

## ORIGINAL ARTICLE

# Prevalance of Burnout Syndrome Among Anaesthesia Residents in Tertiary Care Hospitals of Karachi

AYESHA TAHIR<sup>1</sup>, KHAWAR AZIZ<sup>2</sup>, ARIF IFTIKHAR<sup>3</sup>, MUHAMMAD SIRAJUDDIN<sup>4</sup>, ALI ASGHAR<sup>5</sup>, LAILA KHALID<sup>6</sup><sup>1</sup>Resident Anesthesiology and Critical Care Medicine, Liaqat National Hospital and Medical College, Karachi<sup>2,3</sup>Consultant / Assistant Professor Anesthesiology and Critical Care Medicine, Liaqat National Hospital and Medical College, Karachi<sup>4</sup>Professor/Consultant Anesthesia and Critical Care Medicine, Liaqat National Hospital and Medical College, Karachi<sup>5</sup>Assistant Professor/ Consultant Anesthesia and Critical Care Medicine, Liaqat National Hospital and Medical College, Karachi<sup>6</sup>Resident Anesthesia and Critical Care Medicine, Liaqat National Hospital and Medical College, KarachiCorresponding author: Ayesha Tahir, Email: [ayisha.tahir@hotmail.com](mailto:ayisha.tahir@hotmail.com)

## ABSTRACT

**Objective:** The purpose of this study is to assess the incidence of burnout syndrome among Karachi's anesthesiology residents in teaching hospitals.**Methods:** This cross-sectional research was undertaken at tertiary care hospitals of Karachi. Ethical committee permission, authorization from institutions, and agreement from residents were all required before data collection from 144 anesthesiology residents could begin. Participants were recruited from both public and private healthcare facilities. The demographic data from a questionnaire was used to determine the prevalence of the burnout syndrome, which is defined by feelings of emotional tiredness, depersonalization, and decreased personal accomplishment. SPSS was used to generate descriptive statistics.**Results:** The mean working hours of the participants in government and private hospitals were  $64.21 \pm 12.40$  and  $90.24 \pm 25.01$  hours. A significant difference ( $p=0.000$ ) in the mean working hours of the participants were observed in participants at government and private hospitals. Emotional exhaustion score of the participants in government and private hospitals were  $15.72 \pm 11.56$  and  $22.69 \pm 11.20$ . A significant difference ( $p=0.002$ ) in the mean emotional exhaustion score of the participants were observed in participants at government and private hospitals. Depersonalization score of the participants in government and private hospitals were  $8.79 \pm 6.71$  and  $12.82 \pm 7.59$ . A significant difference ( $p=0.004$ ) in the mean depersonalization score of the participants were observed in participants at government and private hospitals. Reduced personal achievement score of the participants in government and private hospitals were  $12.97 \pm 11.96$  and  $19 \pm 12.65$ . A significant difference ( $p=0.002$ ) in the mean reduced personal achievement score of the participants were observed in participants at government and private hospitals.**Conclusion:** We observed the variation in burnout of private hospital versus government hospital. Residents working in private hospital work for extensive hours as compared to government hospital residents. There is an extensive need of comprehensive support groups, humane number of working hours, improved de-stressing activities for mental health of resident physicians and enhance their productivity.**Keywords:** Burnout, emotional exhaustion, depersonalization, Reduced personal achievement

## INTRODUCTION

Researchers all around the globe are starting to pay attention to burnout as a new problem in today's society (1). Occupation burnout, first identified by Freudenberg in the 1970s, is today understood to be a psychological illness experienced by workers who are subjected to a high-pressure workplace with little opportunities for personal growth and development (2). Leiter and Maslach split occupational burnout into three components, which are emotional weariness, depersonalization and lower personal achievement (3). Emotional fatigue is a state in which a person's mental and physical reserves have been depleted. The capacity to take charge and complete difficult tasks is diminished. Detachment from one's job and the development of a jaded and unfavorable outlook on one's clientele constitute depersonalization. The third factor, diminished sense of personal success, is a pessimistic assessment of one's own performance and potential, especially with respect to professional effectiveness and advancement (3). Emotional weariness is a common result of prolonged exposure to stressful settings, according to the research of Leiter and Maslach. In this way, depersonalization serves as a defense mechanism, but at the expense of one's feeling of success (3). In comparison to professionals in other fields, those in healthcare are more likely to experience burnout (4). A doctor's day is often filled with visits to patients who are sick or near death. Patients who are resistant and belligerent contribute to their workload stress, as can poor relationships with coworkers. Doctors experience occupational burnout due to factors including but not limited to: overwork, inadequate support from employers, financial difficulties, and difficulties maintaining personal and social relationships (4, 5). Recent research conducted in the USA indicated that medical professionals, in comparison to the general population, are more prone to experience burnout and job dissatisfaction. In today's world, burnout is a serious worry for healthcare workers since it severely impacts health, welfare and family life of physicians. It is

