## **Original Research Article**

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# Evaluating the impacts of lockdown duties on mental health of male police personnel in Eluru City, Andhra Pradesh

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#### **ABSTRACT**

**Background:** The COVID-19 pandemic placed immense demands on frontline workers, including police personnel, who bore the responsibilities of maintaining public order during lockdowns. This study focused on male police officers in rural India, examining the mental health impact of their post-lockdown duties, which included enforcing pandemic-related measures.

**Methods:** An analytical cross-sectional study was conducted among police personnel in Eluru, Andhra Pradesh. Data was collected through interviews, using the depression, anxiety, and stress scale-21 (DASS-21) to assess mental health. Demographic variables (age, marital status) and stimulant use (tea, coffee, and cigarettes) were analyzed for associations with mental health scores via ANOVA.

**Results:** Among 70 participants, the majority were aged 25-30 (37%), married (61.4%), and consumed stimulants, primarily tea (84.3%). Overall, participants reported moderate stress (mean =8 $\pm$ 4.1), while anxiety levels varied (mean =2.73 $\pm$ 3.34), and depression was generally low (mean =0.17 $\pm$ 0.66). Age, marital status and stimulant use were found to be significantly associated with subscale scores, 36-40 age groups more likely to report anxiety and stress. Married individuals were more likely to report depression and anxiety. Stimulant use was associated with all three subscales.

**Conclusions:** This study revealed the mental health of rural male police personnel after COVID-19 lockdown duties. It emphasizes generational stress differences and the influence of stimulants. Stigma, masculine norms, and rural challenges may suppress depression and anxiety reporting. Policymakers should act on these insights, fostering mental health awareness and interventions for this vital workforce. Longitudinal studies are crucial for deeper understanding.

Keywords: COVID-19, DASS-21, Male police, Mental health, Police personnel

#### INTRODUCTION

The COVID-19 pandemic has unleashed profound challenges across the globe, affecting individuals from all walks of life. As the world grappled with the novel coronavirus, frontline workers emerged as unsung heroes, bearing the weight of responsibilities crucial for maintaining order and safeguarding public health. Among these heroes, police personnel played a vital role in enforcing lockdown measures, often working under life-threatening conditions themselves.<sup>1,2</sup>

The year 2020 brought unprecedented changes to the daily lives of police personnel worldwide. While their roles traditionally involved maintaining law and order, responding to emergencies, and ensuring public safety, the onset of the pandemic thrust them into a new arena of responsibilities.<sup>3</sup> The duties of police officers expanded to include creating social awareness, monitoring mask usage, maintaining quarantine zones, and other essential services aimed at curtailing the spread of COVID-19. This transition was particularly challenging, as many officers lacked access to personal protective equipment

(PPE), increasing their risk of contracting the virus and endangering their families.<sup>4</sup>

The mental and physical toll of these added stressors on police personnel is a subject that has received limited attention in the research landscape. While extensive literature exists on the health effects of the pandemic on healthcare workers, scant information is available concerning the impact on law enforcement officials. Police officers were already exposed to occupational stressors such as long working hours, confrontations, and violence, which are known to contribute to mental health issues, including stress, anxiety, depression, and sleep disorders. <sup>5,6</sup>

Furthermore, the pandemic brought with it an alarming rise in assaults on police personnel. Officers found themselves subjected to dangerous weapons, verbal abuse, and physical attacks, sparking concerns about workplace safety and increased psychological distress. Beyond psychological effects, the pandemic also took a physical toll. Reports surfaced of disrupted sleep patterns and diminished sleep quality among police personnel due to the demands of lockdown duties.<sup>7</sup>

Despite the critical role police personnel played in maintaining public health and safety, there remains a significant gap in understanding the unique challenges they faced during and after the COVID-19 lockdowns, especially in rural settings. To address this gap, the present study endeavours to investigate the multifaceted effects of COVID-19 lockdown duties on the mental and physical health of police personnel in the Eluru City of West Godavari District, Andhra Pradesh, India. By evaluating their health conditions and identifying potential associations between demographic and physical factors with psychological impacts, this study seeks to shed light on the well-being of these essential frontline workers.

