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# Stress among police officials in Kerala, India: an analysis of organizational and operational factors

Mini GK[1,2,3,4*], Chitra Venkateswaran[3,5], Anjana VM[1,2], Sangeeth Krishna S[6], Greeshma J[1], Greeshma PS[1], Revathy K[1], Vilma Irazola[3,7] and John Romate[6]

## Abstract

**Background** Globally, the rising concern regarding the stress experienced by police officials poses a significant challenge. However, there is limited research on this issue in low- and middle-income countries like India. The present study examines the specific stressors associated with the operational demands and organizational structures experienced by police officers in the state of Kerala, India.

**Methods** A survey was conducted among police officials working in randomly selected police stations located in the Thiruvananthapuram district, Kerala. We used the level of occupational and organizational stress using the police stress questionnaire. Both bivariate and multivariate logistic regression analyses were employed to determine the factors that were associated with higher stress levels.

**Results** The findings indicated that 75.5% of participants experienced high operational stress and 65.6% experienced high organizational stress. Age was significantly associated with operational stress, with participants in the higher age group reporting higher levels of stress(odds ratio (OR): 2.20, 95% confidence interval (CI): 1.05–4.59). Participants with lower physical activity levelshad a higher likelihood of experiencing operational stress (OR: 7.07; CI: 2.85–17.50) and organizational stress (OR: 2.77, 95% CI: 1.38–5.59) compared to their more active counterparts. The use of alcohol or tobacco was found to be the highest associated factor with operational (OR: 14.58, CI:4.19–50.7) and organizational stress (OR: 27.45, CI:8.01–94.03). Having diabetes or hypertension was also significantly associated with a high level of operational stress (OR: 2.97, CI: 1.32–6.60) and organizational stress (OR: 4.16; CI: 2.02–8.57).

**Conclusions** The study highlights factors associated with higher stress levels, including physical inactivity, alcohol or tobacco use, and morbidity, that require targeted interventions to enhance the mental and physical health of police officers. Based on the findings of the study, the researchers proposesuitable intervention programs in this population. Further, the findings suggest that the police departments may consider providing better stress-management skills, mental health resources, and flexible work arrangements to managestress.

**Keywords** Police stress, Operational stress, Organizational stress, Police officials, Kerala, India

*Correspondence:
Mini GK
gkmini.2014@gmail.com

Full list of author information is available at the end of the article

## Introduction

Law enforcement is responsible for maintaining civilorder and safeguarding citizens, making it a crucial component of a well-organized society.Policemen, being in the frontline of this key component face multifaceted challenges in their day-to-day operations [1]. The range of traumatic events encountered by them underscores the challenges they face in maintaining their physical and mental well-being amidst their duty to protect and serve the public [1]. Prior studies show the psychological impact of work-related stressors on law-enforcement officers, and also reveal how the continued exposure to occupational stress can be a negative factor for various adversehealth outcomes, affecting the overall well-being [2]. Globally, stress among police personnel is recognized as a critical challenge [3–4]. Chronic stress is linked to a multitude of health problems including, compromised immune functions, gastrointestinal disorders, prolonged disabilities, and even premature mortality [5–7]. Continuous exposure to stress is also associated with chronic conditions such as hypertension, obesity, dyslipidemia, impaired glucose metabolism, and cardiovascular diseases [8].

Police officers are more likely to experienceelevated rates of mental health problems compared to the general population [9–11]. The demands of their job are often too much for them to handle, creating a situation where the stress overpowers their ability to cope [12]. Police officers typically exhibit moderate to a high level of work-related stress, which tends to escalate over the years due to the accumulation of experience in their service roles [12]. Workplace stressors lead to significant decline in the employees' physical health, psychological well-being, job satisfaction, and job performance, along with a significant negative effect in their cognitive functioning, information processing, work motivation, learning abilities, and even their memory [13–14].

