

Research Article

A Web-Based Assessment on Burnout and Related Responsible Factors Among Plastic surgeons and Trainees in Sindh

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Abstract

Background: Burnout syndrome is a combination of diminishing work (emotional exhaustion), considering people as objects (depersonalization), and lack of sense of meaningfulness in work (low personal accomplishment). Pakistani consultants and particularly plastic surgeons are ignored entirely in this regard. The aim of this study was to determine the burnout burden and related responsible factors for burnout among plastic surgeons and trainees in Sindh.

Methodology: A web-based cross-sectional study was conducted to assess burnout among plastic surgeons in different hospitals in Hyderabad, Karachi and Jamshoro, Sindh, Pakistan using Google forms from July to December 2022. All the certified plastic surgeons, trainees registered for more than 6 months in plastic surgery, belonging to any age or gender, and working in private or public sector hospitals were included. A self-administered structured questionnaire was used to collect data while the Maslach Burnout Inventory was used to measure burnout.

Results: Varying degrees of burnout were reported by 89(49.4%) post-graduate trainee students and plastic surgeons. Out of total burnout cases, 51(57.3%) had a high burnout rate. Sleep hours, marital status and workout activity or exercise were significantly associated with emotional exhaustion ($P < 0.05$) while age, designation, smoking, sleep hours and physical activity were significantly associated with depersonalization.

Conclusion: The study concludes that the burnout rate among plastic surgeons and trainees in plastic surgery is significantly higher. Age, sleeping hours, marital status, workout activity, designation, and smoking, are significantly associated with burnout rate.

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Introduction

Burnout syndrome is the combination of diminishing work enthusiasm (emotional exhaustion), considering people as objects (depersonalization), and lack of sense of meaningfulness in work (low personal accomplishment). Burnout in a cosmetic surgeon can have serious effects for the surgeon, their families, patients, staff, colleagues, peers, and organization.¹ It is also recognized that burnout is linked with a compromised

performance at work and health-related issues leading to increased physician errors, causing even more burnout. Moreover, there are associated negative physiological, cognitive, psychological and behavioral changes. Frustration and discontentment a significant impact on patients and organizations while reduced commitment and intentions to leave workplace organizations negatively impact workers' turnover rate.²⁻⁴ Burnout rates among different medical and surgical specialties have

been demonstrated by different studies. According to the study, burnout rates among physicians in various specialties ranged from 0% to 80.5%. Another study on orthopedic surgeons reported higher burnout rates in the range of 50%-60%.^{2,5-8}

Being a plastic surgeon is both gratifying and challenging. The path to groom as a surgeon is an extensively strenuous struggle and brings substantial challenges to both the surgeon and their close ones.⁶ A survey carried out by the American Society of Plastic Surgeons (ASPS) indicated that over one-fourth of plastic surgeons have symptoms of professional burnout.⁽⁹⁾ A study demonstrated that surgeons in the middle-aged groups and those who were in poor health, in addition to those who had a reconstructive instead of cosmetic practice, long work hours, ER call obligation, a nonacademic environment, and group rather than solo practice, were the most at risk.⁽¹⁰⁾ Another meta-analysis found that burnout was more common in plastic surgeons (32.3%) than in trainees (36.6%) and that trainees had considerably greater levels of emotional weariness, depersonalization, and poor personal accomplishment than plastic surgeons.⁽¹¹⁾

Practicing as a plastic surgeon in Pakistan has its own set of challenges. The intersection between plastic surgery and other large disciplines is quite broad. Academic institutions do not provide adequate chances. It is a "dependent" branch since the most of our business is based on referrals from peers with various skills. Yet, professionals, particularly plastic surgeons, are completely ignored in this regard. There is minimal and sparse national/local data available to determine the level of burnout among plastic surgeons and citizens of Pakistan, particularly Sindh. Keeping in view, this study was planned to determine the frequency and factors responsible for burnout among plastic surgeons in Sindh.