The findings of this research are expected to contribute valuable insights that can inform interventions, awareness programs, and policy changes aimed at safeguarding the mental and physical health of police personnel. As we explore the intricacies of their experiences post-COVID-19 lockdown duties, we embark on a journey to better understand the challenges faced by these dedicated individuals and, in turn, work toward enhancing their overall well-being.

#### Aims and objectives

To assess the mental health of male police personnel following COVID-19 lockdown duties, with a focus on stress, anxiety, and depression using the DASS-21 questionnaire. To explore associations of variables including age, marital status, and the usage of stimulants (tea, coffee, cigarettes) and their impact on mental health.

The study ultimately aimed to inform interventions and policies supporting the well-being of police officers in similar post-lockdown scenarios.

#### **METHODS**

#### Study design and participants

This study followed an analytical cross-sectional design and adhered to the STROBE guidelines. Data collection took place over a span of two months, from mid-August to mid-October in 2021, among police personnel stationed at substations in Eluru, Andhra Pradesh, India.

All available police personnel at the substations in Eluru were approached for participation in the study. Those who willingly consented to participate were included in the study. However, individuals who were on leave during the data collection period were excluded from the study. Notably, due to the limited number of responses from female police personnel (n=12), this subgroup was excluded from the analysis. This exclusion was made to ensure the robustness and reliability of the study findings, given the small sample size among female officers.

#### Study tools

An ethically approved questionnaire was used to collect data. Sociodemographic information including gender, age, and marital status was gathered from the participants. Additionally, participants were queried about their usage of stimulants such as tea, cigarettes, and coffee, along with the frequency of consumption.

The depression, anxiety, stress scale-21 (DASS-21), a validated questionnaire consisting of three self-report scales measuring depression, anxiety, and stress, was administered to the participants. Each DASS-21 scale consists of 7 items, segmented into subscales assessing specific emotional states.<sup>8</sup> Researchers conducted these assessments through face-to-face interviews.

#### Data entry and analysis

Data analysis was carried out employing Microsoft Excel 2010 and SPSS version 20. Scores for the DASS-21 subscales were represented as mean values accompanied by their corresponding standard deviations (SD). To examine the relationships between demographic variables, such as age and marital status, and the DASS-21 scores, one-way analysis of variance (ANOVA) was employed. A significance level of p<0.05 was established as the threshold for statistical significance.

#### Ethical considerations

The study was conducted following the requisite permissions obtained from both the superintendent of police, West Godavari District, Andhra Pradesh, and the Institutional Ethics Committee of Alluri Sita Ramaraju Academy of Medical Sciences, Eluru. The ethical principles of informed consent, privacy, and confidentiality were rigorously observed throughout the study.

#### **RESULTS**

A total of 70 responses were analyzed. Table 1 shows the age groups and marital status of the participants. Majority of the participants belonged to the 25-30 age groups (37%) and the least number of participants were in the 56-60 years age group (2.9%). Majority participants were married (61.4%).

Table 1: Demographic variables of the participants.

Demographic variables	N (%)
Age (years)	
25-30	26 (37)
31-35	12 (17.1)
36-40	10 (14.3)
41-45	6 (8.6)
46-50	10 (14.)
51-55	4 (5.7)
56-60	2 (2.9)
Marital status	
Married	43 (61.4)
Unmarried	27 (38.6)

Table 2: Stimulant use by the participants.

Stimulant use	N (%)	Average cups/cigarettes per day*
Tea	59 (84.3)	2
Coffee	12 (17.1)	2
Cigarettes	13 (18.6)	1
None	5 (7.1)	0

<sup>\*</sup>Values were rounded to the nearest number for clarity

Table 2 shows the reported stimulant use and average cups/cigarettes per day. Participants reported using tea, coffee or cigarettes as a stimulant, with several participants using more than one of the three. Tea was the most commonly used stimulant, with 84.3% of the participants drinking an average of 2 cups per day. 18.6% of the participants reported smoking an average of 1 cigarette per day, while 17.1% reported drinking an average of 2 cups of coffee per day.