The stress experienced by police officers primarily stems from two main sources namely, job content and job satisfaction [15]. Job content stressors, also known as operational stressors, refer to the stressors that are inherent to the nature of police work. On the other hand, job context stressors, more popularly known as organizational stressors, describe features of the organizations and individual behaviors within it, that have the potential to induce stress [15]. Both, operational and organizational stress experienced by the policemen represent a complex phenomenon influenced by many factors ranging from the nature of their duties to the organizational structures within which they have to operate [16]. Beyond the inherent challenges of policing, such as maintaining law and order, various aspects of the organizational factors also significantly contribute to the overall wellbeing of the police officers [16]. These organizational factors encompass leadership styles, organizational policies, work environment, peer dynamics, and the availability of support systems [16].

Similar concerns about stress among police officials exist in India [17–22]. A nationwide survey titled "Status of Policing in India Report (2019)" conductedacross 21 Indian states, including Kerala, reported that police officers experience a significant stress due to workload, poor work-life balance, and deficiency of resources [23]. The survey also revealed that police personnel work at 77% of their sanctioned strength, averaging 14-hour workdays, with 80% working over 8 hours daily. In Kerala, working hours range from 11 to 18 hours, and 50% of officers regularly work unpaid overtime, with half not receiving weekly off days. Approximately 75% report that their workload impacts their physical and mental health. The survey also highlights issues in work culture, such as assignment of tasks beyond their routine service responsibilities and the lack of professionally respectful behavior from their superiors. Furthermore, 37% of personnel expressed willingness to switch careers for similar pay and benefits [23]. The present study attemptsto address the research gap and focusing on identifying the specific stress factors within Kerala's police force, particularly related to organizational and operational stressors. While national-level surveys provide valuable insights, there is limited research on how these stress factors uniquely manifest in Kerala's police force, including the impact of workload, work culture, and lack of support systems on mental health, job satisfaction, and retention.

This present study analyses the specific stressors associated with the operational demands and organizational structures experienced by police officers in the state of Kerala, India. We also examine other behavioral risk factors such as tobacco use, alcohol consumption and physical activity.

## Methods

The Kerala State Police, headquartered in Thiruvananthapuram, is the primary law enforcement agency for the state of Kerala and is widely regarded as one of the most efficiently managed police forces in India [24]. For the purpose of maintenance of law and order the state of Kerala is divided into 19 police districts. Thiruvananthapuram is divided into two police districts namely Thiruvananthapuram city and Thiruvananthapuram rural police districts where the study was conducted. Each police district is divided into subdivisions to supervise activities of several police stations under its jurisdiction. There are 91 police sub-divisions in Kerala. A Subdivision is further divided into Police Station areas, each of which is under a Station House Officer (SHO). According to the data from Bureau of Police Research and Development (BPRD), there are a total of 564 police stations in Kerala.

The SHO is assisted by sub-inspectors of police, assistant sub-inspectors of police, senior civil police officers, and civil police officers. The strength of police personnel in Kerala is around 57, 819.The force is consistently ranked among the top in the country in terms of maintaining law and order. Notably, Kerala Police was one of the first in South Asia to implement community policing through formal legislation. The force has led several police reforms, with the Kerala Police Act of 2011 serving as a model for other states' police acts. The Student Police Cadet Scheme piloted between 2008 and 2010 to address adolescent deviance and promote good citizenship, was endorsed by the Ministry of Home Affairs, Government of India and adopted by multiple states [24].

A baseline cross-sectional survey was conducted as part of a feasibility study on behavioral interventions for cardiovascular risk factor reduction among police officers in Kerala, India [25]. The survey was conducted during the COVID-19 pandemic. However, when researchers approached the officers for the intervention, most had been transferred to other districts due to the state's transfer policies, which were delayed by the pandemic. As a result, a new survey was conducted using the same methodology [25] and from the same police stations to collect baseline data from 253 police officers. The results presented in the following sections are derived from the findings of this survey. In brief, researchers randomly selected seven police stations each from rural and urban areas of Thiruvananthapuram, the capital district of the state of Kerala. In the selected police stations, researchers surveyed police officials aged 30–55 years available on duty on the day of the survey. Eligible participants were approached and those who provided consent to participate in the study were included. In all the 14 police stations, 320 personnel were approached of whom 253 gave consent to participate and were included in the study (79%). The data collection was co-ordinated by a team of trained public health researchersover a period of two months from March to May 2023. A self-administered questionnaire in English was used for data collection.

