O MUNDO DA SAÚDE

Quality of life and prevalence of burnout among military police officers in southern Brazil: a cross-sectional study

Evellym Vieira[1] (iD)   Luciano Garcia Lourenção[1] (iD)   Fernando Braga dos Santos[1] (iD)   Natalia Sperli Geraldes Marin dos Santos Sasaki[2] (iD)   Thiago Roberto Arroyo[3] (iD)

[1]Programa de Pós-Graduação em Enfermagem, Escola de Enfermagem, Universidade Federal do Rio Grande – PPGEnf-EEnf/FURG. Rio Grande/RS, Brasil.
[2]Programa de Pós-Graduação em Enfermagem, Faculdade de Medicina de São José do Rio Preto – FAMERP. São José do Rio Preto/SP, Brasil.
[3]Programa de Pós-Graduação em Psicologia e Saúde, Faculdade de Medicina de São José do Rio Preto – FAMERP. São José do Rio Preto/SP, Brasil.
E-mail: lucianolourencao.enf@gmail.com

Graphical Abstract

Quality of life and prevalence of burnout among military police officers in southern Brazil: a cross-sectional study

Highlights

• Burnout prevalence among military police officers: 33.7%.
• Lowest quality of life scores in the Environment domain.
• Emotional exhaustion and depersonalization were negatively correlated with quality of life.
• Psychological support programs and improvements in working conditions are essential for promoting mental health.

Burnout prevalence 33.7%
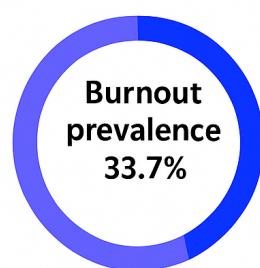
28.8% high level

4.9% moderate level

Quality of Life

Environment domain score 58.7

Financial resources score 47.7

Negative correlation: emotional exhaustion ↔ quality of life

Recommendations

Institutional policies

Psychological Support

Physical activity

Continuous monitoring

Abstract

The work performed by military police officers involves risks that negatively affect their quality of life and mental health. This study assessed the quality of life and the prevalence of Burnout Syndrome among military police officers, as well as the correlations between these variables. This is a cross-sectional, descriptive, and correlational study conducted with 267 officers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). The instruments used were the WHOQOL-BREF and the Maslach Burnout Inventory (MBI). Burnout Syndrome was identified in 33.7% of the officers, with 28.8% presenting a high level and 4.9% a moderate level. The lowest mean quality-of-life score was observed in the Environment domain (score: 58.7), while the highest were in the Psychological (score: 68.8) and Physical (score: 67.6) domains. A moderate and negative correlation was found between Emotional Exhaustion and the Physical (r = -0.552; p < 0.001) and Psychological (r = -0.557; p < 0.001) domains, and a positive correlation between Personal Accomplishment and the Psychological domain (r = 0.452; p < 0.001). Officers without Burnout exhibited significantly higher quality-of-life scores across all domains (p < 0.001). The findings indicate a negative association between Burnout and quality of life, particularly in the physical and environmental domains. The implementation of mental health programs and improvements in working conditions are recommended as priority strategies to promote the well-being of these professionals.

Keywords: Quality of Life. Burnout Syndrome. Police. Military Personnel. Occupational Health.

1

INTRODUCTION

Work plays a central role in people's lives, significantly influencing their physical, mental, and social health. Although it is a source of livelihood, personal development, and social integration, it can also generate stress, psychological suffering, and illness, particularly under adverse working conditions[1]. In the case of military police officers, occupational demands are intense and complex, involving constant life risk, hierarchical pressure, long working hours, and exposure to violence and trauma. These factors may compromise quality of life and foster the development of mental disorders such as Burnout Syndrome[2,3].

Quality of life (QoL) is a multidimensional concept encompassing the physical, psychological, social, and environmental aspects of human existence. According to the World Health Organization, it refers to an individual's perception of their position in life within the context of their culture, value systems, goals, and expectations[4]. Among military police officers, precarious working conditions, low pay, rigid hierarchies, and continuous emotional demands can negatively affect this perception[2,5].

Burnout Syndrome, in turn, is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. In public security professionals, Burnout is frequently associated with chronic occupational stress, exposure to risk situations, and recurrent contact with human suffering[6,7]. Studies have reported high Burnout prevalence among police officers in Brazil and other countries, ranging from 25% to 45%, with direct repercussions on job performance, absenteeism, and institutional costs related to illness-related leave[7,8,9].

