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IP International Journal of Forensic Medicine and  
Toxicological Sciences

Journal homepage: <http://www.ijfmts.com/>



## Original Research Article

# Assessing burnout among forensic medicine specialists at a tertiary care hospital: A pilot study

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## ARTICLE INFO

### Article history:

Received 15-10-2024

Accepted 16-11-2024

Available online 23-12-2024

### Keywords:

Burnout

Peer support

Forensic medicine

Maslach Burnout Inventory

Emotional resilience

Coping mechanisms

## ABSTRACT

**Background:** Healthcare professionals often face immense pressure and work-related stress, particularly in life-saving situations and when working with their clients. Since the COVID-19 pandemic, there has been a noticeable rise in burnout, exacerbated by increasing instances of violence against doctors. Forensic medicine, a demanding field that works closely with law enforcement, prosecution, and the judiciary, has received less attention in burnout studies.

**Aim:** The present study aims to assess the prevalence of burnout among qualified forensic medicine practitioners working at a tertiary care facility in South India. Additionally, it explores the common coping mechanisms these doctors use to manage stress.

**Materials and Methods:** An adapted version of the Maslach Burnout Inventory (MBI) and a semi-structured questionnaire were administered via Google Forms to assess burnout prevalence and coping mechanisms. Informed consent was obtained from all participants prior to data collection.

**Results:** The study included ten forensic medicine practitioners registered with the Andhra Pradesh Medical Council, comprising eight males and two females, with an average age of 46.7 years and an average work experience of 9.3 years. The mean scores for the MBI domains in our study were as follows: Emotional Exhaustion ( $6.6 \pm 2.9$ ), Depersonalization ( $7.5 \pm 4.45$ ), and Personal Accomplishment ( $33.8 \pm 8.6$ ), indicating low, moderate, and moderate levels of burnout, respectively. However, when considered overall, there is no burnout among the participants.

**Conclusion:** The study finds that forensic medicine specialists exhibit low burnout scores, likely due to their engagement in extracurricular activities and strong support networks, including discussions with colleagues and family. These findings support the view that forensic doctors are mentally tough and emotionally resilient.

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## 1. Introduction

*Burnout* is a state of physical, mental, and emotional exhaustion caused by continuous stress, often in demanding professions like healthcare. It results in feelings of detachment, reduced performance, and a loss of personal accomplishment. Burnout is more prevalent among health

practitioners due to the high-pressure work environment, often characterized by long hours, the emotional strain of patient care, and the added burden of administrative tasks. Some less-examined causes of burnout in medical practice include time constraints, difficult interactions with superiors or colleagues, challenging patients, and a lack of recognition or appreciation, all of which play significant roles in contributing to stress. When doctors experience burnout, it affects their ability to focus, make decisions,

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and show empathy, which can harm both patient outcomes and workplace relationships. The ripple effects of burnout among doctors range from an increase in medical errors to a failure to achieve public health targets.<sup>1</sup>

According to American Medical Association (AMA) data from 2023, the highest rates of burnout among physician specialties were found in emergency medicine, internal medicine, obstetrics and gynaecology, family medicine, paediatrics, and hospital medicine. Despite slight decreases in burnout percentages across these specialties, the figures indicate that these fields remain among the most stressful for healthcare providers.<sup>2</sup>

Forensic medicine specialists face unique challenges as they often work under intense pressure from law enforcement agencies and the families of the deceased to uncover the cause of death, particularly in cases where there are allegations of homicide. Unlike the clear-cut scenarios described in textbooks, real-world cases are rarely black and white, making it difficult to reach definitive conclusions based solely on findings. The need to balance accuracy with the expectations of a successful prosecution of the matter can create immense stress. Moreover, forensic doctors are often required to meet with investigating officers, consult with scientific experts, and appear in court, which adds further strain to their already demanding workload. The combination of these pressures, along with the emotional weight of dealing with unnatural deaths, affects their judgment, behaviour, and overall outlook on life, making occupational health and well-being critical for these professionals.<sup>3</sup>

Research on chronic stress and burnout among forensic doctors is limited, with notable contributions from van der Ploeg et al.<sup>4</sup> and Elliott et al.<sup>5</sup> emphasizing the significance of the issue. More recently, a study by Magdalena Iorga et al. from Romania.<sup>6</sup> stands out as an interesting addition to the field. Globally, studies on burnout within the forensic medicine specialty remain scarce, and in India, no comprehensive research has been conducted to date. Our study aims to address this gap by exploring burnout among forensic pathologists. Specifically, it seeks to assess the prevalence of burnout among forensic medicine practitioners from a tertiary care hospital in South India and to identify the common coping strategies these professionals employ to mitigate its effects.

## 2. Materials and Methods

The Maslach Burnout Inventory (MBI), a validated 22-item questionnaire that is the most widely used tool for detecting burnout, was used to calculate burnout among the study participants. The three subscales that make up the MBI assess emotional exhaustion, depersonalization, and personal achievement.