The researchers gathered data on socio-demographic and occupational characteristics of the study participants and other stress- related details. Further, the researchers collected data on the level of occupational and organizational stress using the Police Stress Questionnaire (PSQ-Op and PSQ-Org) [26]. The PSQ-Op and PSQ-Org questionnaire is composed of 20 items, eachof them evaluated on a 7-point scale ranging from 1 ("not at all stressful" or "no stress at all") to 7 ("very stressful" or "a lot of stress"), with 4 indicating moderate stress. The PSQ-Op and PSQ-Org, were designed to produce a single summary score which is the average of all 20 items in each scale. The higher the score (out of a possible 7.0) the higher the perceived stress. In later developments, McCreary et al. (2017) established norms and cut-off values [27]. For the PSQ-Op, low stress is defined as a score $\leq 2.0$, moderate stress is defined as a score of 2.1–3.4, and high stress is defined as a score of 3.5 or greater. For the PSQ-Org, low stress is defined as a score $\leq 2.6$, moderate stress is defined as a score of 2.7–3.9, and high stress is defined as a score of 4.0 or greater. Despite being designed to produce a single summary score, individual items from the PSQ-Op and PSQ-Org are examined separatelyto identify the areas of highest stress.

In addition to the above-mentioned psychological measures, other variables such as diabetes blood pressure, physical activity, sleep adequacy and self-reported work-related stress levels were also included in the present study. Diabetes was defined based on doctor-diagnosed self–reports. Blood pressure was measured using a digital Omron blood pressure apparatus (OMRON-4, Omron Corporation, Kyoto, Japan). Blood pressure (BP) was measured three times after the patient had rested for at least 5 min in a quiet and comfortable position. The average of the last two readings was used as the final blood pressure reading. Information about self-reported use of anti-hypertensive drugs was also collected.Hypertension was defined as systolic BP $>=140$ and/or diastolic BP $>=90$, or on medication for hypertension [28]. Physical inactivity is defined as not engaging in at least 150 min of moderate physical activity, or 75 min of vigorous physical activity, or a combination of both per week, based on the World Health Organization's (WHO) recommendations [29]. Sleep adequacy was self-reported with a "Yes" or "No" option to determine perceived sleep inadequacy.Self-reported work-related stress levels were collected on a three-point scale: mild, moderate, and severe.

Both bivariate and multivariate analysis were done along with multiple logistic regression to find out the factors associated with high level of operational stress and high level of organizational stress. The variables considered in the model include age, sex, physical activity pattern, alcohol or tobacco use, and pre-existing hypertension or diabetes.Adjusted odds ratios were presented with 95% confidence interval. A p value of $<0.05$ was considered as statistically significant. Data were analyzed using SPSS version 21.0 (IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp).

Ethical clearance was obtained from the Institutional Ethics Committee (IEC) of Ananthapuri Hospitals and Research Institute, Thiruvananthapuram, Kerala. Following ethical approval, permission was obtained from the police department to conduct the study. The study commenced after receiving all necessary approvals. All participants provided written consent after receiving the participant information sheet.

## Results

The study analysed the socio-demographic background, work lifestyle, health characteristics and stress details of 253 police officers whose information is fully available, as shown in Table 1.More than half (56%) of the participants wereposted in the urban areas, with the remaining in the rural areas. A higher proportion of police officials in the study were males (89%). The majority of participants were currently married (98%).Family structure included 70% nuclear familiesand 30% joint families. Educational backgrounds varied, with 20% having school education, 70% with undergraduate degrees, and 10% holding postgraduate degrees. In terms of job status, Civil Police Officers (CPOs) comprised the majority (72%). About half of the police personnel had a history of service of 15 years or more. Themajority reported engaging in shift work (98%). The majority perceived their sleep to be inadequate (92%). About 65% reported to be physically inactive and 83% reported experiencing high stress at workplace. The smoking prevalence was 7% and 32% reported current alcohol use. Additionally, 87 participants (34%) reported current consumption of either alcohol or tobacco.Regarding health conditions, about 13% were diagnosed with diabetes, and 35% were found to have hypertension. Nearly41% of the population had either diabetes or hypertension.

