

Navigating the Challenges: A Comprehensive Assessment of Workplace Stress among Obstetrics & Gynaecology Residents

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Abstract: Introduction: Workplace stress is a significant concern in medical training and has been shown to affect the well-being and performance of healthcare professionals, including residents in various specialties. This study focuses on the assessment of workplace stress experienced by Obstetrics & Gynaecology (OBGYN) residents, a critical and demanding field of medical practice. The objective of this research is to identify the sources of stress, evaluate its impact on residents' physical and mental health, and propose potential interventions to mitigate the adverse effects. Methods: It is a hospital based cross sectional study, combining quantitative surveys and qualitative interviews. Using the adapted version of Occupational Stress Index (OSI) a structured questionnaire was administered to OBGYN residents across Zanana Hospital, Govt. R. D. B. P. Jaipuria Hospital, Mahatma Gandhi Hospital, Santokba Durlabhji Memorial Hospital, Jaipur, Rajasthan to collect data on demographic information, work-related stressors, coping mechanisms, and perceived outcomes. Additionally, semi-structured interviews were conducted with participants to gain deeper insights into their experiences and perspectives. Results: The findings of this study state that the stress level of first year residents is higher than the third-year residents. Second year residents face the least stress comparatively. Preliminary findings reveal that 95% OBGYN residents encounter moderate to high stress, including long working hours, patient load, sleep deprivation, challenging patient cases, and communication difficulties. These stressors contribute to psychological strain, burnout, reduced job satisfaction, and potential implications for patient care. Coping strategies such as social support, exercise, and mindfulness were commonly reported, although their effectiveness varied. Conclusion: This study sheds light on the intricate nature of workplace stress experienced by Obstetrics & Gynaecology residents. By comprehensively assessing stressors and coping mechanisms, the research provides valuable insights that can guide the development of evidence-based interventions aimed at improving the overall well-being and performance of OBGYN residents. Further research and collaboration between medical educators, administrators, and residents are essential to implement effective strategies that foster a supportive and conducive training environment.

Keywords: Work place stress, Obstetrics & Gynaecology resident doctors, OSI, Mental health, Occupational stress

1. Introduction

Stress is characterized as a biological and psychological response that an individual has when faced with environmental threats. The biological and psychological consequences of a negative relationship between job environments and a person's experience, abilities, or aspirations are referred to as occupational stress.¹ It happens when there is a lack of coordination between roles and demands, as well as personal skills, traits, and needs, limiting one's capacity to cope. Occupational stress can affect one's health and even cause death.¹

In the medical sector, there are many stressors. Meanwhile, residents are under a great deal of stress as a result of their heavy workloads and obligations. There is added pressure to master a vast amount of research literature and practical activities in a short period of time². Furthermore, a variety of concerns have been described as traumatic for tenants, including financial difficulties and low wages, being tested without adequate preparation, and being subjected to psychological and physical strain from both supervisors and patients. Role conflicts (such as the dispute between duty to supervisors, or attending physicians and patients'

expectations), role ambiguities (the roles were not clearly defined). As a result, depression and anxiety are normal during residency and have been shown to increase the quality of patient care.⁶ Stress can result in poor health and, in the worst-case scenario, individual damage.¹

The results of studies examining workplace stress in various fields of medicine and in medical residents indicated a moderate to high level of stress. Workload, obligation, test stress, financial problems, and a large number of work hours per week with little rest time were all identified as effective stressors for residents.^{1,7}

This study talks specifically about the stress and stressors faced by medical residents in the obstetrics & gynaecology department of hospitals. In medical workplaces, stressors take a variety of forms. These medical residents face immense stress because of the workload and heavy professional duties on a day-to-day basis, financial problems, low income, being evaluated prematurely without sufficient training, and being under immense physical and psychological pressure from both their patients at work and superiors. Role characteristics such as role conflicts (such as a conflict between duty to superiors or attending physicians and patient expectations), role ambiguities (tasks were not

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clearly defined), and role overload (too many tasks and regular job loads for the available time, and other constraints in performing heavy duty required of them and responsibility for patients' wellbeing function as possible role characteristics) act as potential workplace stressors for residents.^{1-4,5} However, there are no studies found in our region to evaluate the ideas of OBGYN medical residents who themselves mention the stressors they face in their places of work and innovative ideas and suggestion to provide a better, stress - proof workplace for them. The current study on stress thus aims to evaluate the effective factors leading to occupational stress in OBGYN residents of our hospitals.

