

INVESTIGATION OF THE INCIDENCE OF BURNOUT AMONG MEDICAL RESIDENTS AND ITS ASSOCIATION WITH SELF-REPORTED TREATMENT OF PATIENTS' PRACTICES

¹Umar Ali, ²Dr Sehrish Raja, ³Muhammad Daniyal Basheer, ⁴Dr Iqra Hanif, ⁵Dr Annum Fareed Abbasi

¹PIMS Islamabad

²Ajk medical college Muzaffarbad

³Resident Surgery AIMS Hospital Muzaffarbad

⁴Poonch medical college Rawalakot

⁵Azad Jammu and Kashmir medical college muzaffarbad

ABSTRACT:

Background: Burnout is a condition where people feel disconnected from themselves, extremely tired emotionally, and have a feeling of not achieving much. We don't have much information about burnout in doctors who are still in training or how it affects the way they take care of patients.

Aim: To investigate the incidence of burnout among medical residents and their association with self-described treatment of patients' practices.

Methods: To determine burnout, researchers used a tool called the Maslach Burnout Inventory, which measures the level of burnout experienced by medical professionals. High scores on the depersonalization or emotional exhaustion sections of the inventory indicated burnout. In addition, participants were asked five specific questions about their patient care practices, which could suggest less than optimal care. These questions assessed behaviors such as not fully discussing treatment options or making errors that were unrelated to knowledge or experience. The researchers also evaluated despair and at-danger alcohol usage through exploitation of reliable questionnaires designed for screening these conditions.

Results: Out of the 126 residents who responded to the survey (which is about 79% of the total), 92 residents (which is about 72%) showed signs of burnout. When comparing the burned-out residents to those who weren't burned out, it was found that burned-out residents were much more likely to admit that they provided suboptimal patient care at least once a month (55% compared to 22%). This change was substantial ($P < 0.005$). In analysis that took into account various factors, such as gender, despair, at-risk alcohol use, and burnout, it remained found that burnout was strongly linked to self-reported suboptimal patient care practices happening at least once a month. The odds of reporting such practices were 8.3 times higher for burned-out residents compared to those who were not burned out. The association was not as strong for factors like gender, despair, or at-danger alcohol use. When each aspect of burnout was assessed separately, this was found that only very high score in depersonalization remained linked to self-described suboptimal health care experiences. This relationship followed the dose-retort pattern, meaning that as the level of depersonalization increased, the likelihood of reporting suboptimal patient care practices also increased.

Conclusion: Many resident doctors experienced burnout, and this burnout was linked to admitting that

they provided suboptimal patient care practices.

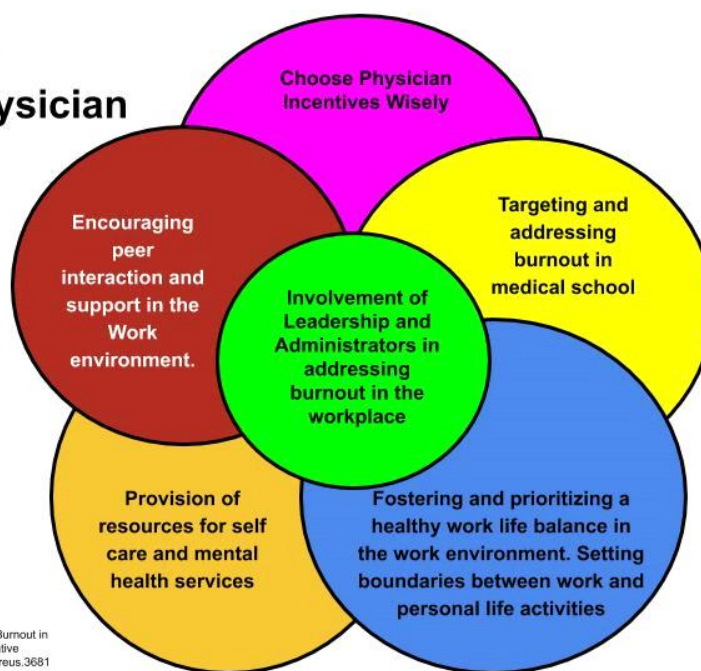
Keywords: Burnout, medical residents, Internal Medicine.