**Table 1** Basic characteristics of the study participants

| Variables | *n* (%) |
|---|---|
| **Location of police station** | |
| Urban | 141(55.7) |
| Rural | 112(44.3) |
| **Age group (in years)** | |
| 30–40 | 121(47.8) |
| 41–55 | 132(52.2) |
| **Gender** | |
| Male | 225(88.9) |
| Female | 028(11.1) |
| **Education** | |
| School education | 050(19.8) |
| Graduation | 178 (70.4) |
| Post-graduation | 025 (09.9) |
| **Rank-Job status*** | |
| CPO | 183(72.3) |
| ASI | 028(11.1) |
| SI | 039(15.4) |
| SHO | 003(01.2) |
| **Years of experience** | |
| 1–14 years | 126(49.8) |
| ≥ 15 years | 127(50.2) |
| **Doing shift work** | 247(97.6) |
| **Perceived sleep inadequacy** | 233(92.1) |
| **Work related stress (self -reported)** | |
| Mild/Moderate | 034(13.4) |
| Severe | 211(83.4) |
| No Stress | 008(3.2) |
| **Lifestyle and Health Characteristics** | |
| Physical inactivity(self-reported) | 164(64.8) |
| Current smoking | 018(07.1) |
| Current alcohol use | 082(32.4) |
| Current alcohol or tobacco use | 087(34.4) |
| Having diabetes | 032(12.6) |
| Having hypertension | 088(34.8) |
| Diabetes or hypertension | 103(40.7) |

*CPO-Civil Police Officer; ASI-Assistant Sub-Inspector; SI-Sub-Inspector; SHO-Station Head Officer

### Operational stressors

Shift work, insufficient time for socializing with friends and family, maintaining a healthy diet while at work, the persistent feeling of being on the job, finding time to stay physically fit, and receiving negative feedback from the public were found to be the major components of high stress among operational stress components. The distribution of operational stressors in varying levels of stress are presented in Table S1. Shift work includes night shifts and irregular rotations. This was reported to have varying levels of operational stress, with 25% experiencing low stress, 40% experiencing moderate stress, and 35% experiencing high stress. Similarly, working at night showed a varying distribution of 44% experiencing low stress, 27% experiencing moderate stress, and 29% experiencing high stress. About half of the participants were moderately stressed and23% of them were highly stressed owing to over-time demands.The risk of being injured on duty, work related activities on day offs, and traumatic events such as motor vehicle accidents, domestics, death, or injury created high stress to about 29% of police personnel. Managing social life outside of work varied among participants, with 30% reporting low stress, 32.4%reporting moderate stress, 31.6% reporting high stress. Similarly, not having enough timeavailable to spend with friends and family showed a distribution of 25% experiencing low stress, 41% experiencing moderate stress, and 34% experiencing high stress. However, about 29% were highly stressed due to paper work. About one third of police personnel experienced high stress owing to challenges with healthy eating at work and finding time to stay in good physical condition.Around 29% of participants were highly stressed owing to fatigue and occupation related health issues. About 31% experienced high stress owing to lack of understanding from family and friends about their work and perceived limitations to their social life. Making friends outside the job and upholding a higher image in public were highly stressful to about 27% of police officials.

### Organizational stressors

The findings identifieddistinct patterns across varying stress intensities due to organizational stressors. In low-stress environments, predominant stressors included dealing with co-workers (75%), excessive administrative

duties (45%), and excessive computer work (55%). Conversely, in moderate stress settings stress related to dealing with co-workers (24%) was less frequentwhile inconsistent leadership (33%) and lack of resources (33%) were reported more often. About 31% of the participants were highly stressed owing to leaders over-emphasizing the negatives, dealing with court system and constant changes in policy / legislation. Staff shortages, bureaucratic red tape, perceived pressure to volunteer free time, dealing with supervisors and accountability of doing the job were associated with high stress to almost one third of the police personnel. The distribution of operational stressors in varying levels of stress are presented in Table S2.