connected with greater likelihood of absenteeism, job turnover, medical mistakes and inferior quality of patient treatment (1, 2, 5). Despite being an essential healthcare concern, relatively few research has been undertaken to identify scale of this problem in our nation. Burnout was described as a serious health concern among doctors and trainees in several specialities (6-8). Recent meta-analysis (7) found high prevalence rates of burnout among radiology residents (77.16%, 95% CI: 5.99%-99.45%), neurosurgery residents (71.93%, 95% CI: 65.78%-77.39%), and general surgery residents (58.39%, 95% CI: 45.72%-70.04%). Previous research has found various characteristics that potentially increase burnout among doctors and residents. Women were observed to suffer burnout at a greater rate than their male colleagues (9). Additionally, greater degrees of burnout were related with excessive working hours, lack of respect from colleagues, increased computerization of practice, inadequate pay, lack of clinical autonomy, and lack of time for social life (10, 11). In a qualitative survey, residents have claimed that becoming a doctor surpassed them (12). The occupants' failure to strike a balance between their professional and personal life also took a toll on their health. The field of anesthesiology is among the most demanding in medicine since anesthesiologists are often called upon to deal with high-stakes situations involving patient lives. Moreover, the work schedule may be seen as more demanding than other medical fields as obligations involve nighttime shifts as well as weekends and celebrations. A high rate of burnout among anesthesiologists is probably real, although no one has done a thorough study on the topic yet. The goal of this study is to assess the degree to which anesthesiology residents at Karachi's leading hospitals suffer from burnout.

## METHODOLOGY

After ethical approval from institution review board, this cross-sectional study was carried out at Liaqat national hospital and

medical college. Through random sampling 144 anesthesiology residents from government and private hospitals were recruited. All the physicians at PIMS were included, regardless of their age, gender, or level of experience, as long as they gave their informed agreement to take part. No doctors who either refused to participate or were on rotation elsewhere were allowed to treat patients. The research technique employed in this investigation was a questionnaire. Participants were given anonymous surveys after receiving their verbal and written agreement. Demographic questions, job-related inquiries, and the Maslach Burnout Inventory (MBI) were all included in the survey (13). Demographic factors included age, gender, marital status, location, and spouse's employment. Department, position, tenure, shift schedule, and side projects were all factors. The MBI was developed in 1996 by Maslach et al. The 22-item survey uses a Likert-style scale from 1 to 7. Items in the MBI are framed as declarations of the respondent's internal state of mind. The frequency scale spans from 0 (never) to 6 (daily) based on how often an emotion or effect is experienced. Emotional weariness is measured by nine items, depersonalization by five, and self-fulfillment by eight. In MBI, burnout is conceptualized as a continuous variable. The likelihood of feeling each aspect of burnout varies from very low to rather high. Study coordinators had participants fill out the questionnaire and then collect it all in one sitting. We evaluated burnout levels across the board and for each component, and we looked for correlations between burnout and demographic and occupational factors. By establishing thresholds, we were able to classify burnout and its components into severe, moderate, and mild cases. Average burnout occurred between -48 and -10, high burnout occurred between -28 and +66, and low burnout occurred between +48 and -10. The formula determined the extent of the total burnout (14). Emotional exhaustions plus depersonalization minus sense of success equals total burnout. Emotional fatigue was classified as mild (16), moderate (16-27), and severe (>27) in terms of burnout's many components. A scale from low (6) to moderate (7-12) to severe (>13) depersonalization. Individual performance was categorized as high, medium, or poor based on the number of digits above or below 31. High scores on the emotional fatigue and depersonalization subscales and low scores on the professional success subscale indicated a high degree of composite burnout. Cronbach's alpha was used to determine the reliability of the MBI in this sample, and the results were very high (=0.847). SPSS 26 was used for data analysis. The chi-square test was used to examine the impact of category factors. The significance level used was <0.05.

