IJMS INTERNATIONAL JOURNAL of MEDICAL STUDENTS

Original Article

Burnout in Ophthalmology Residents in a Tertiary Referral Hospital in Mexico City

Lourdes Adriana Medina-Gaona,[1] Gerardo García – Aguirre,[2] Guillermo Salcedo – Villanueva,[3] Flor Angélica Jácome – Gutiérrez.[4]

Abstract

Background: Burnout is a syndrome conceptualized as a consequence of chronic workplace stress and is characterized by three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. The Maslach Burnout Inventory (MBI) is the most widely used instrument to assess burnout. Due to cultural, political, and sociocultural factors, burnout rates are reported to be higher in Mexico. This study aimed to determine the prevalence of burnout and the factors associated with its development among residents in general ophthalmology and subspecialties at the Asociación Para Evitar la Ceguera (APEC) in Mexico using the MBI. **Methods:** A cross-sectional survey was conducted using Google Forms and distributed via social networks and email between January and March 2023 to residents training at APEC. The survey consisted of five sections, including the MBI. Data analysis was performed using the SPSS statistical package. **Results:** A total of 55 responses were obtained from 122 residents, yielding a response rate of 45%. The prevalence of burnout was 76% (95% CI: 0.65–0.88). Factors significantly associated with burnout included lack of sleep, self-perception of an unhealthy diet, and the number of days per week spent providing consultations. Additionally, burnout was associated with residents' self-perception of having made medical errors. **Conclusion:** Burnout is highly prevalent among ophthalmology residents. Several factors may contribute to its development, particularly sleep deprivation and increased workload. Conducting studies of this nature is essential to identify risk factors and to design effective interventions aimed at improving the well-being and performance of this population.

Introduction

Burnout can occur in any professional, nevertheless its prevalence has become particularly high among health workers. This has become a global health problem that affects the economy. Its consequences include but are not limited to the increased risk of medical errors, depression, and adverse effects on patient safety 1,2. There is a high prevalence in residents, and doctors who are doing their specialty. In a meta-analysis, a prevalence of 35.1% was reported without dividing by specialties, where a higher prevalence was also seen in surgical residencies/emergency departments than in clinical specialties.[1,29] Few data can be found concerning ophthalmology residents.

Burnout is a syndrome that is included in the eleventh revision of the international classification of diseases (ICD-11) as an occupational phenomenon. It is not classified as a medical condition. This is defined as a conceptualized syndrome resulting from chronic stress in the workplace that has not been managed correctly and is characterized by three dimensions.[3]

- Emotional exhaustion: feeling of lack of energy or tiredness
- Depersonalization: increased mental distance from work or feelings of work-related negativity or cynicism
- Personal achievement: decreased personal satisfaction

One of the medical specialties conceived as having a better quality of life is ophthalmology, however, it has also reported high burnout rates among residents. In a national survey carried out in the United States in 2018, 63.3% of doctors in training presented at least one criterion for burnout.[4] Another study in Saudi Arabia reported a prevalence of 41%.[5] In Mexico, the state of Durango reported a prevalence of up to 89.6% in residents of various specialties.[8] In another study in a family medicine unit in the City of Obregon in Sonora, a prevalence of 45.2% was obtained.[9]To our knowledge, no burnout studies have been done on ophthalmology residents in Mexico. As seen in the other studies mentioned, burnout in other residents in our country is higher than in other countries, variables like cultural, socioeconomic, and political differences establish different challenges that influence burnout prevalence. Our hypothesis was that more than 50% of ophthalmology residents would present burnout syndrome as Mexico presents a healthcare system characterized by an increasing amount of work, long working hours and higher levels of burnout.

[1] Medical Resident of Ophthalmology. Asociación para Evitar la Ceguera en México I. A. P., Mexico.

[2] Attending Physician. Retina Department, Asociación para Evitar la Ceguera en México I. A. P., Mexico City and Clinical professor of ophthalmology, School of Medicine and Health Sciences, Tecnologico de Monterrey, Mexico City, Mexico

[3] Attending Physician. Retina Department, Asociación para Evitar la Ceguera en México I. A. P., Mexico.

[4] General Physician from Universidad Popular Autónoma del Estado de Puebla, Mexico.

About the Author: *Currently First Year Medical Resident in Ophthalmology in Mexico City of a total of three years. She is also recipient of the first place of her generation and has being student editor in IJMS for two years.*

Correspondence:

Lourdes Adriana Medina-Gaona.

Address: Calle Vicente García Torres 46, San Lucas, Coyoacán, 04030 Ciudad de México, CDMX, Mexico.

