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ORIGINAL RESEARCH

Unlocking the Potential: Addressing Stress and Coping Techniques among Postgraduates doctors of India

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ABSTRACT
We conducted a comprehensive study on the prevalence of stress and burnout among physicians, focusing on the impact of long working hours and the lack of time for personal relationships. Our cross-sectional study delved into the experiences of 100 residents in a leading tertiary care institute in India, examining their coping mechanisms and overall level of happiness.
Keywords: Residents, coping techniques, clinical, non-clinical

INTRODUCTION
Burnout remains a significant issue among physicians, especially resident doctors. Residents are medical professionals who already hold a basic medical graduate degree and are pursuing a post-graduate degree. They are expected to work long hours and have limited time for personal activities, which can contribute to burnout. In India, there are 479 medical colleges, with a total capacity of 31,415 seats for MD/MS students, but approximately 15 lakh MBBS students compete for these seats each year.[1] Becoming a resident doctor is considered a significant achievement. Still, the demanding nature of the profession can lead to burnout due to long working hours, lack of personal time, and inadequate compensation. The prevalence of depression as an occupational hazard in the field of medicine is a well-documented concern. Studies have revealed that physicians often struggle to identify and acknowledge depression in both their patients and themselves. Moreover, they display hesitance toward seeking medical intervention for their health issues. It is noteworthy that residents frequently encounter depression and burnout, yet many of them tend to manage these challenges without seeking medical help. For over 150 years, it has been observed that physicians exhibit a higher inclination toward suicide. Despite the fact that physicians generally have a lower risk of mortality due to cancer and heart disease, possibly due to their understanding of self-care and access to early diagnosis, the elevated risk of suicide among them is alarming.[2] Notably, suicide ranks as the most common cause of death among medical students after accidents.[3]

MATERIAL AND METHODS
This study was a cross-sectional study that was conducted on 100post-graduate students of PGIMS, Rohtak after taking permission from the institutional ethical committee. Residents who werepost-graduatestudents for more than 6 months in clinical and non-clinical departments were a part of the study. Those students who were absent from the duties for 1 month or on maternity leave were excluded from the study.
A double-blinded study was carried out on these students. A questionnaire was given to all the students. Data was collected and subjected to statistical analysis and standard significance tests, Chi square test was applied.

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RESULTS

Out of a total of 100 residents, 56 were from the clinical department and 44 were from the non-clinical department. The majority of the residents were in the age group of 26-30 years (52%), followed by 20-24 years (29%). The reason for this is because most of the medical graduates complete their graduation in this age group. The year of residency distribution was 36% in the first year, 40% in the second year, and 24 % in the third year.Out of 100 residents, 74 had a partner, whereas 26 were single. The average working hours per week of clinical and non-clinical residents were 76.4 and 71.8 hours per week in the first year, 72.1 hours and 64.2 hours in the second year, and 64.6 hours and 58.9 hours in the third year respectively (Table 1).

Table 1. Average working hours per week of residents (n=100)

	Clinical Residents n=56	Non clinical residents n=44
1st Year	76.4	71.8
2nd Year	72.1	64.2
3rd Year	64.6	58.9

Table 2 shows that the majority of residents in clinical and non-clinical departments have not been able to pursue any hobby along with residency.

Table 2. Distribution of residents who have pursued any hobby till this age

Clinical Residents (n=56)		Non-clinical residents (n=44)	
Yes	No	Yes	No
7	49	12	32

There was a non-significant difference between the perusal of hobbies in clinical and non-clinical groups. (p=0.062)

The majority of the clinical residents (35.7%) identified as being happy in their workplace, whereas the majority of non-clinical residents 38.63%) were slightly unhappy with the workplace (Table 3). The clinical residents were significantly happier than the non-clinical residents.

Table 3. Distribution of residents on a scale of 1-7 (1- extremely unhappy; 7 – extremely happy)

Scale 1-7	Number of Clinical Residents (n=56)	Number of non-clinical residents (n=44)	
1- Extremely unhappy	0	2	
2- Unhappy	1	7	
3- Slightly unhappy	10	17	
Neither unhappy nor unhappy	7	5	
5- Slightly happy	20	10	
6- Happy	16	3	P value= 0.001
7- Very happy	2	0	

Table 4 depicts the main cause of burnout in residents. The major cause of burnout in clinical residents was long working hours, followed by too much paperwork, lack of respect from seniors/colleagues, and lack of timing for friends and family.In the non-clinical group, the cause of burnout was too much paperwork, followed by a lack of respect fromseniors/colleagues, long working hours, and no time for family and friends.In both the groups lack of respect from patients was the least common cause of burnout.