International studies further highlight that organizational interventions—such as psychological support programs, improved working conditions, and training in emotional regulation—have proven effective in reducing Burnout levels among police forces[10,11].

In the Brazilian context, challenges are exacerbated by limited material resources, restrictive institutional policies, and social hostility, all of which increase these professionals' vulnerability to deteriorating mental health and quality of life[2,5,7]. The COVID-19 pandemic intensified these vulnerabilities, increasing security demands and aggravating stress and emotional overload. Studies evaluating post-pandemic impacts have reported significant rises in stress, anxiety, and depression among workers, exacerbated by uncertainty and pressure imposed by the health crisis[12,13]. Therefore, data collected prior to the pandemic are particularly relevant, as they provide a baseline for future comparisons and for evaluating policies implemented in the post-pandemic context.

Nevertheless, there is a scarcity of quantitative, cross-sectional studies with representative samples of military police officers in southern Brazil, particularly in medium-sized battalions such as the 3rd Military Police Battalion of Paraná (3º BPM/PR). Investigating this population contributes to regional mapping of occupational health conditions and provides evidence for developing health promotion strategies and institutional interventions.

Thus, the present study aimed to assess the quality of life and the prevalence of Burnout Syndrome among military police officers, as well as the correlations between these variables.

METHODOLOGY

This was a cross-sectional, descriptive, and correlational study conducted with military police officers from the 3rd Military Police Battalion of the State of Paraná (3º BPM/PR), part of the 5th Regional Military Police Command—one of the oldest units in the corporation. The battalion, headquartered in Pato Branco, has a contingent of 312 officers distributed among three companies (Pato Branco, Palmas, and Coronel Vivida), responsible for ur-

ban and rural policing, traffic control, use of sniffer dogs, event security, and civil disturbance management. The coverage area encompasses approximately 260,000 inhabitants across 16 municipalities in southwestern Paraná. The selection of this battalion was justified by its accessibility to the researchers and its regional relevance, as well as by the prior experience of one of the authors as a former military police officer, which facilitated contextual

understanding and institutional acceptance.

All officers actively serving in the 3º BPM/PR companies during the data collection period (January–December 2018) were included. Those on medical leave, vacation, transfer, or who failed to return fully completed questionnaires were excluded.

A census sampling approach was adopted, inviting all 312 battalion officers to participate. A total of 268 questionnaires were returned, of which one was excluded due to incompleteness, resulting in 267 valid participants. The sample size was sufficient to detect correlations of moderate magnitude ($r = 0.25$) with a statistical power of 80% and a significance level of 5% ($\alpha = 0.05$), according to calculations performed using G*Power software version 3.1[14].

Data collection was conducted in person, following authorization from the battalion command. The researchers delivered the instruments to the company commanders, who distributed them to the officers. After completion, the questionnaires were sealed in anonymous envelopes and returned to the researchers within 30 days. These procedures ensured that the participants completed the instruments privately and at a convenient time, guaranteeing confidentiality and minimizing potential information bias.

Three self-administered instruments were used:

I) A sociodemographic and occupational questionnaire developed by the authors, including variables such as sex, age, educational level, marital status, and physical activity, as well as professional variables (rank, function, work schedule, shift, years of service, secondary employment, and record of disciplinary infractions).

II) The WHOQOL-BREF, an instrument developed by the World Health Organization for assessing quality of life and validated in Portuguese[15], composed of 26 items distributed into two general questions and four domains: physical, psychological, social relationships, and environment. Each item is rated on a four-point Likert scale—intensity, capacity, frequency, or evaluation[15]. Quality of life scores are expressed on a positive scale, where higher scores indicate better quality of life[16].

III) The Maslach Burnout Inventory – Human Services Survey (MBI-HSS), translated and adapted into Portuguese by Robayo-Tamayo[17], which evaluates three dimensions: Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA), using a five-point Likert scale. The MBI consists of 22 closed-ended questions assessing the frequency with which individuals experience specific situations at work, thereby measuring Burnout Syndrome.