Email: dra.lourdesmdg@gmail.com

Submission: Jul 14, 2024
Revisions: Sep 9, 2024, Apr 24, Jul 11, 2025
Responses: Oct 12, 2024, May 24, Aug 10, 2025
Acceptance: Aug 17, 2025
Publication: Dec 14, 2025
Process: Peer-reviewed

The objective of this research is to determine the prevalence of burnout and factors associated with it in general and highly specialized ophthalmology residents at the Hospital for Blindness in Mexico City using the Maslach Burnout Inventory (MBI).

Methods

A survey was carried out in Google Forms sent through social networks (WhatsApp), institutional email, and notice in the general sessions from January 2023 to March 2023 for the collection of data in general and highly specialized ophthalmology residents who are in the Association To Prevent Blindness (APEC) in Mexico. This protocol was approved by the Hospital Ethics Committee under the name BURNOUT2022. Google Forms was the format used in this study as it is a new tool that provides a practical way to do this kind of research. The population studied was in a young age range, must of the users of WhatsApp as it is a mechanism of communication between residents and also from the medical directors of our institution.

The inclusion criteria were general and/or highly specialized ophthalmology residents at APEC and residents who agreed to answer the survey. The exclusion criterion was the failure to complete the survey. The survey is divided into 5 sections. The first section consists of informed consent approved by the Hospital Ethics Committee. The second consists of demographic data and questions about healthy habits such as hours of sleep, hours of living with the family, and healthy eating, the third about the environment and work in the hospital (hours on call, number of patients seen in a day), The fourth section consists of the Maslach Burnout Inventory (MBI).

The Maslach Burnout Inventory (MBI) Scale was created in 1982 by psychologist Cristina Maslach and Michael P. Leiter, it is currently the most used to evaluate this pathology, evaluating the three dimensions mentioned above 10. National surveys in Saudi Arabia and the United States used this tool to evaluate the prevalence of burnout in ophthalmology residents.[4,5] Likewise, other studies carried out in Mexico by gastroenterologists at the National Institute of Medical Sciences and Nutrition Salvador Zubirán[6] used this tool to measure burnout. This tool has been validated in Spanish for use in Spanish-speaking countries.[7]

This survey consists of 22 questions, each one evaluating one of the three spectrums of burnout: emotional exhaustion, personal fulfillment, and depersonalization. The possible ones range from 1-6 where 0 is never and 6 is something that happens every day. The score is added according to which category the question belongs to. It is considered a probable burnout if it tests positive in any of the three categories. The fifth section asks questions about depression and anxiety ***(Supplementary Material).***

Data was organized in an Excel file. Statistical analysis was done in SPSS Statistical Package V25.0. Chi squared test was used for categoric variables and for continuous variables ANOVA test was performed. STROBE checklist was reviewed for this study:

Results

A total of 55 responses were obtained from a total of 122 residents (45% rate response). where 25 were men and 30 were women. The average age was 29 years (SD ± 2.22). Only 4 (7.3%) of them are married. 52% of the participants are doing residency for general ophthalmology while 47% are doing some high specialty such as cornea, glaucoma, and retina, among others. Thirty-two residents mentioned whether they engaged in physical activity for an average of 2 hours. 78% consider that they do not eat healthily and eat an average of two and a half meals a day. The average number of hours spent with his family was 5 hours per week. Regarding sleep, on average residents sleep 5.9 hours, while on on-call days this is reduced to an average of 4.7 hours.

Regarding the work environment, residents on average spend 1 day a week in the operating room and the rest in the consultation. A median of 45 hours of resident time spent in the hospital was reported, with an average of 25 patients seen per day. It is important to emphasize that 80% consider that paperwork causes them emotional exhaustion and 72% do not believe that their social life is balanced with their work life. Despite this, 83% feel supported by their colleagues. In the last section of the questionnaire, about anxiety and depression questions, 63% have gone to a psychologist or psychiatrist and 56% reported having been diagnosed with one of these two pathologies. 10% reported having had suicidal ideas. Despite these numbers, only 34% currently receive some type of therapy and 21% take some medication for one of these two entities ***(Table 1).***

Regarding the MBI in their respective categories, 63% of the residents presented a high level of emotional exhaustion. 58% presented high levels of depersonalization and 20% obtained a low level of personal accomplishment. A probable burnout is considered when at least one of the categories scores with a high score in the case of emotional exhaustion and depersonalization and a low score in the case of achievement. According to the information mentioned before it was found that 76% (IC 95% 0.65-0.88). of the residents have scores suggestive of burnout ***(Figure 1).*** 69% commented that due to fatigue they have made mistakes with patients.