Emotional exhaustion (EE) refers to a feeling of drained and fatigued by work, leading to physical

troubles and chronic fatigue. Depersonalisation(DP) refers to emotional coldness and impersonal reactions toward patients and colleagues, resulting in cynicism, guilt, and social withdrawal. Personal achievement(PA) measures feelings of competence and accomplishment in one's work. Emotionally exhausted and depersonalised individuals may feel burnout despite scoring better in personal achievement domain often leading to doubting their abilities. The MBI inventory assesses these domains at three levels: low, moderate, and high. For emotional exhaustion, scores of 17 or lower are low, 18-29 are moderate, and over 30 are high. In depersonalization, scores under 5 are low, 6-11 are moderate, and over 12 are high. For personal achievement, scores of 33 or fewer indicate high burnout, 34-39 indicate moderate burnout and over 40 indicate low burnout.<sup>7,8</sup>

The present pilot study was conducted among ten forensic medicine practitioners in the Department of Forensic Medicine at Andhra Medical College in Visakhapatnam during December 2023. Data collection was facilitated using a Google Form, and the link was disseminated to all participants. Prior to enrolment, participants were informed about the study's objectives, and informed consent was obtained for the publication of the results.

## 3. Results

The study included ten forensic medicine practitioners registered with the Andhra Pradesh Medical Council, comprising eight males and two females. Participants' age ranged from 32 to 62 years (M= 46.7). The study group consisted of six assistant professors, two associate professors, and two professors. Regarding their experience as forensic doctors, the average work experience was 9.3 years (M = 9.3), with a minimum of two years and a maximum of 20 years. The average autopsy workload at the institute was about 2000 cases per year and other clinical cases/ other cases (civil age, criminal age, exhumation, expert opinion etc) would amount to about a maximum of 100 cases per year. All participants are exposed to a comparable caseload each year.

Section A of the Maslach Burnout Inventory (MBI) focused on burnout, or depressive anxiety syndrome, which is characterized by fatigue at the very idea of work, chronic fatigue, sleep disturbances and psychosomatisation. This is one of the main components of the burnout syndrome. Unlike in depression, symptoms of burnout are primarily confined to the professional role and do not significantly manifest outside of it. In this domain, the participants' scores ranged from 1 to 10, indicating that all of them experienced low levels of burnout.

Section B of the Maslach Burnout Inventory covers depersonalization (or loss of empathy). This involves "dehumanization" in interpersonal relations at work. Detachment can escalate to an extreme level, resulting

in cynicism and negative attitudes towards patients or colleagues. This can manifest as feelings of guilt, avoidance of social interactions, and a tendency to withdraw into oneself. Consequently, the professional may hinder their ability to express empathy towards patients and colleagues. In this domain, two exhibited a high level of burnout, four demonstrated a moderate level of burnout, and four showed a low level of burnout. The scores ranged from 1-16.

Section C of the Maslach Burnout Inventory deals with measuring the reduction of personal achievement. When an individual is experiencing burnout, they often evaluate themselves negatively and feel powerless to change their circumstances. This aspect reflects the demoralizing effects of enduring a challenging and repetitive situation, resulting in a sense of failure despite their efforts. As a result, the person may begin to doubt their true abilities to achieve their goals. This feeling is a consequence of the first two components of burnout and can also manifest as imposter syndrome, where individuals question their competence and fear being exposed as frauds despite their accomplishments. In this domain, five have a high level of burnout, three have a low level of burnout, and two have a moderate level of burnout and the scores ranged between 22-44.

**Table 1:** The spectrum of burnout participant wise and domain wise is presented in

Participants	Section A : Emotional exhaustion	Section B : Depersonalisation	Section C : Personal achievement
P1	LB	HB	HB
P2	LB	MB	MB
P3	LB	HB	HB
P4	LB	LB	HB
P5	LB	LB	LB
P6	LB	LB	HB
P7	LB	MB	HB
P8	LB	MB	MB
P9	LB	MB	LB
P10	LB	LB	LB

Table 1 showing domain wise burnout among study participants P- participant, lb- low burnout, mb- moderate burnout, hb- high burnout.

The mean scores for the sections were as follows: Section A had a mean score of  $6.6 \pm 2.9$ , indicating low levels of burnout; Section B had a mean score of  $7.5 \pm 4.45$ , reflecting moderate levels of burnout; and Section C had a mean score of  $33.8 \pm 8.6$ , suggesting moderate levels of burnout.

#### 4. Discussion

Based on the results, none of the ten forensic medicine specialists who participated in this study exhibited overall burnout. Among the participants, two were engaged in clinical practice and operated their own private clinics apart from discharging their duties as a forensic pathologist which

we believe has a role in reducing burnout from dealing with dead on a regular basis. Additionally, nine of the ten specialists participated in extracurricular activities to help cope with stress. Five individuals reported feeling emotionally vulnerable in the course of their work on a few occasions, while five indicated that being a forensic medicine specialist affects their social life to some extent. Eight participants expressed confidence in discharging their duties to the best of their abilities, whereas six disagreed that their escalating grievances were addressed in a timely manner.