INTRODUCTION:

Burnout is a condition where people feel disconnected from their work, extremely tired emotionally, and have a sense of not achieving much. It makes them less effective at their jobs [1]. Burnout is different from depression because it only affects a person's work life, while depression affects their entire life [2]. Many professions that involve working closely with people, like doctors, nurses, and teachers, experience burnout. Burnout is linked to poor job performance, decreased commitment to work, and can lead to health issues related to stress and low satisfaction with one's career [3]. Among doctors, burnout seems to be quite common, with rates ranging from 26% to 61% [4]. However, there have been only two small studies that have looked at burnout among doctors during their training after medical school. Additionally, no research has been done to see if there is a connection between burnout among doctors and the quality of patient care they provide [5-8]. We conducted a study to find out how common burnout is amongst internal medicine residents in the specific university program and also examined how burnout affects the way these residents reported taking care of their patients [9].

Image 1:

Strategies to Decrease Physician Burnout ⁽³⁾.



(3) Reference: Reith T P (December 04, 2018) Burnout in United States Healthcare Professionals: A Narrative Review. Cureus 10(12): e3681. DOI 10.7759/cureus.3681

We had some important limitations in our study. Despite receiving a considerable number of responses to our survey, there remains a possibility that the participants' individual viewpoints may have had an impact on their answers. This potential influence could potentially compromise the precision and reliability of our research outcomes [10]. The percentage of residents experiencing burnout in this program could range from 58% to 89% depending on whether or not 37 residents who didn't respond were burned out or not [11]. Our study was mainly conducted in March, a time of year when resident morale is usually low and depression is common [12]. If we had surveyed residents at the changed time

of year, we might have found different rates of burnout. Researchers couldn't associate the respondents having those who didn't respond because we wanted to protect the privacy of all residents, so we didn't collect detailed information about the nonrespondents [13]. We also didn't seek approval to collect data on the nonrespondents from the review board. The information we gathered about patient care practices was based on what the residents reported about themselves. We don't know for sure if their self-reports accurately reflect how often they engaged in six suboptimal patient care practices we asked about [14]. While these questions seem reasonable, we haven't studied whether they are truly accurate and reliable. Furthermore, it's possible that the residents may have reported their patient care practices in a biased way, which could explain the connection we found among burnout and suboptimal health care practices. For instance, peoples whom were experiencing burnout might have exaggerated the frequency of their suboptimal patient care behaviors [15].

METHODOLOGY:

Anyone who lived in region of Punjab Affiliated Hospitals Internal Medicine Residency program, excluding for the first author who was the 3rd-year resident, could take part in the current research. The residents in program came from 21 medical colleges in Punjab province and 5 medical colleges outside country. The group included residents specializing in primary care as well as those specializing in general and preliminary internal medicine. These residents would work at a university medical center, a Veterans Affairs hospital, and various county and community hospitals as part of their training. Half of their rotations involved being on-call at the hospital.

In May 2021, we sent a survey with 90 questions to the residents' homes. The survey asked about different things in a specific order: first, basic information about the residents; then, their experiences with work-related stress during their residency; next, questions from the Maslach Burnout Inventory, that is a tool to measure burnout; after that, questions about depression, alcohol use, and substance abuse; then, questions about their practices and attitudes towards patient care; followed by questions about their personal strategies to deal with stress; and finally, questions about their satisfaction with the program and their career. The survey came with a letter explaining that its purpose was to understand how residents feel and which parts of their residency are most worrying. The letter made it clear that contribution in the survey remained voluntary and anonymous. We didn't mention any specific hypotheses or the term "burnout" in the letter. As a small reward for participating, residents who sent back the separate postcard confirming that they completed the survey had a chance to win a \$20 gift certificate. After sending survey once to all populaces, we sent two reminders by email.

The second measure, which we will call "suboptimal health care practices weekly," is very smaller group of people compared to initial measure. Researchers didn't comprise questions about suboptimal health care defiance because they were similar to other questions about depersonalization. We expected these attitudes to be connected to that specific aspect. Both the individual questions and the overall measures utilized in our study have not undergone rigorous testing and validation. However, we hypothesized that there might be a correlation between burnout, depression, substance abuse, and self-reported attitudes and practices related to suboptimal patient care. To explore this relationship, our survey incorporated a concise questionnaire comprising two questions specifically designed to screen for signs of depression. This questionnaire, called PRIME-MD, is as effective as longer questionnaires. If someone answered "yes" to at least one of the two questions, they were considered positive for

depression. This screening tool has a high chance of correctly identifying current major depression and a low chance of incorrectly identifying it.