The factors associated with the various categories of burnout are shown in ***Tables 2*** and ***3***. The only variable significantly associated with burnout was the self-perception of eating a balanced diet (p 0.01). Likewise, the hours of sleep of residents who obtained a positive burnout score versus those who did not (5.88 ± 0.96 vs 6.23 ± 1.53 p = 0.04). Another variable to highlight is the hours of living with the family per week where doctors with burnout obtained an average of 4.60 ± 7.18 hours versus those without an average of 7.69 ± 11.11 hours with a p = 0.013. Regarding the hospital setting, the significant variable was the days a week spent in the consultation; people with burnout averaged 4.24 ± 0.9 days, and those without burnout averaged 3.54 ± 1.4, obtaining a p = 0.05. As a consequence of burnout, it was significantly associated with a self-perception of a greater risk of committing medical errors (p= 0.04).

Table 1. Demographic and Lifestyle Data of Ophthalmology Residents.

Demographic and behavioral variables of residents		Total	Percentage n= 55
Sex	Men	25	45%
	Women	30	54%
Civil status	Single	51	92%
	Married	4	8%
Grade of study	General Ophthalmology	29	52%
	High specialty (glaucoma, retina, cornea etc)	26	47%
Year of residency	R1	8	14%
	R2	12	21%
	R3	9	16%
	R4	13	23%
	R5	13	23%
Does physical activity	No	23	41%
	Yes	32	58%
Considers he/she its healthy	No	43	78%
	Yes	12	21%
Do you feel that paperwork is emotionally draining?	No	11	20%
	Yes	44	80%
Are you satisfied with your work and social life?	No	40	72%
	Yes	15	27%
Do you feel supported by your colleagues?	No	8	14%
	Yes	46	83%
Have you sought professional support for mental health?	No	20	36%
	Yes	35	63%
Do you take any medication to regulate your mood (fluoxetine, paroxetine, etc.)?	No	43	78%
	Yes	12	21%
Currently receiving therapy	No	36	65%
	Yes	19	34%
Has had suicidal thoughts	No	49	89%
	Yes	6	10%
Have been diagnosed with depression or anxiety	No	24	43%
	Yes	31	56%
Due to fatigue he/she has made mistakes with patients	No	17	30%
	Yes	38	69%

Table 2. Quantitative Variables Associated with Burnout.

Variable	Burnout Yes	Burnout No	*p**
Hours of exercise in the week	2.05 ± 2.65	3.46 ± 2.72	0.46
Hours of the sleep in the day	5.88 ± 0.96	6.23 ± 1.53	**0.04**
Hours spent with family per week	4.60 ± 7.18	7.69 ± 11.11	**0.013**
Days of the week giving consult	4.24 ± 0.9	3.54 ± 1.4	**0.05**
Average of patients seen in consult	26.43 ± 12.58	22.08 ± 8.87	0.79
Average hours in the hospital during the week	36.88 ± 24.54	27.08 ± 21.89	0.84

Legend: * p value calculated with T-student test.

Table 3. Qualitative Variables Associated with Burnout.

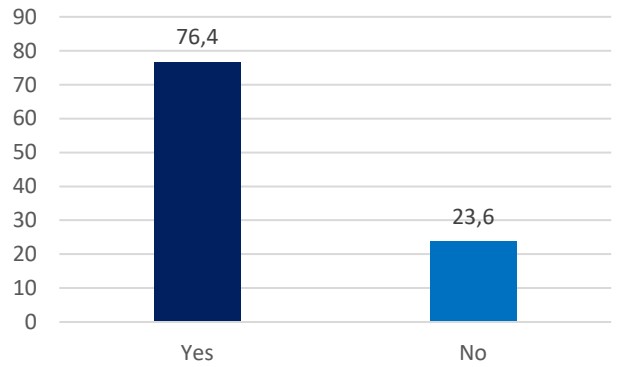
Variable	OR (IC 95%)	*p**
Gender	1.03 (0.29-3.61)	0.95
Civil status	0.27 (0.03-2.18)	0.19
Grade of Residency	1.06 (0.30-3.69)	0.93
Does physical activity	0.33 (0.07-1.37)	0.11
Self-perception of balanced eating	0.19 (0.04-0.78)	**0.01**
Self-perception of performing administrative tasks is exhausting	1.27 (0.28-5.72)	0.75
Self-perception of balance between work and social life	0.31 (0.08-1.18)	0.08
Self-perception of feeling supported by colleagues	2.22 (0.45-10.91)	0.32

Legend: * p value calculated chi Chi squared - test

Discussion

Burnout has become a pandemic in the medical world. Although the specialty of ophthalmology is considered "kind" in residency, studies have proven that this residency can present high levels of burnout. In our study, 76% had data suggestive of burnout, while in the United States in a national survey, it was obtained 63.3%[4,30] while Saudi Arabia obtained 41%.[5] The number of residents with burnout is higher in our study, it could be due to the social, political, and economic conditions different from the countries where the previously mentioned studies were carried out.[28]