Methodology

Web-based cross-sectional survey was conducted to assess burnout among plastic surgeons and trainees in different hospitals of Hyderabad, Karachi and Jamshoro, Sindh, Pakistan using Google forms from July to December 2022 after receiving approval from the institutional ethical review board of Liaquat University of health sciences, Jamshoro. All the certified plastic surgeons and trainees registered for more than 6 months in plastic surgery, belongs to any age or gender, working in private or public sector hospitals were included. While non-practicing plastic surgeons and those not

willing to participate were excluded. Using World Health Organization (WHO) sample size calculator, the sample size of 180 was drawn by keeping confidence level at 95% and margin of error at 5%. List of plastic surgeons and registered trainees was collected from different hospital and were invited to participate in the study through a series of email and WhatsApp. A semi-structured questionnaire that includes questions related to socio-demographic details of participants like age, gender, designation, marital status, no. of children if any, working hours per week, smoking etc. was used to inquire about the basic information of participants. To assess burnout, the Maslach Burnout Inventory (MBI) was employed.⁽¹²⁾ It is a popular study technique that consists of 22 questions that measure three domains: emotional fatigue (EE) (9 questions), depersonalization (DP) (5 questions), and personal accomplishment (PA) sensation (8 questions). High EE and DP scores are correlated with increased burnout, whereas high PA scores are associated with less burnout. High EE was defined as an EE score more than 26, whilst high DP was defined as a DP score greater than 12. A PA score of less than 32 was defined as low PA. A high risk of burnout was characterized as having both a high EE and a high DP.

The data was analyzed in SPSS ver. 23. All the quantitative variables including the burnout components (EE, DP, and PA) are presented as mean \pm SD and qualitative data including age group, sex, marital status etc. are presented as frequency and percentages. Student's t test was used to evaluate the association between categorical demographic variables and all three burnout components. P value < 0.05 was considered statistically significant.

Results

Total 180 participants were included in the study of which majority belongs to age 25-27 years. Among the participants, most of them were male while majority of them were currently registered postgraduate trainee or trainees in plastic surgery. Other related socio-demographic variables are presented in Table I.

Burnout of varying degree, was reported by 89(49.4%) of trainees and consultant plastic surgeons. Out of total burnout cases, 51(57.3%) having high, 20(22.5%) moderate and 18(20.2%) had low burnout status while 91 (50.6%) reported no burnout. The mean score of EE, DP and PA along with the overall burnout are mentioned in Table 2. Majority of trainees reported with high EE, 41.6% were found to have high DP status, and 42.7%

had a poor perception of PA. (Table 2)

Sleep hours, marital status and workout activity or exercise were significantly associated with EE ($P < 0.05$) while age, designation, smoking, sleep hours and physical activity were significantly associated with DP. Moreover, age, sex, designation, marital status and physical activity is significantly associated with PA ($P < 0.05$). (Table 3)

Discussion

Burnout impacts both senior and younger doctors, well-paid and low-paid physicians, men and women, private

Table 1: Socio-demographic Details Of Participants ($n=180$)

	n (%)
Age (in years)	
• 25-27	73 (40.5)
• 28-30	57 (31.7)
• 31-33	31 (17.3)
• 34 and above	19 (10.5)
Sex	
• Male	99(55.0)
• Female	81(45.0)
Current Designation	
• Senior surgeon	43(24.0)
• Junior surgeon	51(28.3)
• Trainee	86(47.7)
Marital status	
• Single	46(25.6)
• Married	134(74.4)
Children (n=134)	
• Yes	90(67.2)
• No	44(32.8)
Smoker	
• No	107(59.4)
• Yes	73(40.6)
Average hours of sleep/day	
• Five or less	28(15.5)
• Six	78(43.3)
• Seven	74(41.2)
Workout /exercise	
• Yes	116(64.4)
• No	64(35.6)

and university physicians, all surgical specialties, all countries, and all stages of one's career.⁹ In this study, we evaluate the proportion of burnout in the area of plastic surgery among Pakistani surgeons and trainees as well as to examine burnout risk variables in order

to gather understanding about the level of burnout for future plastic surgeons. Many researchers have investigated burnout among plastic surgeons in the western

Table 2: Descriptive Statistics For Burnout Components ($n=89$)

	Mean	S.D	High n (%)
MBI-HSS			
• Emotional Exhaustion	30.87	11.28	64(72.2)
• Depersonalization	12.21	5.87	37(41.6)
• Personal accomplishment	33.86	6.68	51(57.3)

and international literature.^{9,13} According to our findings, 49.4% of consultant and resident plastic surgeons have low to high burnout level. Our finding is substantially consistent with McIntire et al., Morrell et al. and Panse et al. while higher than Shaikh et al., Ribeiro et al. and Haik et al.^(11,12,14-17) Moreover, a high prevalence of burnout (77.6%) has been reported by us Sabah et al.⁽¹⁸⁾ This variation may be due to the geographical variances, healthcare system rules, and burnout classifications and scales.