We started by comparing the responses of first-, second-, and third-year residents. Then, we compared residents who showed signs of burnout with those who didn't, for all other characteristics. We only looked at categorical variables for these comparisons. We used statistical tests called the chi-square test or Fisher exact test to determine if the differences were significant. To see if burnout was linked to reporting lower quality patient care, we used a method called logistic regression. We took into account factors like demographic information, answers to questions about depression, history of major depression during residency, alcohol use, and recreational substance use. In this analysis, we compared residents with burnout to those without burnout to calculate the odds of reporting suboptimal patient care practices on a monthly basis. We also examined three different aspects of burnout separately (such as feeling detached from work), and then combined them in a single analysis. We repeated these analyses for a different outcome measure, which was reporting suboptimal patient care practices on a weekly basis. Furthermore, we carried out supplementary analyses to investigate potential disparities between residents experiencing burnout and those without burnout concerning the stressors they reported, coping mechanisms employed, and the effectiveness of program features provided to assist residents in managing stress. To ascertain whether these variances held statistical significance, we employed either the chi-square test or the Fisher exact test. For all these analyses, we used a statistical software called SPSS, version 21.0.8.

RESULTS:

Out of the 164 residents who were eligible, 119 (79%) returned surveys either in May 2021 or April 2022. The level of participation exhibited a decline relative to the year of residency, with response rates of 91% among 1st-year residents, 72% among 2nd-year residents, and 63% among 3rd-year residents. This trend was found to be statistically significant when assessed using a chi-square test for trend ($P < 0.002$). Nevertheless, when examining the responses of residents regarding burnout, despair, substance use, and health care practices, no significant differences were observed based on the year of postgraduate training. Consequently, to ensure a robust sample size for lasting analyses, we combined the data collected from applicants across altogether years of residency training. Demographic information, MBI (Maslach Burnout Inventory) subscale scores, and self-reported suboptimal patient care practices and attitudes are presented in Table 1. Ninety (77%) of the responding residents met the criteria for burnout. The mean scores on the MBI subscales for the responding residents were as follows: depersonalization, 13.8 (a score of 10 or higher is considered high and indicative of burnout); emotional exhaustion, 27.5 (a score of 23 or higher is considered high); in addition, personal achievement, 38.4 (the current subscale is inversely related to burnout, and a score of 34 or lower is measured small).

Residents who showed signs of burnout remained much extra probable to say that they took the break of more than one year among finishing their undergraduate studies and starting medical college. This was true for 43% of residents with burnout, compared to only 21% of residents without burnout. The rates of self-described key sadness and positive screening results for depression remained also higher among residents with burnout. Additionally, residents who experienced burnout were less satisfied with their careers. Nevertheless, when evaluating other measured factors such as demographic

characteristics, alcohol use, or substance abuse, no statistically substantial variances were identified between the two groups. This suggests that these particular variables did not significantly vary between the two groups under investigation.

Table 1: Evaluation of Resident Burnout in Existing Studies Using the Maslach Burnout Index:

Category	Pediatrics Residents	Internal Medicine	Family Practice Residents
Personal achievement average score	37.7	35.2	36.2
Emotional fatigue average score	25.3	28.5	26.4
Depersonalization average score	12.2	14.0	12.7

In simple terms, the passage is saying that when researchers used a statistical method called multivariate logistic regression to study affiliation amongst burnout (a state of exhaustion and emotional fatigue) and self-described instances of providing suboptimal health care (care that is less than ideal), they found the following:

- Burnout was the strongest predictor of self-described suboptimal patient care, with the higher likelihood of such practices occurring at least once a month.
- The findings of a study indicate that medical residents who experienced a time interval exceeding one year between finishing their undergraduate education and commencing medical school demonstrated a decreased likelihood of reporting instances of suboptimal patient care occurring at least once a month, as opposed to their counterparts in residency training.
- Second-year residents were more likely than third-year residents to report suboptimal patient care at least once a month.
- Only burnout significantly predicted the occurrence of weekly self-reported suboptimal patient care.
- None of demographic or screening variables, except burnout, remained meaningfully allied with self-described suboptimal patient care practices on a weekly basis.
- When researchers looked at different aspects of burnout, they found that high scores on reification subscale (feeling detached from peoples) were significantly associated with both monthly and weekly self-reported suboptimal patient care practices.

Researchers wanted to understand if there was a specific level or a gradual relationship between feeling disconnected from oneself (depersonalization) and reporting instances of inadequate patient care among medical professionals. To do this, we examined data from 1120 medical professionals and divided their depersonalization scores into five groups. We then analyzed the likelihood of these professionals reporting suboptimal patient care practices on a monthly basis within each group. In our analysis, we considered the group with the lowest depersonalization scores as the reference category. We found that compared to those in the lowest group, professionals in two highest groups remained meaningfully more expected to describe suboptimal health care practices at least once a month. In simple terms, our research presented that there was clear pattern: as feeling of detachment from individuals increased among the five groups we studied, the chances of them admitting to providing subpar care also increased. This means that there is a connection between feeling disconnected from

patients and more frequent instances of inadequate care. The higher the feeling of detachment, the more likely it is for healthcare providers to report engaging in such practices.