2. Materials & Methods

Study Area & Study Population Residents of Obstetrics & Gynaecology of department from (i) Zanana Hospital (ii) Govt. R. D. B. P. Jaipuria Hospital, Jaipur (iii) Mahatma Gandhi Hospital (iv) SantokbaDurlabhji Medical Hospital, Jaipur, Rajasthan.

Sample Size 94

Inclusion Criteria: Resident of Obstetrics & Gynaecology department giving written informed consent.

Exclusion Criteria: 1. Presence of any chronic physical disease like Diabetes Mellitus, Hypertension, Thyroid Disorders, Tuberculosis 2. Duration of Residence < 6 months. 3. Pregnant or Puerperal Period.

Study Methodology: All the residents were interviewed for evaluation of stress symptoms and maintaining confidentiality of personal details. The adapted version of Occupational Stress Index (OSI) was used for determining the occupational stress level of the study population. It's a 5 - point Likert scale which assesses the extent of stress and employees experience in context of their life.

Statistical Methods All data were noted down in a pre - designed study proforma. Qualitative data were represented in the form of frequency and percentage. Association between qualitative variables was assessed by Chi - Square test with Continuity Correction for all 2 X 2 tables and Fisher's exact test for all 2 X 2 tables. Quantitative data was represented using Mean \pm SD and Median & IQR (Interquartile range). Analysis of Quantitative data between the two groups was done using unpaired t - test if data passed "Normality test" and by Mann - Whitney Test if data failed "Normality test". Results were graphically represented where deemed necessary. SPSS Version 21.0 was used for most analysis and Microsoft Excel 2010 for graphical representation.

3. Results

Among the 94 post - graduate residents, 73 reported prevalence of moderate stress levels, 4 reported prevalence of low stress levels and 17 reported prevalence of high stress levels (OSI > 161). The stress levels showed a gradual increase from the first to the third years of residency.

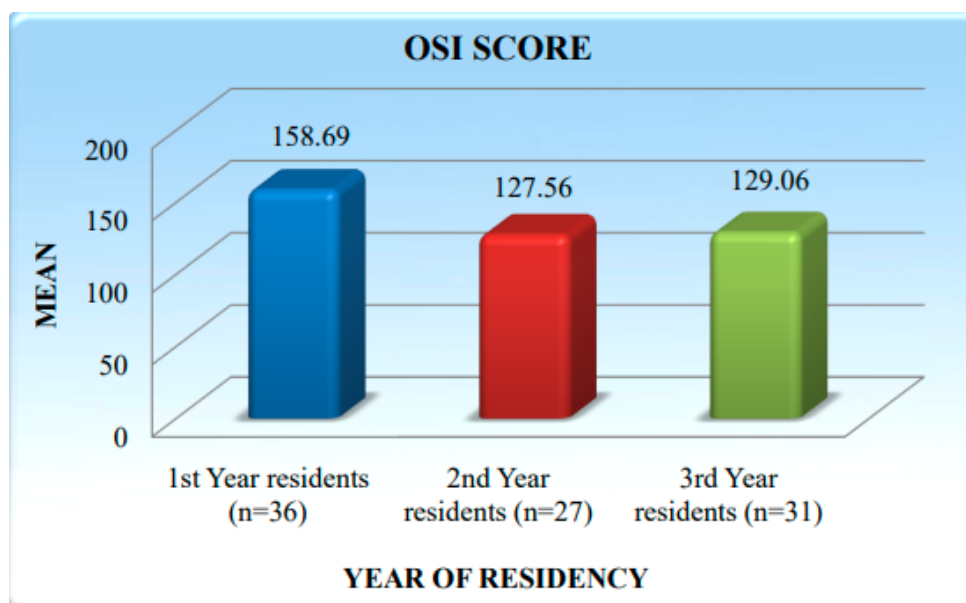


Figure 1: Mean OSI score for 1st, 2nd and 3rd year residents

It is observed that the OSI score in 1st year residents is 158.69, in 2nd year residents is 127.56 and in 3rd year is 129.06.

