 79.4% in university professors. However, in an analysis at the level of dimensions, the results are disparate. Thus, in the three dimensions that make up the Maslach Burnout Inventory Educators Survey (MBI-ES) model, in the fatigue dimension, the prevalence was 43.5% at a low level, in the cynicism or depersonalization dimension the prevalence was 60.3% at a low level, and in the efficacy or personal fulfillment dimension, the prevalence is at a high level with 46.6%. Along with the same point, the study by Torres[29] carried out on professors at a Bolivian university shows that 70% of those surveyed are stressed, and in terms of the dimensions, 55% have fatigue or emotional exhaustion, depersonalization or cynicism reaches 60%, while 45% of the professors surveyed gave up their objectives (personal efficacy). Another study is that of Manzano[30] conducted on basic education professors in Ecuador, which shows different results from ours. Thus, 29% of the professors of the educational unit suffer from emotional exhaustion, 17% of the respondents suffer from depersonalization, and 85% of the professors present a high level of fulfillment. In the same way, another study by Salcedo et al. [17] applied to elementary school professors in Metropolitan Lima, presents disparate results, because 82.2% of the respondents say they have a medium Burnout.

At the dimension level, the differences are also significant, because in the fatigue dimension the high level prevails with 59.8%, in the cynicism or depersonalization dimension the low level prevails with 53.3%, and in the efficacy or self-fulfillment dimension the high level prevails with 57.9%. Although at a general level there is proximity in the levels of Burnout, it is in the dimensional levels where the results are disparate. In a finer analysis with the results of Torres[29], it was found that there are marked differences, because, with the data of the present investigation, they were shown in a low position (Burnout and Cynicism dimensions) and high (personal efficacy dimension) In that vein, according to the results of Torres' study[29], the

Burnout Syndrome would be associated with the increase of students in each section (30 to 50 students), causing professors to lose their personal goals and vision of the future (45%), followed by inactivity (30%), abandonment of their family project (15%) and feelings of loneliness (10%). As observed, all the studies on Burnout Syndrome correspond to the same year (2020), a period when the COVID-19 pandemic was at its highest level of contagion (1st wave), forcing all public and private educational institutions to implement on the virtual and distance teaching. According to our studies, the reinvention from face-to-face to virtual format, would not have significantly affected university professors.

As the second part of the data, collection instrument is related to sociodemographic data, it can be observed that there are some interesting results. In the fatigue's case dimension, at the level of faculty or specialties where the professors teach, the results found are broken down in the following order: health sciences areas with 6.5%, mathematical and exact sciences areas with 8.4%, engineering areas with 19.4%, art areas with 29.4%, and economic and business areas with 35.9%. Contrasting these results with Hidalgo's research[31], also aimed at measuring Burnout Syndrome in university professors, where the high degree of emotional exhaustion and depersonalization were the most prevalent in 88%, while in the dimension of professional effectiveness they have a low level of prevalence (77%), the latter, related to personal fulfillment, assessment of achievements and productivity at work, our results are at the opposite extreme. Such results are a pending task to be studied in the future. A preliminary explanation could be that we have migrated to e-learning as a result of the COVID-19 pandemic, where technology shortens distances and facilitates the teaching-learning process.

With age, the levels of fatigue are directly related. Thus, only 7.3% of professors under 36 years of age expressed Burnout. This statistic increases as age increases: 17.5% expressed fatigue among professors aged 36 to 44, 29.4% among professors aged 45 to 54, and 45.8% expressed Burnout among professors older than 54 years old. In conclusion, these figures allow us to deduce that age is a determining factor in the levels of fatigue that university professors may experience. Analyzing the type of universities where they work in comparison with the levels of Burnout, the respondents stated that 57.6% work in private universities and 42.4% work in public universities. To distinguish, the trend is the same; it is worth mentioning that the 43.5% who are in the low fatigue levels, 54.4% come from private universities as opposed to public universities. To distinguish, the trend is the same; it is worth mentioning that the 43.5% who are in the low fatigue levels, 60.6% come from private universities as opposed to public universities.

Finally, the results shown in this study are not conclusive. A longitudinal study sustained over time is necessary to monitor the changes that professors will surely experience. Information and communication technologies, in the pandemic, are indispensable means for the teaching-learning process. There is a need to measure the impact on the work of university professors.

CONCLUSIONS

The Burnout Syndrome of medical professors in Peru is significantly influenced by gender and age group in all dimensions of assessment and is more prevalent in

professors older than 54 years and male. However, a minority proportion of about 8% is observed with Burnout prevalence in professors under 36 years of age of both genders; this shows that the dimensions of Burnout, cynicism and professional efficacy are factors to be considered in this sector of the sample to minimize the percentage growth based on years of service. This study shows that perceived professional efficacy applies a mediating effect on the relationship between Burnout and fatigue. Given these results, a proposal is made to prevent Burnout in teaching professionals of medical schools in the Metropolitan Lima region, reinforcing the satisfaction of the environment and thus increasing the quality of teaching practice perceived by university students and that the institutions provide specific training on the syndrome. It is necessary that the professor's work is recognized by university trustees and students, and that he/she receives affective and social compensation to minimize the prevalence of Burnout in the medium term.

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