Figure 1. Residents with a Category Affected Indicating BurnOut**.**



Sleep is one of the habits that allows us to maintain good health and is essential for our well-being according to the Centers for Disease Control and Prevention (CDC).[11] Lack of sleep has physical, cognitive, and mental health effects. The American Academy of Sleep Medicine (AASM) recommends that healthy adults sleep from seven to more hours.[12,31] The residents averaged 5.36 hours of sleep per day, which is already less than recommended. When analyzing the residents with burnout, it was observed that they slept significantly less. In a review that analyzed the impact of lack of sleep and alterations in the circadian cycle in doctors with burnout, a model is described that explains the relationship between burnout and poor sleep, where the mechanisms are: energy depletion and activation of the hypothalamus-pituitary-adrenal axis increasing stress levels in the body. This stress is related to failure in learning, difficulty in memory consolidation, emotional regulation, and cardiovascular health.[13,14] The AASM stated in 2020 that sleep deprivation in doctors is related to higher rates of burnout, so the problem must be visualized and addressed.[15]

One of the factors associated with burnout in our study was the self-perception of eating balanced. The National Health Service of the United Kingdom defines this as eating foods from various food groups in the correct portions, eating the right amount of food, and drinking enough liquid to maintain a healthy body.[16] It has been found that diet is affected by burnout syndrome. The stress that people with this syndrome have influenced the diet that these individuals have, contributing to excess or lack of intake, which causes the release of stress hormones that have been related to central obesity.[17] However, other studies have reported that calorie intake does not seem to have an impact on the development of burnout, but rather is a consequence of it. Although more studies are necessary regarding diet and burnout in residents, it is important to emphasize that an association has been observed between this syndrome and increased cardiovascular risk.[18]

In our study, residents with burnout worked 1 more day of consultation per week, this being statistically significant, however, the number of patients per workday did not show a significant association. A study carried out in the Netherlands conducted a survey on doctors from 2017 to 2018 on the experience questionnaire, work evaluation, and survey of the doctor's work-life related to patient-associated burnout, where it was seen that doctors with high workloads and little opportunity of professional development were more likely to have burnout.[19] A systematic review of interventions to reduce burnout in doctors found that reducing the number of working hours reduces the burnout score, mainly in the emotional exhaustion section.[20]

Finally, it is important to emphasize that in our study a statistically significant correlation was found between the self-perception of making medical errors and residents with burnout. Various studies have evaluated the impact of this syndrome when dealing with patients. In a study carried out in the United States from 2018 to 2019 where doctors from various parts of the country were recruited, a correlation was observed with burnout and the probability of self-reporting a medical error, increasing by 27%.[21] Likewise, a meta-analysis looked for the impact of burnout on patient safety and professionalism, finding that the higher the burnout index, the greater the probability of committing a medical error.[22] Due to the repercussions it has on the health of medical personnel, the health of patients, and the economic cost that this entails[23] this problem must be more analyzed and studied.

One of the factors that should be taken into account is the background of the COVID-19 pandemic, which these residents have suffered. This disease presented a challenge to health workers. Studies were made in intensive care units and emergency departments during the COVID-19 pandemic, and analysis of several studies showed a prevalence of 49.3 to 58%.[23] In another study, all health workers who took care of COVID-19 patients presented a prevalence of 53%.[24] A study made in Israel compared burnout before and during pandemics where a significant correlation was found in having higher levels during pandemics.[25] It could be possible that the COVID-19 pandemic affected the levels of burnout, nevertheless, further studies of BurnOut post-pandemic must be conducted to determine a possible effect.

Various interventions have been carried out to address this public health problem, among the most effective were: improving communication skills, teamwork, participation programs, self-care workshops and psychological interventions.[26] With the findings of our study, it is likely that reducing working hours may reduce burnout scores.[20 27, 29] As working hours reduce more hours could be gained for sleep and other activities that the resident need to have a lower sensation of stress.

Our study has several limitations, including a small sample size, this could create a nonresponse bias. Participation in this study was low, more studies should be done to increase the sample. In addition, our study, due to its design, could not determine the causality of the various factors analyzed. Other bias in our study was the method of application through Google Forms, nevertheless we believe do to the characteristics of our population, the majority of residents have an email or WhatsApp account as it is the way hospital gives new information.

Conclusion

Burnout is a public health problem, which has reached very high levels of prevalence, mainly in health personnel. This is related to

the impact on the person's health, both mental and physical, and an increase in medical errors that lead to increased costs in health systems. Various factors can influence the appearance of this burnout, including little sleep and increased working hours. Likewise, this ends up influencing physical health, promoting an increase in cardiovascular risk and the self-perception of making mistakes when treating patients. It is necessary to carry out more studies to determine the prevalence and associated factors in Ophthalmology residents in Mexico, which would help clarify the panorama and contribute to being able to carry out actions aimed at this population in the various hospitals that teach this discipline. Several interventions have been studied to be effective such as reducing working hours, improving communication skills, psychological interventions, self-care workshop, among others. Mental health should be addressed in medical residents in order to give the best care possible to our patients.