Table 4 Table showing the cause of burnout in residents

	Clinical residents n=56	Non-clinical residents n=44
Too much paperwork	43 (76.78%)	34 (77.27%)
Long working hours	50 (89.28%)	22 (50%)
Lack of respect from seniors/ colleagues	31 (55.35%)	27 (61.36%)
Lack of respect from patients	10 (17.85%)	2 (4.54%)
No family/friends time	23 (41.17%)	12 (27.27%)
Insufficient salary	0	0
Other reasons	0	0

Table 5 shows the coping techniques used by residents for burnout. They talk with their family and friends, listen to music, use social media, sleep, exercise, eat junk food, drink alcohol and watch movies as their coping mechanism for burnout.

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Table 5. Distribution of residents with coping techniques of burnout

	Clinical residents n=56	Non clinical residents n=44
Talk with family/ friends	52	44
Listen to music	50	27
Use social media	47	38
Sleep	12	21
Exercise	10	17
Eat junk food	5	9
Drink alcohol/ other substance abuse	23	8
Other	2	0

The resident relationship with staff and patients is shown in Table 6. The burnout makes them get irritated and less engaged with staff and peers. They also agreed that some errors might be made that may not be made ordinarily. Very few residents said that it doesn't affect anyone or they could make errors that can be harmful to their patients.

Table 6. Burnout affects the resident relationship with staff/affects patient care

	Clinical residents n=56	Non-clinical residents n=44
Get irritated with staff/ peers	56	42
Less engaged with staff/ peers	56	31
Make errors that might not be made ordinarily	50	34
Does not affect anyone	3	19
Errors that could harm patients	5	15

Tables 7 and 8 present data pertaining to the number of individuals who acknowledge experiencing symptoms of depression. The reported cases encompass a spectrum of both colloquial and clinical depression. Colloquial depression denotes feelings of sadness and despondency, whereas clinical depression signifies a prolonged and severe state of despondency unrelated to a typical grief-related experience.

Table 7. Distribution of clinical residents having depression

Residents who do not have depression	50
Residents having depression	
Colloquial	6
Clinical	0

Table 8. Distribution of clinical residents having depression

Residents who do not have depression	38
Residents having depression	
Colloquial	6
Clinical	0

Table 9 shows that the colloquial depression was not significantly different in clinical and non-clinical residents.

Table 9. Comparison of depression in clinical and non-clinical residents.

Residents	Colloquial Depression		
	Yes	No	Total
Clinical	6	50	56
Non-clinical	6	38	44
	p value=0.655		

DISCUSSION

Burnout is a big issue among doctors in India and elsewhere, and news of recent tragedies of physician suicide show that they face a lot of challenges like new subject learning, the success and failure of treatment given by them, and the loss of a patient. All these situations have an impact on the mindset of these doctors. Long working hours, less time for personal contact with friends and family, and similar situations contribute to further burnout.

Burnout has been characterized as persistent, unmanageable job-related stress resulting in feeling exhausted, overwhelmed, cynical, detached from work, and lacking personal fulfilment.[4]Common symptoms of depression include diminished interest in previously -enjoyable activities, feelings of hopelessness, sadness, anxiety, guilt, irritability, impatience, disturbances in sleep, tearfulness, difficulty concentrating, changes in appetite (loss or gain), somatic pain, and substance abuse.

The NMC (National Medical Council) of India has given its regulations on the 'reasonable' working hours of postgraduate residents in India.[5] However, the reported time and actual working hours are

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different. Our study found that the actual working hours per week as per the residents were beyond this timeframe.

A cross-sectional study conducted by McManus et al. on 4457 qualified UK doctors revealed a strong association between doctors with greater engagement in avocational and leisure activities and a heightened sense of vocation. Interestingly, the study found no significant relationship between burnout and avocational and leisure activities, although it did identify correlations with several other factors.[6] Our study similarly discovered that the majority of residents faced obstacles in pursuing their hobbies, primarily due to lack of time and interest.

Kulkarni S conducted a compelling cross-sectional study on medical students at a private medical college in Maharashtra, revealing that an impressive 70% of the students reported being happy.[7] Subsequently, our study on postgraduate residents demonstrated that 28.57% of clinical and 6.8% of non-clinical residents expressed happiness. The statistically significant difference clearly indicates that clinical residents experience higher levels of happiness compared to their non-clinical counterparts.