**RESULTS**

In total 144 residents were included in the study 72 from government and 72 from private tertiary hospitals of Karachi. The demographic and burnout results in both hospitals are presented in table 1. The mean age of the participants in government and private hospitals were 30.88±4.32 and 32.93±12.35 years. No significant difference (p=0.216) in the mean age of the participants were observed in participants at government and private hospitals. The mean working hours of the participants in government and private hospitals were 64.21±12.40 and 90.24±25.01 hours. A significant difference (p=0.000) in the mean working hours of the participants were observed in participants at government and private hospitals. In government and private hospitals 48.6% and 41.7% were females' participants, while 51.4% and 58.3%, respectively were males' participants. Emotional exhaustion score of the participants in government and private hospitals were 15.72±11.56 and 22.69±11.20. A significant difference (p=0.002) in the mean emotional exhaustion score of the participants were observed in participants at government and private hospitals. Depersonalization score of the participants in government and private hospitals were 8.79±6.71 and 12.82±7.59. A significant difference (p=0.004) in the mean depersonalization score of the participants were observed in participants at government and private hospitals. Reduced personal achievement score of the

participants in government and private hospitals were 12.97±11.96 and 19±12.65. A significant difference (p=0.002) in the mean reduced personal achievement score of the participants were observed in participants at government and private hospitals. Figure 1 represent the overall prevalence of burnout in government and private hospitals. Private hospitals have 13% burnout prevalence. Figure 2 and 3 shows the separate burnout prevalence at private and government hospitals.

Table 1: Descriptive statistics of age, working hours, scores and gender

Parameters	Government Hospital (n=72)	Private Hospital (n=72)	P Value
Age (mean± SD)	30.88±4.32	32.93±12.35	0.216
Working Hours Per Week	64.21±12.40	90.24±25.01	0.000****
Emotional exhaustion score	15.72±11.56	22.69±11.20	0.002***
Depersonalization score	8.79±6.71	12.82±7.59	0.004***
Reduced personal achievement score	12.97±11.96	19±12.65	0.002***
Female	35(48.6%)	30(41.7%)	0.24
Male	37(51.4%)	42(58.3%)	