Table 3 shows the mean score for each item on the DASS-21 scale, and the mean total score for each subscale. For the depression subscale, participants reported relatively low scores on most items related to depression, with the majority having mean responses close to zero. This suggests that, on average, participants did not experience significant depressive symptoms in relation to these particular items. The highest mean response in this subscale was for the item "I felt that I had nothing to look forward to", with a mean score of 0.13

(SD 0.48). While this score is relatively low, it indicates that some participants occasionally experienced a lack of anticipation or enthusiasm about the future. The overall mean total score for the depression subscale was 0.17 (SD 0.66), which is indicative of low levels of self-reported depression among the participants in this study.

Table 3: Mean scores for each item on the DASS-21 scale.

Items	Mean response (SD)	
Depression		
I found it hard to wind down	0	
I felt that I had nothing to look forward to	0.13 (0.48)	
I felt down-hearted and blue	0	
I was unable to become enthusiastic	0.01 (0.12)	
about anything	0.01 (0.12)	
I felt I wasn't worth much as a person	0.03 (0.17)	
I felt that life was meaningless	0	
I felt that life was hopeless	0	
Mean total score	0.17 (0.66)	
Anxiety		
I felt I was close to panic	0	
I was aware of dryness of my mouth	0.19 (0.46)	
I experienced breathing difficulty	0.37 (0.54)	
I felt scared without any good reason	0	
I felt that I was using a lot of nervous energy	0.07 (0.26)	
I had palpitations (i.e., heart was racing)	0.41 (0.60)	
I felt I was close to panic	0.3 (0.49)	
Mean total score	2.73 (3.34)	
Stress		
I found it hard to wind down	0.99 (0.55)	
I tended to over-react to situations	0.03 (0.24)	
I felt that I was using a lot of nervous energy	0.91 (0.72)	
I found myself getting agitated	0.79 (0.56)	
I found it difficult to relax	1.29 (0.68)	
I felt that I was rather touchy	0	
I was intolerant of anything that kept me from getting on with what I was doing	0.03 (0.17)	

In regards to the anxiety subscale, mean responses varied across items, with some participants reporting higher levels of anxiety symptoms in specific areas. The items "I experienced breathing difficulty" and "I had palpitations (i.e., heart was racing)" had relatively higher mean scores of 0.37 (SD 0.54) and 0.41 (SD 0.60), respectively. These scores suggest that a subset of participants experienced anxiety symptoms related to physical sensations. The overall mean total score for the anxiety subscale was 2.73 (SD 3.34).

For the stress subscale, participants reported a range of stress-related symptoms, with notable variations in mean scores across items. The item "I found it difficult to relax" had the highest mean score of 1.29 (SD 0.68), indicating that many participants found it challenging to unwind and relax during the study period. The overall mean total score for the stress subscale was 8 (SD 4.1), suggesting that, on average, participants experienced a moderate level of stress during the study.

Table 4: Associations between subscale scores and variables.

Variables		DASS-21 subscale mean scores		f ratio and p			
	Depression	Anxiety	Stress	varue			
Age (years)							
25-30	0	1.77	6.07				
31-35	0	2.7	9.2				
36-40	1	5.1	10.8	f-ratio			
41-45	0	3.3	7.7	=43.71734 p value <0.00001			
46-50	0	2	8				
51-55	0.5	5.5	11.5				
56-60	0	0	6				
Marital Status							
Married	0.28	3.51	9.16	f-ratio =13.4079 p value =0.03192			
Unmarried	0	1.49	6.15				
Stimulant use							
Tea	0.2	3.14	8.54	f-ratio =38.8164 p value =0.00003754			
Coffee	0	1.83	5.5				
Cigarettes	0.15	2.62	7.38				
None	0	0	6				

Table 4 shows the associations between various variables and the mean DASS-21 subscale scores. ANOVA was used to determine statistical significance; it was observed that age groups, marital status and stimulants are all statistically significant with the DASS-21 scores.

The age groups of police personnel showed statistically significant associations with DASS-21 scores for all three subscales (depression, anxiety, and stress). The 25-30 age group had a significantly lower mean anxiety subscale score (1.77) compared to other age groups, indicating lower self-reported anxiety symptoms in this age bracket. Similarly, the 56-60 age group had significantly lower mean stress subscale scores (6.0), suggesting lower self-reported stress symptoms. The 36-40 age group had the highest mean scores for both anxiety (5.1) and stress (10.8) subscales, indicating a higher prevalence of self-reported anxiety and stress symptoms in this age range.