Summary – Accelerating Translation

Burnout en Residentes de Oftalmología en un Hospital de Tercer Nivel de la Ciudad de México

El síndorme de burnout se ha convertido en un problema de salud pública, existiendo pocos datos sobre su prevalecia en residentes de oftalmología en México. El objetivo de esta investigación es determinar la prevalencia de burnout elevado mediante el MBI así como determinar los factores asociados al mismo en los residentes de oftalmología general y de alta especialidad en la Asociación Para Evitar la Ceguera (APEC), el cual es un hospital de alta especialidad en la Ciudad de México.

Metodología

Se realizó una encuesta en Google Forms enviada mediante redes sociales (Whatsapp) y correo electrónico en Enero 2023 a Marzo del 2023 para la recolección de datos en Residentes de oftalmología general y de alta especialidad que se encuentren el APEC. La encuesta consta de 5 secciones incluyendo el MBI. Se utilizó el programa SPSS para el análisis de datos y se consideró significativa a una $p < 0.05$. El estudio fue aprobado por el comité de Ética e Investigación de la Institución.

Resultados

Se obtuvieron un total de 55 respuestas de un total de 122 residentes en el hospital. La prevalencia de burnout fue de 76%. Los factores asociados en forma significativa con el desarrollo de burnout fueron la falta de sueño, la autopercepción de no comer balanceado, los días consulta a la semana; por otra parte, la presencia de burnout se asoció con la autopercepción de cometer errores médicos.

Conclusión

El burnout es un problema con mayor relevancia en los profesionales de la salud. Diversos son los factores que pueden influir en la aparición de este desgaste laboral entre ellos el poco sueño y el aumento de horas laborales. Es importante realizar este tipo de estudios con la finalidad de aclarar el panorama y poder realizar intervenciones efectivas que atiendan a las necesidades de esta población..

References

1. Rodrigues H, Cobucci R, Oliveira A, et al. Burnout syndrome among medical residents: a systematic review and meta-analysis. PLoS One. 2018;13(11):e0206840.
2. Shanafelt TD, Balch CM, Bechamps G, et al. Burnout and medical errors among American surgeons. Ann Surg. 2010;251(6):995–1000.
3. World Health Organization. Burn-out an occupational phenomenon: International Classification of Diseases. 2019 May. Available from: World Health Organization website. Cited Nov 2, 2023.
4. Feng S, Taravati P, Ding L, Menda S. Burnout in ophthalmology residency: a national survey. J Acad Ophthalmol. 2018;10(1):e98–e107.
5. Alotaibi AK, Alsalim A, Alruwaili F, et al. Burnout during ophthalmology residency training: a national survey in Saudi Arabia. Saudi J Ophthalmol. 2019;33(2):130–4.
6. Aguilar-Nájera O, Zamora-Nava LE, Grajales-Figueroa G, Valdovinos-Díaz MÁ, Téllez-Ávila FI. Prevalence of burnout syndrome in gastroenterologists and endoscopists: results of a national survey in Mexico. Postgrad Med. 2020;132(3):275–81.
7. Gil-Monte PR. Validez factorial de la adaptación al español del Maslach Burnout Inventory-General Survey. Salud Publica Mex. 2002;44(1):33–40.
8. Terrone J, et al. Síndrome de burnout en médicos residentes del Hospital General de Durango, México. Rev Med Inst Mex Seguro Soc. 2016;54(2):242–8.
9. Cerpa B, et al. Correlación entre factores sociofamiliares y el síndrome de burnout en residentes y médicos de una unidad de medicina familiar. Arch Med Fam. 2020;24(1):31–6.
10. Saborío L, Hidalgo L. Síndrome de burnout. Med Leg Costa Rica. 2015;32(1):119–24.
11. Centers for Disease Control and Prevention. Are you getting enough sleep? 2022. Available from: CDC website. Cited Nov 2, 2023.
12. Watson NF, et al. Recommended amount of sleep for a healthy adult: a joint consensus statement. Sleep. 2015;38(6):843–4.
13. Stewart NH, Arora VM. The impact of sleep and circadian disorders on physician burnout. Chest. 2019;156(5):1022–30.
14. Trockel MT, Menon NK, Rowe SG, et al. Assessment of physician sleep and wellness, burnout, and clinically significant medical errors. JAMA Netw Open. 2020;3(12):e2028111.
15. Kancherla BS, et al. Sleep, fatigue and burnout among physicians: an American Academy of Sleep Medicine position statement. J Clin Sleep Med. 2020;16(5):803–5.
16. National Health Service. Eating a balanced diet. 2022. Available from: NHS website. Cited Nov 2, 2023.
17. Esquivel MK. Nutrition strategies for reducing risk of burnout among physicians and health care professionals. Am J Lifestyle Med. 2021;15(2):126–9.
18. Melamed S, Shirom A, Toker S, Berliner S, Shapira I. Burnout and risk of cardiovascular disease. Psychol Bull. 2006;132(3):327–53.
19. Scheepers R, Silkens M, van den Berg J, Lombarts K. Associations between job demands, job resources and patient-related burnout among physicians. BMJ Open. 2020;10(9):e038466.
20. Busireddy KR, et al. Efficacy of interventions to reduce resident physician burnout: a systematic review. J Grad Med Educ. 2017;9(3):294–301.
21. Menon NK, Shanafelt TD, Sinsky CA, et al. Association of physician burnout with suicidal ideation and medical errors. JAMA Netw Open. 2020;3(12):e2028780.
22. Al-Ghunaim TA, Johnson J, Biyani CS, Alshahrani KM, Dunning A, O'Connor DB. Surgeon burnout, impact on patient safety and professionalism. Am J Surg. 2022;224(1 Pt A):228–38.
23. Gualano MR, Sinigaglia T, Lo Moro G, et al. The burden of burnout among healthcare professionals during the COVID-19 pandemic. Int J Environ Res Public Health. 2021;18:8172.
24. Jalili M, Niroomand M, Hadavand F, Zeinali K, Fotouhi A. Burnout among healthcare professionals during COVID-19 pandemic. Int Arch Occup Environ Health. 2021;94(6):1345–52.