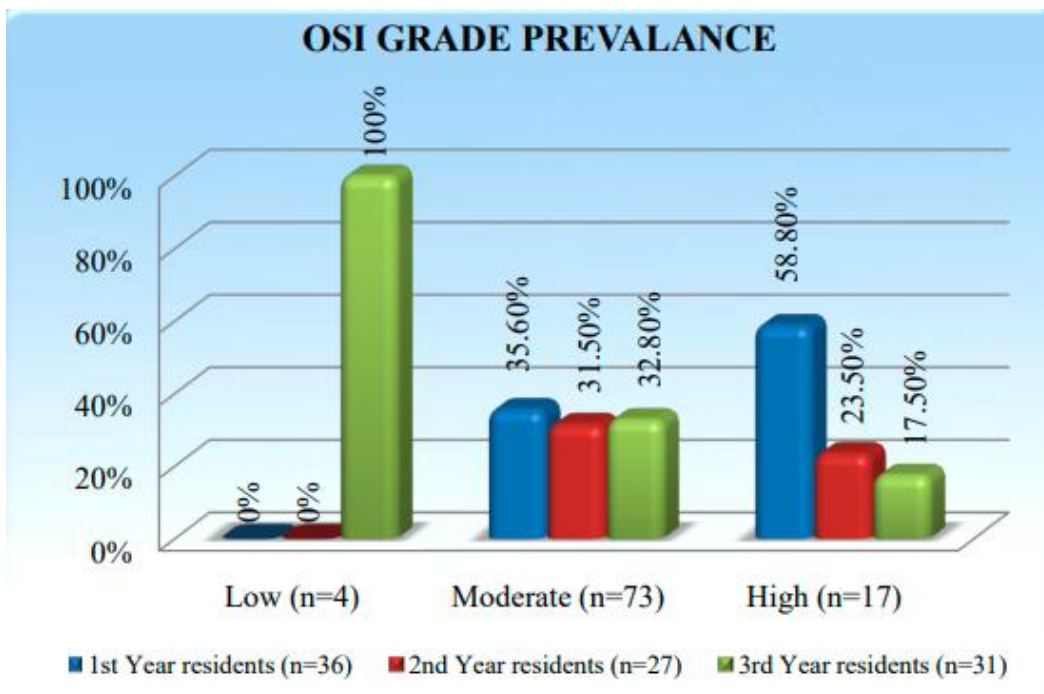


Figure 2: OSI Grade prevalence – Low, Moderate, High

Figure 2 shows the OSI Grade prevalence in 1st, 2nd and 3rd year residents. Stress level were found to be low in 3rd year residents. 58.80% of 1st year residents, 23.50% of 2nd year residents and 17.50% of 3rd year residents show high stress levels. 35.60% of 1st year residents, 31.50% of 2nd year residents and 32.80% of 3rd year residents show moderate stress.

Table 1 (a): Average OSI Levels in 1st, 2nd and 3rd year residents

	N	Mean + SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
				Lower Bound	Upper Bound		
1 st Year	36	158.69 + 5.97	1	156.67	160.71	148	170
2 nd Year	27	127.56 + 16.91	3.25	120.87	134.24	110	167
3 rd Year	31	129.06 + 18.06	3.24	122.44	135.69	90	174
Total	94	139.98 + 20.46	2.11	135.79	144.17	90	174

Table 1 (b): OSI Grades of 1st, 2nd and 3rd years according to hospital setup and gender