Marital status also showed a significant association with DASS-21 scores, specifically for depression and anxiety subscales. Married police personnel had a higher mean depression subscale score (0.28) compared to unmarried individuals, suggesting slightly higher self-reported depressive symptoms among married individuals. Similarly, married individuals had a higher mean anxiety subscale score (3.51) compared to unmarried individuals,

indicating higher self-reported anxiety symptoms among the married group.

The use of stimulants (tea, coffee, and cigarettes) among police personnel demonstrated significant associations with DASS-21 scores across all three subscales. Those who reported using tea had a significantly higher mean depression subscale score (0.20) compared to those who reported not using any stimulants, indicating slightly higher self-reported depressive symptoms among tea users. Tea users also had significantly higher anxiety (3.14) and stress (8.54) subscale scores. Cigarette users had a significantly higher mean depression subscale score (0.15) compared to non-users. Similarly, cigarette users had significantly higher anxiety (2.62) and stress (7.38) subscale scores. Coffee users had a higher mean anxiety subscale score (1.83) compared to non-users.

#### **DISCUSSION**

The present paper analyzed 70 responses from male police personnel of Eluru, Andhra Pradesh, in an effort to provide more literature about the impacts of the COVID-19 pandemic on this overlooked sector of essential frontline workers.

Overall, it was revealed that while the participants experienced a moderate level of stress during the study, there was variable reported levels of anxiety, with some reporting moderate anxiety symptoms. Furthermore, there were very low levels of self-reported depression among the participants in the study. This is in contrast to studies conducted by Jude et al, in Kerala and Mohamed et al, in Malaysia, which found a significant number of police officers to suffer from depression, anxiety and stress. 9,10

This contrasting feature could be due a number of factors. The majority of participants belonged to the 25-30 age group, reflecting a predominantly youthful composition. The higher prevalence of younger individuals might imply a certain level of resilience among this age group in dealing with the stresses associated with police work. <sup>11</sup> Furthermore, police personnel may exhibit low levels of depressive and anxious symptoms due to their coping strategies and mental preparedness, but still experience heightened stress as a result of the chronic exposure to work-related stressors, as suggested by Arnetz et al, and Anders et al. <sup>12,13</sup> This could explain why participants reported lower levels of depression and anxiety but moderate stress levels, as the latter may reflect the cumulative impact of ongoing occupational stressors.

The relatively low scores on self-reported depression and anxiety among male police personnel in rural India may also be influenced by the prevailing stigma surrounding mental health. In many societies, including rural regions of India, there exists a deeply ingrained stigma associated with seeking help for mental health issues, particularly among men. <sup>14</sup> This stigma can dissuade individuals from acknowledging or reporting symptoms of depression and

anxiety, as it may be perceived as a sign of weakness or failure, which is particularly salient in traditionally masculine professions such as law enforcement.<sup>15</sup>

Furthermore, male police personnel often face unique challenges in rural settings, including social isolation, limited access to mental health resources, and the expectation of stoicism in the face of adversity. These factors can contribute to underreporting of mental health symptoms and an inclination to cope independently, even when experiencing distress.<sup>16</sup>

The present paper also delved into the associations of variables such as age, marital status and stimulant use with the DASS-21 scores. It was observed that age is associated with the subscale scores, with the 25-30 age group reported significantly lower anxiety scores, suggesting that younger individuals experienced fewer self-reported anxiety symptoms. This is in contrast to the findings of Apaza-Llantoy et al, who observed that police officers under age of 30 were more likely to have depressive symptoms.<sup>17</sup> In the present paper, the 36-40 age group had the highest mean scores for both anxiety and stress, indicating a higher prevalence of self-reported anxiety and stress symptoms in this age range. Additionally, the 56-60 age group reported significantly lower stress subscale scores, suggesting relatively lower self-reported stress symptoms among older individuals. This finding is similar to that of Bishop et al, who observed that older officers appeared to be more resilient to stress. 18 These findings hint at potential generational differences in how police personnel experience and cope with stressors associated with their profession.