Persistent burnout has a significant effect on memory, attentiveness, and cognitive health. This lack of workplace involvement may result in decreased work performance, raising the risk of errors in routine medical practices. Nevertheless, burnout is more commonly associated with malpractice lawsuits.^{2,6,10} EE and DP are stress-related signs of burnout that involve a sense of hopelessness, loneliness, melancholy, anger, impatience, and irritation, as well as decreased PA. When medical professionals and trainees are stressed as a result of extensive study and workload, EE may be an indication of heightened stress levels produced by multitasking of studying and patient care, leading in increased EE and DP.^{2,19} In our study, 72.2% of the plastic surgery consultants and trainees reported high levels of EE, whereas 41.6% reported high levels of DP. These findings are significantly higher than those published in a study on French plastic surgeons. In our study, 42.7% of the sample population indicated poor levels of PA, compared to 48.1% in the French national poll and consistent with Dhamash et al.^{5,20}

The present study evaluated relationship of burnout with different factors like gender, age, physical activities, designation and sleeping hours etc. Females were found to be more susceptible to burnout syndrome in the present study. These findings are consistent and supported by other Pakistani studies by us Sabah et al., bin zafar et al.

Table 3: Relationship Between Categorical Demographic Variables With Burnout Components

	E.E		D.P		P.A	
	Mean±SD	p-value	Mean±SD	p-value	Mean±SD	p-value
Age						
• < 28	31.24±7.41	0.61	9.73±5.78	0.001*	30.88±6.11	0.000*
• ≥ 28	32.11±13.21		12.78±6.47		35.86±7.23	
Sex						
• Male	31.87±11.43	0.63	11.23±7.111	0.172	32.87±6.17	0.08
• Female	32.65±10.57		2.58±6.12		34.56±6.78	
Current Designation						
• Surgeon	30.14±10.34	0.17	10.43±6.09	0.004*	31.55±5.23	0.001*
• Trainee	32.38±11.78		13.06±6.19		35.14±6.57	
Marital Status						
• Single	29.22±11.28	0.112	11.33±6.43	0.069	33.12±5.39	0.361
• Married	36.87±9.78		13.31±6.31		37.21±9.75	
Workout activities						
• Yes	26.87±11.78	0.000*	9.43±6.16	0.000*	34.88±6.57	0.008*
• No	35.23±8.66		14.29±5.87		32.18±6.26	
Smoker						
• Yes	30.76±10.57	0.180	11.96±5.78	0.004*	34.45±6.87	0.361
• No	28.65±10.18		9.29±6.38		33.54±6.32	
Sleep hours						
• ≤ 6	33.22±11.56	0.035*	13.11±6.67	0.033*	33.30±6.06	0.412
• > 6	29.76±9.56		11.07±5.68		34.12±7.27	

* Students t-test (p<0.05)

and Zaman et al. reported that females were more significantly found to have burnout compared to their counterparts.^{18,21,22} This may be due to the fact that Asian working women have domestic obligations in addition to their professional work. This added responsibility may also heighten emotional vulnerability and lead to burnout.

The overall health of plastic surgeons has a favorable influence on the development of burnout. While having children appears to reduce the risk of burnout. Furthermore, a lack of interests is linked to higher degrees of burnout. Burnout has been demonstrated to be significantly lower amongst people who exercised or workout on a routine basis.²⁰ We observed that participating in fitness activities was highly associated with decreased levels of burnout in our study. Moreover, lack of interests is associated with increasing burnout levels.^{14,20,22}

To the best of knowledge, this study is first of its kind that highlighted burnout among plastic surgeons and trainees of plastic surgery in Hyderabad, Jamshoro and Karachi. However, present study should be evaluated with its limitations in mind. Because of the study design, the results of the study are applicable only at one point in time. As the study was relying on self-reported data so it is prone to different biases including recall bias, social desirability bias and interpretation bias. Sample

size was also another significant constraint. Different elements like personality traits in professional burnout and emotional intelligence are not addressed in the present study.

Conclusion

The study concludes that the burnout rate among plastic surgeons and trainees in plastic surgery is significantly higher. Among the factors, age, sleeping hours, marital status, workout activity, designation, smoking, are responsible and significantly associated with burnout rate.

Conflict of interest

None

Funding Source

None

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