	OSI Grade			Hosp Setup		Gender	
	Low	Moderate	High	Govt.	Pvt	Male	Female
1 st Year residents (n= 36)	0	26	10	26	10	16	20
2 nd Year (n= 27)	0	23	4	20	7	17	10
3 rd Year (n= 31)	4	24	3	19	12	13	18

Table 1a shows the mean OSI scores of 1st, 2nd and 3rd year residents. It is observed that 36 1st year residents show a mean OSI score of 158.69 with a standard deviation of +5.97; 27 2nd year residents show a mean OSI score of 127.56 with a standard deviation of +16.91; and 31 3rd year residents show a mean OSI score of 129.06 with a standard deviation of +18.06. Table 1b shows the OSI grades of 36 1st year residents, 27 2nd year residents and 31 3rd year residents according to Hospital setup (government and private hospitals) and Gender (male and female) parameters

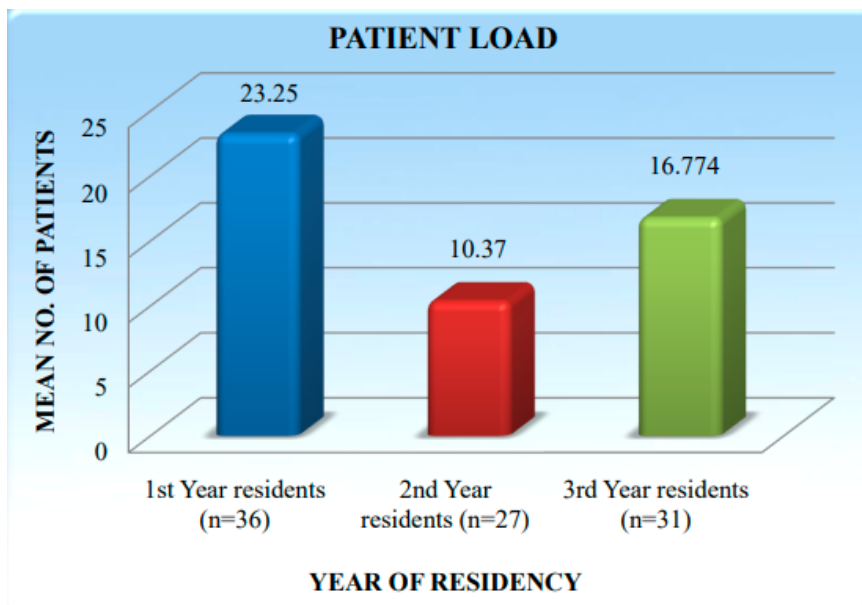


Figure 3: Mean no. of patient load in 1st, 2nd and 3rd year residents

It is observed that the mean no. of patients attended by 1st year residents is 23.25%; mean no. of patients attended by 2nd year residents is 10.37%, and mean no. of patients attended by 3rd year residents is 16.774%.

Table 2: Mean of patient load for 1st, 2nd, 3rd year residents of govtvs private hospital

Group Statistics				
Hospital Setup		N	Mean ± SD	Std. Error Mean
Patient Load	Government	65	16.985 ± 11.38	1.4116
	Private	29	18.37 ± 11.15	2.0716
P value			0.582, NS	

Table 3: Average no. of cases per day attended by 1st, 2nd and 3rd year residents

	N	Mean + SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
				Lower Bound	Upper Bound		
				Patient Load			
1 st Year	36	23.250 ± 14.01	2.3365	18.507	27.993	12	50
2 nd Year	27	10.370 ± 4.88	0.94	8.438	12.303	4	15
3 rd Year	31	16.774 ± 7.60	1.366	13.984	19.564	4	35
Total	94	17.415 ± 11.07	1.1624	15.107	19.723	4	50

Table 2 shows t - test table with descriptive statistics showing the calculated mean no. of cases per day for residents of government hospital vs private hospital. The t - test analysis for comparing mean no. of cases per day for residents of government hospital (Mean cases = 16) vs residents of private hospital (mean cases = 18), indicating that the difference is statistically significant (p - value = 0.582) at 95% level of confidence.