Several factors contribute to the low levels of burnout among forensic medicine specialists at this institute. These include the adoption of effective coping mechanisms, such as engaging in extracurricular activities, and receiving strong support from a substantial number of postgraduate students undergoing training at the institute.

As previously mentioned, there is overall no burnout among the study population. The lowest levels of burnout were observed in the emotional exhaustion domain, while some burnout was noted in the derealization domain. This may be attributed to the daily exposure to death and the graphic nature of certain crimes, which can lead to vicarious traumatization. In the third domain, i.e. personal achievement, a notable level of burnout suggests that participants have a strong desire to enhance the quality of their work, engage in research activities aligned with global standards, and excel in their field. However, both time and resource constraints in the current setting must be addressed to facilitate these aspirations.

It is interesting to mention that despite our less sample size, our results are concordant with those reported by Magdalena Iorga et al. in Romania.<sup>6</sup> In their study, the pattern observed was low burnout in Domain A (mean score:  $14.97 \pm 13.13$ ), moderate burnout in Domain B (mean score:  $7.91 \pm 6.87$ ), and moderate burnout in Domain C (mean score:  $33.18 \pm 10.59$ ). The mean scores for the domains were as follows in our study: Emotional Exhaustion ( $6.6 \pm 2.9$ ), Depersonalization ( $7.5 \pm 4.45$ ), and Personal Accomplishment ( $33.8 \pm 8.6$ ), indicating low, moderate, and moderate levels of burnout, respectively.

Coping strategies can be broadly categorized into two types: problem-focused coping, which involves directly addressing the source of stress to resolve the issue, and emotion-focused coping, which focuses on managing the emotional response to stress by seeking distractions, avoiding the stressor, or seeking support from others. (Figure 1).<sup>9,10</sup>

In specialties like forensic medicine, one of the most effective coping mechanisms for daily stress is a commitment to being truthful and dedicated to the job. Open discussions with colleagues also play a crucial role; when more minds work together, the likelihood of errors decreases, though always within the scope of maintaining

case confidentiality. Engaging in group activities, inviting professionals from other departments within the medical college to visit and learn about our work, and organizing academic and personal development sessions within the department can greatly contribute to reducing stress and fostering a collaborative, supportive environment.



**Figure 1:** Coping strategies.

While many studies have addressed vicarious trauma (VT), secondary traumatic stress (STS), burnout, and Post Traumatic Stress Disorder (PTSD) in psychologists and police officers, there is a notable lack of research focused on crime scene investigators (CSIs), forensic nurses, and forensic pathologists. These professionals are routinely exposed to potentially traumatic things as part of their work, which raises concerns about their mental health.<sup>11</sup> Given the intimate exposure to violence inherent in forensic pathology, further investigation into PTSD within this context is essential, as it may lead to accumulated, unresolved grief among practitioners.<sup>12</sup>

Some studies indicate that autopsy technicians report higher levels of emotional exhaustion and PTSD symptoms whereas resident doctors in forensic pathology tend to experience a lower sense of personal accomplishment.<sup>13</sup> This situation highlights the urgent need to address psychological health in the forensic field, by conducting studies not only on forensic doctors but also on mortuary staff.

The rise in violence against doctors, including forensic pathologists, raises significant concerns about their mental health. This highlights the need for initiatives focused on understanding, preventing, and managing workplace violence in healthcare settings.<sup>14,15</sup> Additionally, prioritizing research into the mental health of forensic pathologists is essential, as it is a broad area that requires further attention.

## 5. Conclusion

Our study reveals that forensic medicine specialists in the present sample exhibit low burnout scores, indicating that burnout levels among this group are generally low. This

could be attributed to their engagement in extracurricular activities and the support they receive from an increased number of postgraduate students, which helps in managing professional stress. More than half of the participants reported discussing their work with family members and colleagues, and such discussions, particularly with colleagues and healthcare professionals like psychologists, psychiatrists, or social workers, were found to be protective factors against burnout. Depersonalization and overall burnout levels were low among the faculty, and the manageable caseload also contributed to their enhanced performance. Additionally, there is potential for growth in the personal achievement domain among the participants, suggesting that, with further resources and support, they can continue to improve their professional fulfilment. Our study aligns with the prevailing sentiment in professional circles that burnout is not significantly prevalent in forensic pathology practice.

## 6. Limitations

Our study population consists of a relatively homogeneous group, and therefore, cultural differences could not be examined in this analysis. Additionally, the limited sample size reduces the statistical power and may not fully capture the range of burnout experiences among forensic medicine specialists. Variations in caseload exposure among participants may have also influenced burnout levels, but these factors were not systematically controlled or analysed. Finally, further validation is required by conducting studies with a larger and more diverse sample size, including proper subgroup analyses based on years of experience and caseload exposure.

## 7. Source of Funding

None.

## 8. Conflict of Interest

None.

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**Cite this article:** Karunanithy SS, Natrajan V, Miriyala R, Rupesh KA. Assessing burnout among forensic medicine specialists at a tertiary care hospital: A pilot study. *IP Int J Forensic Med Toxicol Sci* 2024;9(4):133-137.