The mean operational stress value was 4.9 (SD ± 1.5) and the mean organizational stress value was 4.9 ± SD:1.4. We categorized operational stress based on the following cut-off values: ≤2.0 for low, 2.1–3.4 for moderate, and ≥ 3.5 for high stress levels. Organizational stress was categorized based on these cut-off values: ≤2.6 for low, 2.7–3.9 for moderate, and ≥ 4.0 for high stress levels. As per the classification of operational stress, only one participant reported low level of stress, 24% had moderate and 75% had high level of stress. Low organizational stress was reported by two participants, 34% moderate and 66% reported high stress. For further analysis, the data for low and moderate stress levelswere combined(Fig. 1).

The factors associated with operational and organizational stress are presented in Table 2. Age was significantly associated with operational stress, with participants in the higher age group reporting higher levels of stress(odds ratio (OR): 2.20, 95% confidence interval (CI): 1.05–4.59). The findings indicated no significant difference between males and females in terms of high levels of operational or organizational stress. The lower proportion of women police officials in our sample restricts more gender specific analysis. Further analyses to determine sex differences across all variables could not be conducted due to the limited number of women police officials in the sampling group.Physically inactive participants reported higher level of operational stress (OR: 7.07; CI: 2.85–17.50) and organizational stress (OR: 2.77, 95% CI: 1.38–5.59) compared to their counterparts. The use of alcohol or tobacco was found to be significantly associated with operational (OR: 14.58, CI:4.19–50.7) and organizational stress (OR: 27.45, CI:8.01–94.03), although the 95% CI are wide. Having diabetes or hypertension was also significantly associated with high level of operational (OR: 2.97, CI: 1.32–6.60) and organizational stress (OR: 4.16; CI:2.02–8.57).

## Discussion

The present study identified and analyzed the specific stressors experienced by police personnel arising from operational demands and organizational structures along