Table 3 shows the mean score of patient load (no. of cases per day) in 1st, 2nd and 3rd year residents. The maximum patient load was reported by 1st year residents, followed by 3rd year residents. 2nd year residents reported the least patient load. Highlighted cells show the average no of cases attended per day by residents

Table 4: Comparison of mean difference of patient load between 1st, 2nd and 3rd year residents

Multiple Comparisons						
Dependent Variable	Patient Load					
Dunnnett T3						
(I) Year of residency		Mean Difference (I-J)	St. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 st Year	2 nd Year	12.8796*	2.5646	0	6.624	19.135
	3 rd Year	6.4758*	2.4683	0.031	2.456	12.496
2 nd Year	1 st Year	-12.8796*	2.5646	0	-19.135	-6.624
	3 rd Year	-6.4038*	2.6518	0.053	-12.872	0.064
3 rd Year	1 st Year	-6.4758*	2.4683	0.031	-12.496	-0.456
	2 nd Year	6.4038	2.6518	0.053	-0.064	12.872

*The mean difference is significant at the 0.05 level

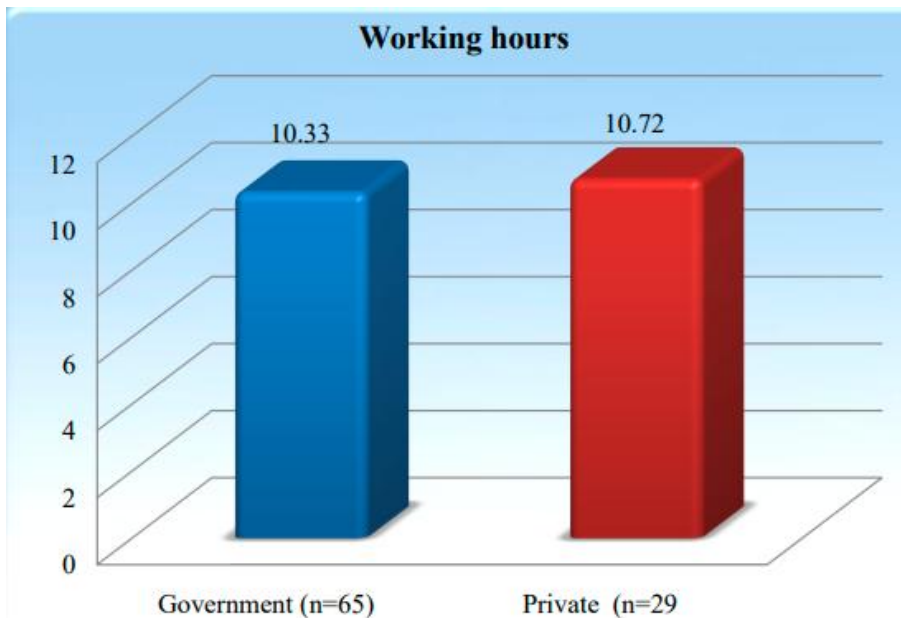


Figure 4: Average patient load in 1st, 2nd, 3rd year residents in govt vs private hospitals