Residents who were identified as experiencing burnout were more likely to consider physical exercise and having a survival mindset as important for managing stress. They also highlighted certain aspects of their residency program that helped them cope with stress, such as having at least five days off per month, receiving additional assistance, and having the night-shift schedule. These factors were important to all residents, regardless of whether they experienced burnout or not. Residents experiencing burnout were less likely to view specific program aspects as crucial for handling stress. These aspects comprised talks about stress and depression risk, receiving helpful feedback, and getting guidance for their careers.

Table 2: Resident Attributes Thought to Be Related to Burnout:

Variable	Who Met Criteria for Burnout	Did Not Meet Criteria for Burnout	P Value
screening*	44 (51)	8 (29)	0.043
depression during residency	27 (31)	3 (11)	0.030
recreational drug use	3 (3)	0 (0)	0.1
At-risk alcohol use†	8 (9)	2 (7)	0.3
become a physician again	23 (26)	2 (7)	0.032
Happy with career choice	51 (59)	25 (89)	0.004

DISCUSSION:

The statement describes a significant research study conducted on burnout among medical residents and their influence on the superiority of healthcare [16]. According to the information available, this research is considered the largest study ever conducted on burnout among medical residents and is unique in its focus on how burnout affects physicians' healthcare practices [17]. The study found that burnout was highly prevalent among medical residents at all stages of their two-year training program, with more than 76% of participants meeting standards for burnout [18]. Furthermore, residents who experienced burnout were two to three times more probable to engage in suboptimal health care procedures on a monthly or weekly basis. To gain deeper insights, the researchers analyzed the data while considering participants' demographic information and their responses to screening questionnaires for depression and substance abuse. They discovered that the feeling of depersonalization, one aspect of burnout, was meaningfully related through self-described instances of suboptimal patient care [19]. This finding suggests that when medical residents experience depersonalization, their quality of patient care may suffer. As expected, the study also revealed an inverse relationship between burnout and career satisfaction. This means that as burnout levels increased among medical residents, their satisfaction with their careers decreased [18]. These findings highlight the detrimental effects of burnout on both patient care and the personal well-being of medical residents [19]. Overall, this research provides valuable insights into the prevalence of burnout among medical residents and its impact on the quality of healthcare. The study's findings emphasize the need for interventions and support systems to address burnout among medical professionals and improve the overall well-being of residents while safeguarding the quality of patient care [20].

We need to be cautious when interpreting our findings about the connection among burnout and self-described suboptimal health care practices. These results must mainly remain used to generate ideas for future research rather than drawing definitive conclusions [21]. However, we don't think that these findings are solely due to biased reporting. It's important to note that this study only looked at a specific point in time, so it can't determine if burnout causes suboptimal patient care practices [22]. We would need to conduct longer studies in the future to investigate if there is a causal relationship. The study also found that factors like sex, depression, and substance abuse didn't influence the connection between burnout and patient care practices [23]. Additionally, the time of year when the surveys were completed shouldn't have affected the relationship either. However, we didn't ask the participants about their current rotation site, workload, or on-call schedule, which could be factors to consider and explore in upcoming studies [24]. Residents who met the criteria for burnout responded differently to certain questions compared to other residents [25]. However, since this study only looked at a specific point in time, we can't determine if these variables directly cause burnout [26]. We don't know if our findings can be generalized to other residency programs because we only studied one internal medicine program. In other words, the average burnout scores observed in the study were comparable to the scores reported in these previous smaller studies. This implies that the prevalence of burnout among the residents in the program under investigation is not significantly different from what has been observed in other similar studies. The similarity in burnout scores across studies suggests that the phenomenon of burnout among medical residents is a widespread issue that extends beyond the specific program or group of residents being studied. By mentioning the similarity of findings to previous studies, the statement implies that the research results are likely applicable to a broader population of medical residents. This reinforces the generalizability of the study's findings and suggests that burnout among medical residents is a pervasive problem that warrants attention and intervention on a larger scale [27].

CONCLUSION:

Many medical trainees, known as residents, often experience burnout, which means they feel exhausted and overwhelmed. This burnout can lead to lower levels of well-being and satisfaction with their careers. "It is also associated with residents who provide suboptimal care to their patients, as reported by the residents themselves. To better understand and address this issue, more research is needed to find out how common burnout is among residents, how to prevent it, what causes it, what effects it has, and how to manage it.

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