In a thorough review, Dubale et al examined 65 articles from PubMed, Web of Science (Thomson Reuters), and PsycINFO (EBSCO) to explore the impact of burnout on healthcare providers in sub-Saharan Africa. They found that burnout is associated with interpersonal and professional conflicts among healthcare providers. It was revealed that burnout can lead to increased levels of doctor/doctor conflict, doctor/nurse conflict, work/family conflict, and general interpersonal conflict. The study also demonstrated that burnout can result in residents feeling irritable and less engaged with staff and peers, potentially leading to errors that they might not make under normal circumstances. A few residents mentioned that burnout had no impact, while some acknowledged that it could lead to errors harming their patients.O'Dowd E et al interviewed 68 Irish physicians and identified 5 themes. The first theme was 'The Nature of Resilience', which showed that many physicians saw resilience as a way of coping with challenges. The second theme, 'Challenges of the Profession', highlighted workplace stressors such as long shifts and heavy workloads. The third theme, 'Job-related Gratification', showed how aspects of the workplace support resilience, such as finding satisfaction in medical efficacy. The last two themes, 'Resilience Strategies (Protective Practices)' and 'Resilience Strategies (Attitudes)', discussed coping behaviors and attitudes that help protect against stress and burnout.[8]Our study found that the main causes of burnout in clinical residents were long working hours, too much paperwork, and lack of respect from seniors/colleagues. Non-clinical staff experienced burnout mainly due to excessive paperwork and lack of respect. Residents coped with burnout by talking to family and friends, listening to music, using social media, sleeping, exercising, eating junk food, drinking alcohol, or watching movies.

In a thorough review, Dubale et al examined 65 articles from PubMed, Web of Science (Thomson Reuters), and PsycINFO (EBSCO) to explore the impact of burnout on healthcare providers in sub-Saharan Africa.[9] They found that burnout is associated with interpersonal and professional conflicts among healthcare providers. It was revealed that burnout can lead to increased levels of doctor/doctor conflict,[10] doctor/nurse conflict,[11] work/family conflict,[12] and general interpersonal conflict.[13] Our study also demonstrated that burnout can result in residents feeling irritable and less engaged with staff and peers, potentially leading to errors that they might not make under normal circumstances. A few residents mentioned that burnout had no impact, while some acknowledged that it could lead to errors harming their patients.

Numerous studies have been conducted on depression in physicians. In 1999, a study by Frank E. and Dingle A.D. compared self-reported depression and suicide attempts among female physicians in the US with those of other women in the country. They utilized data from the Women Physician Health Study, a comprehensive national questionnaire. The researchers concluded that depression was roughly as prevalent among female physicians in the US as it was among other women in the country, but suicide attempts were less frequent.[14]Schernhammer ES et al conducted a study in 2004. They performed a meta-analysis on suicide rates among physicians. The study found that the suicide rates were modestly elevated for men and highly elevated for women based on the collective findings from studies on physician suicide.In 2008, a study by Lagro-Janssen AL and Luijks HD investigated gender disparities in physician suicide rates, revealing a higher risk among female physicians for depression and suicide. The study recommended an increased focus on depression awareness and timely training to mitigate these risks. [16.]In 2009, Goebert et al. conducted a multisite, anonymous study to evaluate depressive symptoms and suicidal ideation in medical trainees. The study, which garnered responses from approximately 2000 medical students and residents, revealed that about 12% exhibited probable major depression, while 9.2% displayed probable mild to moderate depression. The findings underscored the significance of implementing sustained mental health assessments, providing treatment, and offering education for medical trainees.In 2011, Pierre Gagne et al conducted a nested case-control study examining the correlation between psychopathology and suicide among Quebec Physicians. The study compared the psychiatric profiles and characteristics of 36 physicians and 36 non-physicians who had committed suicide between 1992 and 2009. The findings revealed that both groups exhibited similar types of psychiatric disorders. Based on these results, the study strongly

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advocated for the implementation of more effective suicide prevention measures, emphasizing the early detection and treatment of mood disorders among physicians.In the conducted survey done by us, the respondents were queried about their experiences with depression, encompassing both colloquial and clinical forms. Colloquial depression denotes feelings of low mood, despondency, and sadness, while clinical depression entails prolonged and severe depressive symptoms unrelated to expected grief-related reactions. The results indicate that 10.71% of clinical residents and 13.63% of non-clinical residents reported symptoms indicative of colloquial depression, while none of the respondents displayed clinical depression.

CONCLUSION

Stress stands as a significant contributor to both chronic illnesses and fatalities in contemporary lifestyles. Prolonged work hours, excessive administrative tasks, and insufficient time for social connections intensify this burden. While individuals develop their coping strategies, medical professionals often find it challenging to allocate time for self-care. Strict adherence to work shift duration guidelines is imperative for every institution. The well-being of medical residents directly impacts their future performance as physicians. Nevertheless, it's essential to acknowledge the significance of studies with a more extensive participant pool.

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