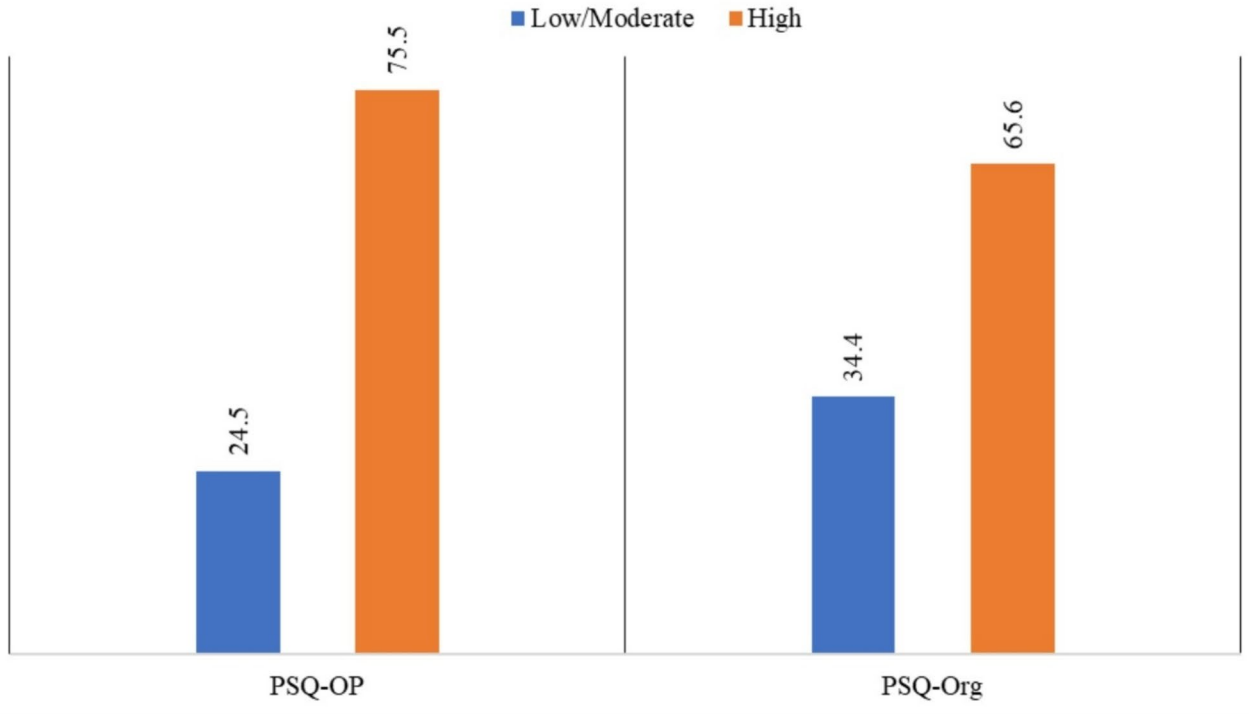


**Fig. 1** Levels (%) of operational and organizational stress PSQ-OP: Operational Police Stress Questionnaire, PSQ-Org: Organizational Police Stress Questionnaire

**Table 2** Factors associated with operational and organizational stress: results of multiple logistic regression analysis

| Factors | PSQ-Op | | PSQ-Org | |
|---|---|---|---|---|
| | *N*(%) | OR(95% CI) | *N*(%) | OR(95% CI) |
| **Age** | | | | |
| 30–40 | 083(68.6) | Reference | 073(60.3) | Reference |
| 41–55 | 108(81.8) | 2.20(1.05–4.59)* | 093(70.5) | 1.31(0.66–2.57) |
| **Sex** | | | | |
| Female | 012(42.9) | Reference | 008(28.6) | Reference |
| Male | 179(79.6) | 2.34(0.90–6.07) | 158(70.2) | 2.13(0.80–5.66) |
| **Physical activity** | | | | |
| Active | 82(42.9) | Reference | 069(41.6) | Reference |
| Inactive | 109(57.1) | 7.07(2.85–17.50)** | 097(58.4) | 2.77(1.38–5.59)* |
| **Alcohol or tobacco use** | | | | |
| No | 107(64.5) | Reference | 082(49.4) | Reference |
| Yes | 084(91.6) | 14.58(4.19–50.7)** | 084(96.6) | 27.45(8.01–94.03)** |
| **Diabetes or hypertension** | | | | |
| No | 099(66.0) | Reference | 079(52.7) | Reference |
| Yes | 092(89.3) | 2.97(1.32–6.6)* | 087(84.5) | 4.16(2.02–8.57)** |

PSQ-Op: Operational Police Stress Questionnaire, PSQ-Org: Organizational Police Stress Questionnaire. *$p < 0.05$, **$p < 0.001$

with the interplay of multiple factors within theunique context of Kerala's policing environment. Findings indicated that operational demands which stem from the inherent aspects of police work contributed to higher levels of stress among police personnel. As already observed in other studies, such stressors determine higher levels of anxiety in these officers [20]. However, in some prior studies, organizational stressors ranked significantly higher than operational stressors [30]. Yet three fourth of the study participants in our study experienced high levels of operational stress.

The stress that police officers face, in both organizational and operational contexts, is a complex phenomenon influenced by a multitude of factors [16]. As per the Sect. 18, Model Police Act 2006, it is clearly stated that the state government ensures that the average daily duty hours of a police officer do not exceed eight hours, except in exceptional cases where duty hours may extend to 12 h or more [31]. However, average police personnel in India work 14 h a day with about 80% police personnel working for more than 8 h a day. The average working hours of police personnel is between 11 and 18 h in the majority of states including Kerala [23]. In our study also, asignificant number of participants cited over-time demands as a major stressor. Long working hours and extended periods of work can lead to burnout which negatively affects work-life balance. The struggle to balance work and personal life is evident, with a majority feeling the pressure of inadequate time for meaningful connections with their family and friends. The absence of clear boundaries between work andpersonal life contributes to a sense of being constantly on the job, leading to heightened stress levels. Irregular work hours and shift rotations pose challenges for police personnel, impacting their sleep patterns, social life, and overall well-being. Shift work is also associated with risk factors for chronic disease [30]. Males show higher levels of operational and organizational stress than females, although this difference is not statistically significant. This lack of significant association may be related to low power of the study, given the small proportion of women in the police force. However, further research is needed to examine factors such as coping strategies and support systems for effective stress management that may contribute to explain this finding.