**Prevalence of Burnout**

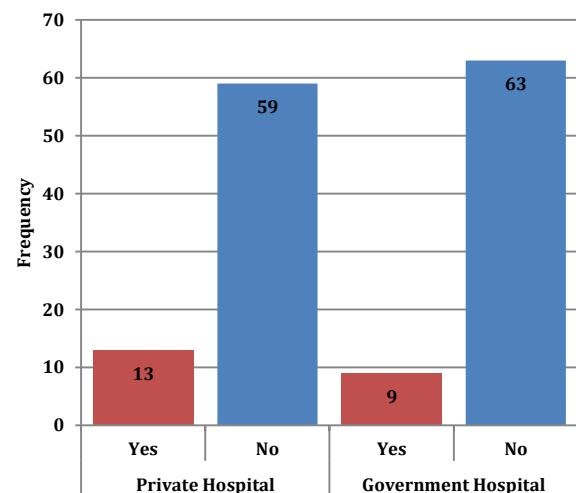


Figure 1: Prevalence of burnout at government and private hospitals

**Percentage of Burnout at Private Hospital**

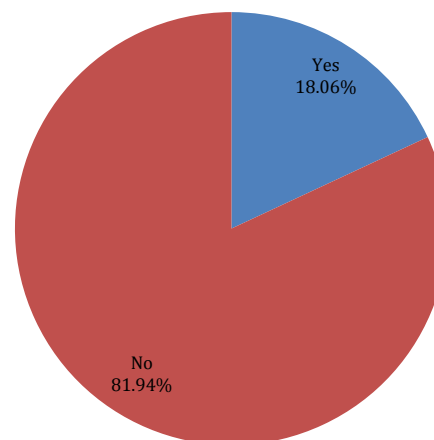


Figure 2: Prevalence of burnout at private hospitals

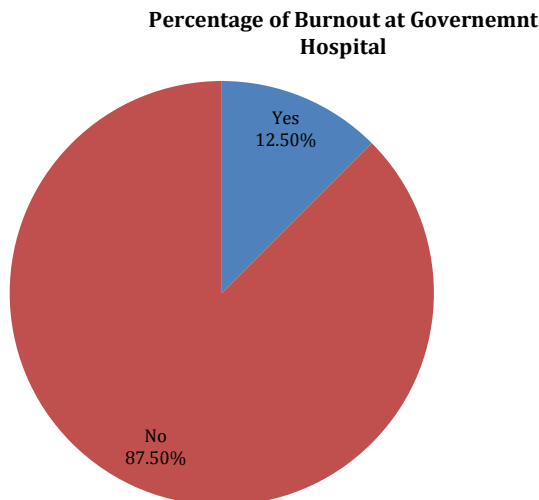


Figure 3: Prevalence of burnout at government hospitals

## DISCUSSION

In addition to sociodemographic, occupational, recreational, and lifestyle habit factors, persistent work stress may also lead to burnout. Because of the inadequacy and flaws in his coping mechanisms, an impacted anesthesiologist may respond in ways that negatively impact patients, coworkers, and the job itself (15). For this reason, it's important to better understand the causes and consequences of anesthesiologists' emotional weariness. Burnout is a serious problem in the healthcare industry, and it has been studied extensively (7, 16). This problem affects both surgical and nonsurgical residents and trainees. However, research on the extent to which burnout affects medical students and residents in middle- and low-income countries, such as Arab countries, is scant (17). Elbarazi et al. (18) compiled reports from 19 research on the frequency of burnout among Arab healthcare workers. Only one research (with a limited sample size) found that 51% of Saudi orthopedic physicians had experienced burnout (19). Researchers in Palestine looked on the rate of burnout experienced by social workers and nurses (18). Disparities in burnout rates across fields of medicine may be attributable to cultural and religious factors (20), since it was thought that these factors shaped people's emotional lives more than any other factor. According to the results of this research, physician burnout is quite common at tertiary care hospitals in Karachi, Pakistan. Both domestic and foreign publications have found comparable outcomes. Public hospital physicians often experience burnout syndrome due to factors such as inadequate staffing levels, few resources, demanding work schedules, and an unsupportive work atmosphere (1). Ten percent of physicians in research conducted in Karachi had a high burnout score, which is on par with the prevalence of severe burnout in our own study (4). Researchers in Lahore found that 27.8% of the medical staff at a military hospital had severe levels of burnout (21). Similar to research conducted in an Egyptian university hospital, we found a high prevalence of mild burnout amongst physicians (1). On the other hand, just 10% of military physicians in Lahore reported feeling somewhat burned out. Certain variables may play a deciding role in the onset of burnout syndrome among anesthesiologists. Anesthesiologists believe that time constraints are a major source of stress because of the ongoing need to meet timetables, complete treatments swiftly, and travel between hospitals (22, 23). The closeness of pain and death, the physical and emotional demands of patients, the pressure to constantly obtain excellent outcomes despite shifting circumstances and expectations, and relationships within the work environment all contribute to the distinctive stress experienced by anesthesiologists. The quality of the patient's interactions with surgical staff and obstetricians, as well as other medical personnel

in the operating and postoperative recovery rooms, may be the most crucial of these considerations. Disagreements may arise about how to accomplish the objectives and which aspects should be prioritized, and the unclear hierarchical roles may lead to misunderstandings about who is responsible for what. Disputes and conflicts might arise as a result (23, 24). Health insurance companies' inherent bias towards professionals also likely plays a role (25).

## CONCLUSION

In conclusion, we saw a difference in burnout rates between public and private hospitals. Medical interns and residents at private hospitals put in long hours compared to their counterparts in public hospitals. For resident doctors' mental health and to increase their output, there is a pressing need for comprehensive support groups, a reasonable amount of working hours, and increased de-stressing activities.