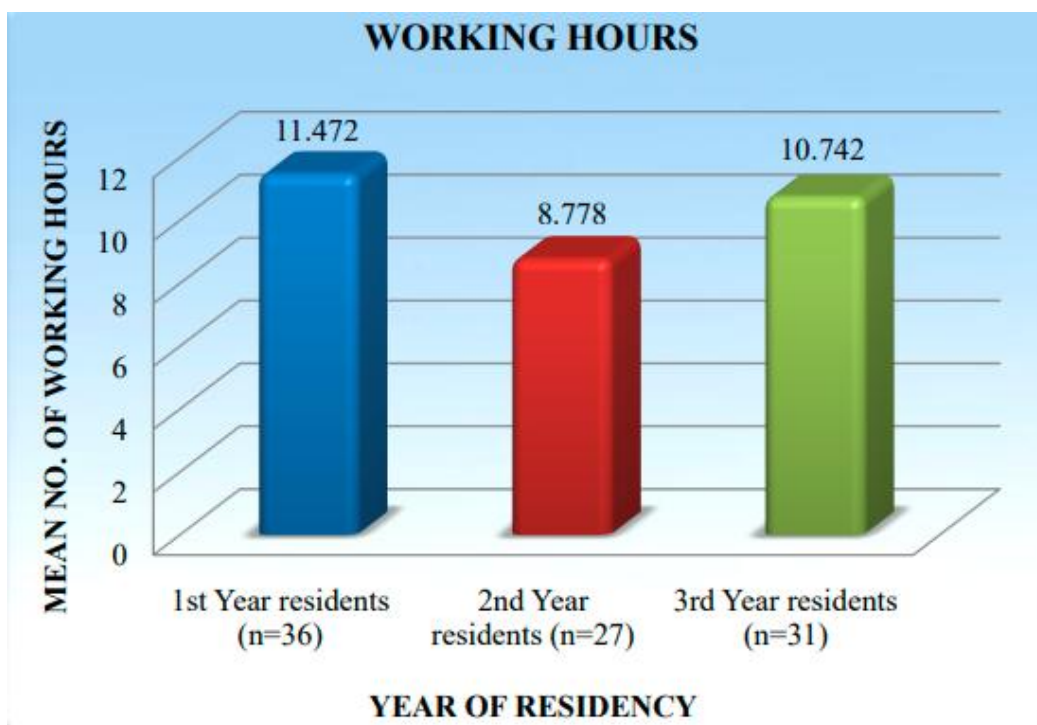


Figure 5: Mean no. of working hours score for 1st, 2nd and 3rd year residents

Table 5: Mean OSI scores of stress level in 1st, 2nd and 3rd years of residency

OSI Scores							
	N	Mean + SD	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
				Lower Bound	Upper Bound		
1 st Year	36	158.69 ± 5.97	1	156.67	160.71	148	170
2 nd Year	27	127.56 ± 16.91	3.25	120.87	134.24	110	167
3 rd Year	31	129.06 ± 18.06	3.24	122.44	135.69	90	174
Total	94	139.98 ± 20.46	2.11	135.79	144.17	90	174

It is observed that the maximum OSI scores were reported by first year, followed by third year and least in second year. 1st year residents reported a mean OSI score of 158.69 with a standard deviation of +5.97. 2nd year residents reported a mean OSI score of 127.56 with a standard deviation of +16.91. 3rd year residents reported a mean OSI score of 129.06 with a standard deviation of +18.06.

4. Discussion

The results of this study suggest a high prevalence of stress among obstetrics and gynaecology residents pursuing second year of their residency and that unmarried and the number of patients the residents attend to in office per day are

significant risk factors that cause this stress during residency. Residents pursuing third year of residency show lesser prevalence of stress comparatively and the ones pursuing second year of residency show the least stress among the three. The study indicates that higher stress is prevalent in hostellers than in localities. In this study, we shall discuss multiple factors that cause stress in obstetrics and gynaecology residents like marital status, types of hospitals residents' practice in (private or government) and work load.

The implications of these findings underscore the need for targeted interventions and support mechanisms to alleviate workplace stress among OBGYN residents. Potential strategies include implementing stress management workshops, providing mentorship programs, optimizing duty schedules, and enhancing communication training. By addressing these stressors and promoting a healthier work environment, medical institutions can enhance resident well-being, optimize patient care, and contribute to the overall improvement of healthcare systems.

5. Conclusion

The review suggests that a substantial proportion of residents of the Obstetrics & Gynaecology department suffer from stress. Coping mechanisms and other holistic efforts are required to treat residents who are stressed in a noninvasive way. Residents need to be made more aware about the manifestations of stress and distressing coping mechanisms to help manage the situation. Further research on this issue will help provide answers to psychological distress among obstetrics and gynaecology in India.

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