Negative comments from the public and perceived need to uphold a higher image in publiccansignificantly impact police personnel leading to increased levels of stress.The challenges of maintaining a healthy diet during work hours, finding time to stay in good physical condition and occupation related health issues were found to be common stressors, with potential implications for both physical and mental health. Participants highlighted restrictions on their social life, indicating the need for more flexibility and support in managing personal relationships. Misunderstandings about the nature of one's job from family and friends contribute to stress, emphasizing the importance of effective communication. Traumatic events were significantly stressful to almost half of the participants in our study.Traumatic events experienced by officers at work can result in symptoms associated with post-traumatic stress disorder including negative thoughts and emotions, sleep problems and self-destructive behavior [30]. There is an urgent need to acknowledge and address these stressors at the departmental level to promote a healthier and more supportive work environment, ultimately enhancing the well-being of police personnel.

Organizational stressors play a significant role in shaping the work environment and influencing the mental health of employees. Inadequate staffing in the police

stations was identifiedas a significant stressor in the present study. The strain of working with insufficient personnel is evident, leading to increased workloads and potential burnout in the police force [20]. Cumbersome bureaucratic processes contribute to frustration impacting morale and job satisfaction. While accountability is essential, the perceived pressure to constantly prove oneself can create stress and diminish job satisfaction. Interactions with supervisors can be a significant source of stress, highlighting the importance of effective leadership and communication.

Some of the opinions of police officers regarding their occupational patterns and related stress indicate that the expectation to volunteer personal time adds to stress, impacting work-life balance and personal well-being. According to them, lack of resources hinder productivity and contribute to job dissatisfaction, emphasizing the need for organizational support. Police officers facing challenges related to dealing with the court system experience additional stress, necessitating organizational support, and understanding. Varied leadership approaches can lead to confusion and uncertainty in the police force impacting their overall job satisfaction and performance. An imbalance in the distribution of work responsibilities can lead to feelings of inequity and contribute to stress among them. Frequent policy and legislative changes create uncertainty and require police personnel to adapt continually. These changing dynamics contribute significantly to workplace stress.

The findings indicated that around 41% of police personnel were identified with either having diabetes or hypertension. In a similar study conducted in Kerala, 23% of police personnel reported having physical illness such as hypertension, diabetes, and renal problems [20]. Evidence suggests that police officers have a greater prevalence of cardiovascular morbidity compared to the general population, with stress potentially triggering acute cardiovascular events [32]. The demanding nature of their job might have the potential to affect their physical well-being.Work related stress can directly impact their mental and physical health, potentially causing absenteeism and decreased productivity, consequently affecting their effectiveness in crime prevention as well as their personal and familial relationships [20].

Around 34% of our study participants were current alcohol or tobacco users. In a previous study from the state, 29% of police personnel were reported to have substance abuse issues [20]. Research findings suggest that police officers exhibit higher rates of substance abuse and suicide compared to the general population [33]. Substance abuse was found as an individual maladaptive coping strategy for stress among police personnel in South India [34]. This reinforces the need to address the impact of stress through the implementation of constructive coping techniques among police personnel.

The findings of this study underscore the multifaceted nature of operational stress among police personnel, with socio-demographic, lifestyle, and health indicators playing pivotal roles in influencing stress levels. Age was significantly associated with both operational and organizational stress with officers at a higher age reporting more stress. Older officers may experience higher levels of stress because they might have faced a wider range of challenging situations throughout their career, including critical incidents and administrative tasks, which tend to accumulate over time.Educational background, hierarchical job-rank structure, years of service, type of family or location of police station did not distinctly correlate with stress levels among the participants.Participants with lower physically inactivity reported a higher level of work place stressors.Addressing these lifestyle factors through wellness programs and policies promoting physical fitness could be integral in mitigating stress levels among the police personnel. Use of alcohol or tobacco was reported to be the highest associated factor with both operational and organizational stress.The wide confidence interval (see Table 2) is associated with the small sample size of alcohol or tobacco users who reported either no or moderate levels of organizational stress. The strong associations between workplace stress and current alcohol, as well as tobacco use underscore the need for targeted interventions in substance use prevention and cessation programs. Having diabetes or hypertension was also significantly associated with high level of operational and organizational stress. These associations signal the importance of addressing not only psychological but also physical health concerns. Integrating health screenings and wellness initiatives into the workplace could contribute to a more comprehensive approach to stress management.