25. Shopen N, Schneider A, Mordechai RA, et al. Emergency medicine physician burnout before and during the COVID-19 pandemic. Isr J Health Policy Res. 2022;11(1):30.
26. Aryankhesal A, Mohammadibakhsh R, Hamidi Y, et al. Interventions on reducing burnout in physicians and nurses. Med J Islam Repub Iran. 2019;33:77.
27. Galaiya R, Kinross J, Arulampalam T. Factors associated with burnout syndrome in surgeons. Ann R Coll Surg Engl. 2020;102(6):401–7.
28. Chan MK, Chew QH, Sim K. Burnout and associated factors in psychiatry residents. Int J Med Educ. 2019;10:149–60.
29. Yates SW. Physician stress and burnout. Am J Med. 2019;133(2):160–4.
30. Low ZX, Yeo KA, Sharma VK, et al. Prevalence of burnout in medical and surgical residents. Int J Environ Res Public Health. 2019;16(9):1479.
31. Shah HP, Salehi PP, Ihnat J, et al. Resident burnout and well-being in otolaryngology and other surgical specialties. Otolaryngol Head Neck Surg. 2023;168(2):165–79.

Acknowledgments

Thank you to doctor Kingston Rodolfo Ureña Wong and to doctor Heriberto Medina Franco for his support and guidance through this research.

Conflict of Interest Statement & Funding

The Authors have no funding, financial relationships or conflicts of interest to disclose.

Author Contributions

Conceptualization: LAMG, GGA, GSV, FAJG. Formal Analysis: LAMG, GGA, FAJG. Investigation: LAMG, FAJG. Methodology: LAMG, GGA, GSV. Project Administration: LAMG, GGA, GSV. Supervision: LAMG, GGA, GSV. Validation: LAMG, GGA. Writing - Original Draft: LAMG, FAJG. Writing - Review Editing: LAMG, FAJG.

Cite as

Medin L., Garcia G., Salcedo G., Jacome F. Burnout in Ophthalmology Residents in a Tertiary Referral Hospital in Mexico City. Int J Med Stud. 2025 Oct-Dec;13(4): 408-418.

ISSN 2076-6327

This journal is published by Pitt Open Library Publishing

Supplementary Material

Work Eviroment Evaluation
FIrst Section
Informed Consent

Institution: Association to Prevent Blindness I.A.P
Address: Vicente García Torres 46, Barrio San Lucas, Coyoacán, Delegación B. Juárez, CDMX
What is the objective?

The following questionnaire aims to learn about the ophthalmology residents of the Asociación para Evitar la Ceguera and their work environment. After analyzing the responses obtained, there will be a greater understanding of the status of the residents, which will help us generate strategies for the continuous improvement of the work environment.
What are the possible benefits of participating?

You will not obtain any direct benefit for participating, nor any type of remuneration. However, your participation is valuable to improve the work environment of this hospital.

What consequences are there if I do not wish to participate?
Your decision not to participate will not change or affect your employment status in any way and is not mandatory. You can leave the survey at any time you wish.

How long will my participation last?
The approximate time to complete the questionnaire is 10-15 minutes.