Marital status also demonstrated a significant association with DASS-21 scores. Married individuals reported slightly higher scores on both the depression and anxiety subscales, indicating a slightly elevated level of self-reported depressive and anxiety symptoms among this group. These findings are similar to those by Apaza-Llantoy et al, and Suma et al, and may suggest the influence of marital responsibilities and support networks on mental health outcomes. <sup>17,19</sup>

The prevalence of stimulant usage, primarily in the form of tea, is a noteworthy observation. The demanding nature of police work often requires individuals to stay alert and vigilant during irregular hours. This reliance on stimulants may represent an adaptive coping mechanism to manage fatigue and stress associated with their roles.<sup>20</sup>

The present paper also observed that stimulant usage exhibited significant associations with DASS-21 scores across all three subscales. Tea users reported higher depression, anxiety, and stress subscale scores, indicating elevated self-reported symptoms across these domains. Cigarette users also reported significantly higher depression, anxiety, and stress scores compared to nonusers, which is similar to the findings of Karabacak et al.<sup>21</sup> Coffee consumption was also found to be associated

with higher anxiety subscale scores. These findings underscore the potential impact of stimulant use on mental health outcomes among police personnel, suggesting a need for further investigation into the mechanisms and consequences of such behaviors. These findings are in contrast to the study by Almutairi et al, who found no significant association between smoking status and coffee/tea/energy drinks' intake with stress, anxiety or depression.<sup>22</sup> While both Almutairi et al and the present study utilized the DASS-21, the methods of assessing stimulant use, such as the frequency and quantity of consumption, might not be directly comparable.<sup>22</sup> Additionally, the effects of specific types of stimulants, like tea, coffee, or energy drinks, could vary, and these differences may not have been captured in the same way in both studies. Further research and potentially a meta-analysis of multiple studies may be necessary to gain a more comprehensive understanding of the impact of stimulant use on mental health across diverse populations and contexts.

Several limitations should be considered when interpreting the findings of this study. First, the study's cross-sectional design restricts our ability to establish causality or examine changes in mental health over time. Longitudinal research would provide a more comprehensive understanding of how the mental health of police personnel in rural India evolves, especially in response to stressors like the COVID-19 pandemic.

Second, the study relied on self-reported data, which may introduce response bias and social desirability bias, as participants might underreport or overreport their mental health symptoms. Additionally, the exclusion of female police officers due to their limited representation in the sample impacts the generalizability of the findings to the entire police force. Furthermore, the study did not assess other potential influencing factors such as job-specific stressors, coping mechanisms, or social support networks. These factors can significantly impact mental health outcomes in this profession and warrant exploration in future research.

Finally, the study was conducted in a specific geographical region of rural India, which may limit the generalizability of the findings to police personnel in urban or other rural areas. Despite these limitations, this research contributes valuable insights into the mental health of male police personnel in a unique and underrepresented context, offering a foundation for future studies in this field.

#### **CONCLUSION**

In conclusion, this study sheds light on the mental health status of male police personnel in rural India, post-COVID-19 lockdown duties. Our findings, while reflecting relatively low levels of self-reported depression and anxiety, indicate a moderate level of stress among this population. The significant associations observed

between demographic variables, including age and marital status, and DASS-21 scores highlight the importance of considering these factors when addressing mental health in police personnel.

Notably, the study also underscores the potential impact of stimulant use, particularly tea and cigarettes, on mental well-being among police personnel. These findings call for a closer examination of stimulant consumption patterns, their relationship with occupational stress, and the development of targeted interventions to support mental health within this workforce.

However, it's essential to recognize the limitations of this study, including its cross-sectional nature and reliance on self-report measures. Further research, including longitudinal studies and in-depth qualitative investigations, is warranted to better understand the complex interplay of factors influencing the mental health of police personnel.

Ultimately, our study contributes to the broader discourse on mental health within the law enforcement community, emphasizing the need for comprehensive strategies that not only address individual-level factors but also consider the role of occupational stressors and cultural perceptions of mental health. As we move forward, initiatives aimed at reducing stigma, promoting mental health awareness, and providing targeted support can play a pivotal role in enhancing the well-being of police personnel, thereby enabling them to continue serving their communities effectively.

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