The study contributes to addressing the gap in local evidence on sleep health, offering valuable insights that can guide the development of future interventions and policies for this population. Conducted within police station premises, the study aimed to ensure privacy during data collection; however, the office environment may have influenced participants' reports of stress, alcohol consumption, and tobacco use. This potential source of bias should be considered when generalizing the findings. Voluntary participation in the study may introduce selection bias. However, in our study, participation was based solely on availability on the day of the survey, which may help minimize potential bias. The study is also limited to the stress levels of police officials aged 30–55 years. The stress patterns experienced by younger and older police officials may differ from the findings of this study. The study does not account for other potential confounders,

such as job satisfaction, social support, and personal coping mechanisms, which could significantly influence the relationship between occupational factors and stress outcomes.

The study highlights the need for targeted interventions to address factors contributing to stress among police officers, such as physical inactivity, substance use, and health conditions like diabetes and hypertension. Integrating mental health support, including counseling and stress management programs, is essential for their well-being. Workplace wellness programs promoting healthier lifestyles, along with policy revisions on flexible work hours and improved workload management, can help reduce stress. Regular health check-ups should also be implemented to identify and address health issues linked to stress.

## Conclusion

The workplace stressors highlighted in this study underscore the complex challenges faced by police officers within their workplace. The study highlights factors associated with higher stress levels, including physical inactivity, alcohol or tobacco use, and morbidity, that require targeted interventions to enhance the mental and physical health of police officers. The findings of the present study strongly recommend specific interventions for police officials to manage stress.Addressing these issues is crucial for fostering a positive work environment, improving job satisfaction, and ultimately enhancing staff well-being. Organizations should strive to create supportive and transparent structures, provide necessary resources, and cultivate open communication to mitigate the impact of these stressors on their workforce. Employee engagement and mental health initiatives can also play a pivotal role in creating a healthier and more productive workplace.The implications of this study extend beyond individual-level interventions to broader organizational policies. Police departments may consider strengthening stress-reduction training, mental health resources, and flexible work arrangements.

## Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s40359-025-02831-9.

Supplementary Material 1

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### Author contributions

MGK, CV, VI: Conception and design of study; AVM, SKS, GPS, GJ: Acquisition of data; MGK, AVM, VI: Analysis and interpretation of data; MGK, AVM, SKS: Drafting the manuscript; MGK, CV, AVM, SKS, GPS, RK, GJ, VI, RJ: Revising the manuscript critically for important intellectual content; All authors have read and agreed on the final version of the manuscript.

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### Data availability

Data will be made available by the corresponding author upon reasonable request.

## Declarations

### Ethics approval and consent to participate

Ethical clearance was obtained from the Institutional Ethics Committee (IEC) of Ananthapuri Hospitals and Research Institute, Thiruvananthapuram, Kerala (Ref no-AHRI/EC/39/Sept/2022 dated September 2, 2022). Following ethical approval, permission was obtained from the police department to conduct the study. The study commenced after receiving all necessary approvals. Both verbal and written informed consent was obtained from the respondents. In the participant information sheet, respondents were informed of the study's goal, confidentiality, and their right to decline or withdraw at any time. The study adhered to all the ethical procedures as outlined in the Helsinki declaration.

### Consent for publication

Not applicable.

### Competing interests

The authors declare no competing interests.

### Author details

[1]Global Institute of Public Health, Ananthapuri Hospitals and Research Institute, Thiruvananthapuram, Kerala, India
[2]Centre for Environment and Development (CED), Thiruvananthapuram, Kerala, India
[3]Department of Global Health & Population, Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA
[4]Saveetha Dental Colleges & Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India
[5]Department of Psychiatry, Senior Mentor in Palliative Care, Believers Church Medical College Hospital, Tiruvalla, Kerala, India
[6]Department of Psychology, Central University, Gulbarga, Karnataka, India
[7]Department of Research in Chronic Diseases, Institute for Clinical Effectiveness and Health Policy (IECS), Buenos Aires, Argentina

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