Personal data management
Ensuring good clinical practices, the information you provide us is confidential and will only be used for research purposes. At no time will data such as name, telephone number or employee number be requested. All responses will be anonymous and confidential.

- I have read the consent provided and agree to participate
- I do not wish to participate in this survey

Second Section

1. Age
2. Sex. F, M, I prefer not to say
3. Marital status
   - Single
   - Married
   - Divorced
   - Other
4. Which of the following corresponds to the academic period you are in?
   - General ophthalmology
   - Subspecialty (Retina, Cornea, Glaucoma, etc.)
5. What year of residence are you in?
   - R1
   - R2
   - R3
   - R4 (high specialty)
   - R5 (high specialty)
6. Do you do physical activity? Yes or no
7. If yes, how many hours do you work out per week? If you do not do physical activity enter 0
8. How many meals do you eat per day? Put the number
9. Do you consider having a balanced diet?
   - Yes
   - No
10. Per week, how many hours do you spend with your family? Enter the number
11. How many hours do you sleep a day? Enter the number
12. How many hours do you sleep on average when you are on duty? Put the number

Third Section

1. How many days a week do you go into surgery? Enter the number
2. How many days a week do you consult? Enter the number
3. How many hours on average per week do you spend in the hospital? Enter the number
4. How many patients do you see on average on consultation days? Enter the number
5. How many calls per month on average do you receive due to patient care? Enter the number
6. Do you feel that paperwork wears you down emotionally?
   - ● Yes
   - ● No
7. Currently, are you satisfied with the balance between your work and social life?
   - ● Yes
   - ● No
8. Would you study medicine again?
   - ● Yes
   - ● No
9. Would you choose ophthalmology as a specialty again?
   - ● Yes
   - ● No
10. Do you feel supported by your colleges?
    - ● Yes
    - ● No

Fourth Section - MBI

Answer according to how often it happens to you.

1. I feel emotionally exhausted by my job

0 Never

2. A few times a year or less
3. Once a month or less
4. A few times a month
5. Once a week
6. Few times a week
7. every day
    1. When I finish my workday, I feel empty
    2. When I get up in the morning and face another day of work, I feel fatigued
    3. I feel that I can easily understand patients
    4. I feel like I am treating some patients as if they were impersonal objects.
    5. I feel like working with people all day tires me out.
    6. I feel that I deal with my patients' problems very effectively.
    7. I feel like my job is wearing me down.
    8. I feel like I am positively influencing other people's lives through my work.
    9. I feel I have become harder / rude with people
    10. I worry that this job is hardening me emotionally.
    11. I feel very energetic at work
    12. I feel frustrated at my job
    13. I feel like I spend too much time at my job.
    14. I feel like I don't really care what happens to my patients.
    15. I feel that working in direct contact with people tires me out.
    16. I feel that I can easily create a pleasant atmosphere in my patients.
    17. I feel stimulated after working closely with my patients.
    18. I think I achieve many valuable things in this job
    19. I feel like I'm at the end of my rope.
    20. I feel that emotional problems are treated appropriately in my work.
    21. It seems to me that patients blame me for some of their problems.

Fifth Section

1. I have reached or gone with support from a health professional who cares for my mental health (psychologist or psychiatrist)
   - Yes
   - No

2. I take some medication to regulate my mood (fluoxetine, paroxetine, etc.)
   - Yes
   - No
3. Are you currently receiving therapy?
   - Yes
   - No
4. I have had suicidal thoughts
   - Yes
   - No
5. I have been diagnosed with depression or anxiety
   - Yes
   - No
6. Due to fatigue I have made mistakes with my patients
   - Yes
   - No

ANNEX 2
Evaluación de Ambiente Laboral

Primera Sección
Consentimiento Informado
Autor Principal: Dr. José Gerardo García Aguirre
Autor Responsable: Dra. Lourdes A. Medina Gaona
Institución: Asociación Para Evitar la Ceguera I.A.P
Dirección: Vicente García Torres 46, Barrio San Lucas, Coyoacán, Delegación B. Juárez, CDMX
¿Cuál es el objetivo?
El siguiente cuestionario tiene como objetivo conocer a los residentes de oftalmología de la Asociación Para Evitar la Ceguera y su ambiente laboral. Posterior al análisis de las respuestas obtenidas, se tendrá mayor comprensión del estado de los residentes, lo que nos ayudará a generar estrategias para la mejora continua del ambiente laboral.
¿Cuáles son los posibles beneficios de participar?
Usted no obtendrá ningún beneficio directo por participar, ni algún tipo de remuneración. Sin embargo, su participación es valiosa para poder mejorar el ambiente laboral de este hospital.
¿Qué consecuencias hay si no deseo participar?
Su decisión de no participar no cambiará ni afectará de ninguna manera su situación laboral, no es de carácter obligatorio. Usted podrá abandonar la encuesta en el momento que lo desee.
¿Cuánto durará mi participación?
El tiempo aproximado para completar el cuestionario es de 10-15 minutos.
Manejo de datos personales
Asegurando las buenas prácticas clínicas, la información que usted nos brinde es confidencial y será únicamente utilizada con fines de investigación. En ningún momento se solicitarán datos como nombre, número telefónico o número de empleado. Todas las respuestas serán anónimas y confidenciales.