## REFERENCES

1. Abdo S, El-Sallamy R, El-Sherbiny A, Kabbash I. Burnout among physicians and nursing staff working in the emergency hospital of Tanta University, Egypt. *East Mediterr Health J*. 2016;21(12):906-15.
2. Chou L-P, Li C-Y, Hu SC. Job stress and burnout in hospital employees: comparisons of different medical professions in a regional hospital in Taiwan. *BMJ open*. 2014;4(2):e004185.
3. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annual review of psychology*. 2001;52(1):397-422.
4. Zubairi AJ, Noordin S. Factors associated with burnout among residents in a developing country. *Annals of medicine and surgery*. 2016;6:60-3.
5. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of internal medicine*. 2012;172(18):1377-85.
6. Rodrigues H, Cobucci R, Oliveira A, Cabral JV, Medeiros L, Gurgel K, et al. Burnout syndrome among medical residents: A systematic review and meta-analysis. *PLoS one*. 2018;13(11):e0206840.
7. Low ZX, Yeo KA, Sharma VK, Leung GK, McIntyre RS, Guerrero A, et al. Prevalence of burnout in medical and surgical residents: a meta-analysis. *International journal of environmental research and public health*. 2019;16(9):1479.
8. Elmore LC, Jeffe DB, Jin L, Awad MM, Turnbull IR. National survey of burnout among US general surgery residents. *Journal of the American College of Surgeons*. 2016;223(3):440-51.
9. Sibeoni J, Bellon-Champel L, Mousty A, Manolios E, Verneuil L, Revah-Levy A. Physicians' perspectives about burnout: a systematic review and metasynthesis. *Journal of General Internal Medicine*. 2019;34(8):1578-90.
10. Yates SW. Physician stress and burnout. *The American journal of medicine*. 2020;133(2):160-4.
11. Hasbrouck MA, Waddimba AC. The work-related stressors and coping strategies of group-employed rural health care practitioners: A qualitative study. *American Journal of Industrial Medicine*. 2017;60(10):867-78.
12. Law M, Lam M, Wu D, Veinot P, Mylopoulos M. Changes in personal relationships during residency and their effects on resident wellness: a qualitative study. *Academic medicine*. 2017;92(11):1601.
13. Schwarzer R, Schmitz GS, Tang C. Teacher burnout in Hong Kong and Germany: A cross-cultural validation of the Maslach Burnout Inventory. 2000.
14. Syed H. Socio-demographic and occupational aspects in relation with physicians' burnout and career satisfaction in Pakistan: Itä-Suomen yliopisto; 2014.
15. Nyssen A-S, Hansez I. Stress and burnout in anaesthesia. *Current Opinion in Anaesthesiology*. 2008;21(3):406-11.
16. Galaiya R, Kinross J, Arulampalam T. Factors associated with burnout syndrome in surgeons: a systematic review. *The Annals of The Royal college of surgeons of England*. 2020;102(6):401-7.
17. Malik AA, Bhatti S, Shafiq A, Khan RS, Butt UI, Bilal SM, et al. Burnout among surgical residents in a lower-middle income country—Are we any different? *Annals of medicine and surgery*. 2016;9:28-32.
18. Elbarazi I, Loney T, Yousef S, Elias A. Prevalence of and factors associated with burnout among health care professionals in Arab countries: a systematic review. *BMC health services research*. 2017;17(1):1-10.
19. Sadat-Ali M, Al-Habdan IM, Al-Dakheel DA, Shriyan D. Are orthopedic surgeons prone to burnout? *Saudi medical journal*. 2005;26(8):1180-2.
20. Shawahna R, Hattab S, Al-Shafei R, Tab'ouni M. Prevalence and factors associated with depressive and anxiety symptoms among Palestinian medical students. *BMC psychiatry*. 2020;20(1):1-13.
21. Gruszczynski L. Regulating health and environmental risks under WTO law: a critical analysis of the SPS agreement. *International Economic Law*; 2010.
22. Larsson J, Rosenqvist U, Holmström I. Enjoying work or burdened by it? How anaesthetists experience and handle difficulties at work: a qualitative study. *British journal of anaesthesia*. 2007;99(4):493-9.
23. Pilau MM, Bagatini A, Bondan LG, de Oliveira JS. O anestesista no Rio Grande do Sul. *Brazilian Journal of Anesthesiology*. 2020;50(4):309-19.
24. LM RP, De las Mulas Bejar M. Prevalence of burnout among anesthesiologists at Hospital Universitario Virgen Macarena de Sevilla. *Revista Espanola de Anestesiologia y Reanimacion*. 2006;53(6):359-62.
25. Montenegro S, Elena GA, Tarrés MC, Moscoloni N. Análisis factorial y correspondencias múltiples de principales indicadores de burnout en anesthesiología. *Revista Argentina de Anestesiología*. 2017;75(2):45-52.