- He leído el consentimiento proporcionado y acepto participar
- No deseo participar en esta encuesta

Segunda Sección

1. Edad
2. Sexo. F, M , prefiero no decir
3. Estado civil
   - Soltero
   - Casado
   - Divorciado
   - Otro
4. ¿Cuál de las siguientes corresponde al periodo académico en el que te encuentras?
   - Oftalmología general
   - Subespecialidad (Retina, Córnea, Glaucoma etc)
5. En qué año de residencia se encuentra
   - R1
   - R2

- R3
- R4 (alta especialidad)
- R5 (alta especialidad)

6. Realizas actividad física. Si o no
7. En caso de que sí, cuántas horas realizas a la semana. En caso de no coloca 0
8. ¿Cuántas comidas realizas al día? Coloque el número
9. Consideras que comes balanceado.
   - Si
   - No
10. A la semana, cuántas horas convives con tu familia Coloque el número
11. ¿Cuántas horas duermes al día? Coloque el número
12. ¿Cuántas horas duermes cuando tienes guardia en promedio? Coloque el número

Tercera Sección

1. ¿Cuántos días a la semana entras a cirugía? Coloque el número
2. ¿Cuántos días a la semana das consulta? Coloque el número
3. ¿Cuántas horas en promedio a la semana te encuentras en el hospital? Coloque el número
4. ¿Cuántos pacientes revisas en promedio los días de consulta? Coloque el número
5. ¿Cuántas llamadas al mes en promedio recibes debido a la atención a un paciente? Coloque el número
6. Sientes que el papeleo te desgasta emocionalmente
   - Si
   - No
7. Actualmente, estás satisfecho con el equilibrio entre tu trabajo y vida social
   - Si
   - No
8. Volverías a estudiar medicina
   - Si
   - No
9. Volverías a elegir oftalmología como especialidad
   - Si
   - No
10. Te sientes apoyado por tus colegas
    - Si
    - No

Cuarta Sección - MBI

Conteste de acuerdo a la frecuencia con la que le sucede

23. Me siento emocionalmente agotado por mi trabajo

0 Nunca

1. Pocas veces al año o menos
2. Una vez al mes o menos
3. Unas pocas veces al mes
4. Una vez al semana
5. Pocas veces a la semana
6. todos los días

24. Cuando termino mi jornada de trabajo me siento vacío
25. Cuando me levanto por la mañana y me enfrento a otra jornada de trabajo me siento fatigado
26. Siento que puedo entender fácilmente a los pacientes
27. Siento que estoy tratando a algunos pacientes como si fueran objetos impersonales
28. Siento que trabajar todo el día con la gente me cansa
29. Siento que trato con mucha eficacia los problemas de mis pacientes
30. Siento que mi trabajo me está desgastando
31. Siento que estoy influyendo positivamente en la vida de otras personas a través de mi trabajo
32. Siento que me he hecho más duro con la gente
33. Me preocupa que este trabajo me esté endureciendo emocionalmente
34. Me siento con mucha energía en mi trabajo
35. Me siento frustrado en mi trabajo
36. Siento que estoy demasiado tiempo en mi trabajo

37. Siento que realmente no me importa lo que les ocurra a mis pacientes
38. Siento que trabajar en contacto directo con la gente me cansa
39. Siento que puedo crear con facilidad un clima agradable en mis pacientes
40. Me siento estimulado después de haber trabajado íntimamente con mis pacientes
41. Creo que consigo muchas cosas valiosas en este trabajo
42. Me siento como si estuviera al límite de mis posibilidades
43. Siento que en mi trabajo los problemas emocionales son tratados de forma adecuada
44. Me parece que los pacientes me culpan de alguno de sus problemas

Quinta Sección

1. He llegado o acudir con apoyo algún profesional de la salud que atienda mi salud mental (psicólogo o psiquiatra)
   - Si
   - No
2. Tomo algun medicamento para regular mi estado de ánimo (fluoxetina, paroxetina etc)
   - Si
   - No
3. Actualmente recibe terapia.
   - Si
   - No
4. He llegado a tener pensamientos suicidas
   - Si
   - No
5. Me han llegado a diagnosticar depresión o ansiedad
   - Si
   - No
6. Debido a la fatiga he cometido errores con mis pacientes
   - Si
   - No