Data were entered into Microsoft Excel® spreadsheets and analyzed using SPSS software, version 25.0 (IBM Corp., Armonk, NY, USA). WHOQOL-BREF scores were positively scaled (range 4–20) and subsequently converted to a 0–100 scale using the formula $[(\text{Mean} - 4) \times 100 / 16]$[15], allowing comparison with other studies.

The MBI dimension scores were calculated as the mean of the items corresponding to each dimension[17]. Burnout levels were classified as low, moderate, or high. Low Burnout level consisted of low scores for Emotional Exhaustion (≤16 points) and Depersonalization (≤6 points), and high scores for Personal Accomplishment (≤31 points). High Burnout level was represented by high scores for Emotional Exhaustion (≥27 points) and Depersonalization (≥13 points), and low scores for Personal Accomplishment (≥39 points)[18].

Internal consistency of the instruments was assessed using Cronbach's alpha, which showed satisfactory values for all domains. Tests for normality (Shapiro–Wilk) and homogeneity of variances (Levene) were applied to verify the assumptions for parametric tests. As the data presented approximate normal distribution and homogeneity, analysis of variance (ANOVA) was performed to compare mean quality-of-life scores according to Burnout levels, and Pearson's correlation was used to evaluate associations between WHOQOL-BREF domains and MBI dimensions, reporting correlation coefficients (r), p-values, and 95% confidence intervals (95% CI).

The significance level was set at $p < 0.05$. Correlation strength was classified as weak ($r < 0.30$), moderate ($0.30 \leq r < 0.70$), or strong ($r \geq 0.70$).

The study was approved by the Research Ethics Committee of the School of Medicine of São José do Rio Preto (FAMERP), under Certificate of Presentation for Ethical Consideration (CAAE) no. 47885715.8.0000.5415 and Opinion no. 2.412.594, issued on December 4, 2017. All stages of the research complied with the ethical principles set forth in the Declaration of Helsinki.

RESULTS

A total of 267 military police officers fully completed the research instruments. Most participants were male (n = 226; 84.6%), aged 31–40 years (n = 124; 46.4%), married (n = 180; 67.4%), and had incomplete higher education (n = 121; 45.3%). The majority held the rank of soldier (n = 220; 82.7%), performed operational duties (n = 187; 70.0%), and worked in shift schedules (n = 193; 72.3%), with 136 officers (50.9%) on a 24x48-hour shift system.

More than half of the officers (n = 145; 54.3%) had between 3 and 10 years of service in the corporation; 90.6% (n = 241) did not hold another paid occupation; and 25.6% (n = 68) did not engage in physical activity. One hundred and twenty-nine officers (48.3%) had committed at least one disciplinary infraction, and 90 (33.7%) reported problems that negatively affected their quality of life (Table 1).

Table 1 - Sociodemographic and professional characteristics of police officers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). Paraná, Brazil, 2018 (n = 267).

Variables	n	%
Sex		
Male	226	84.6
Female	41	15.4
Age group		
21–30 years	111	41.6
31–40 years	124	46.4
41–50 years	32	12.0
Educational level		
High school	72	27.0
Incomplete higher education	121	45.3
Complete higher education	71	26.6
No response	3	1.1
Marital status		
Married	180	67.4
Single	70	26.2
Separated	14	5.2
Widowed	3	1.1
Rank		
Soldier	220	82.7
Corporal	15	5.6
Sergeant	13	4.9
Sub-lieutenant	2	0.8
Cadet	5	1.9
Lieutenant	7	2.6
Captain	3	1.1
Major	1	0.4
Function		
Administrative	80	30.0
Operational	187	70.0
Work schedule		
Six-hour shift	8	3.0
Eight-hour shift	80	30.0
24×48-hour shift	136	50.9
Other*	42	15.7
No response	1	0.4
Work shift		
Morning and afternoon	62	23.2
Afternoon and night	11	4.1

to be continued...

Variables	n	%
Rotating shifts**	193	72.3
No response	1	0.4
Length of service		
Up to 3 years	59	22.1
3–10 years	145	54.3
10–20 years	33	12.4
More than 20 years	30	11.2
Other paid occupation		
Yes	25	9.4
No	241	90.6
Physical activity		
Yes	198	74.4
No	68	25.6
Disciplinary infraction		
Yes	129	48.3
No	138	51.7

*Work schedule of 12×24 hours or 12×48 hours.
*Work shift in rotating systems of 12×24 hours, 12×48 hours, or 24×48 hours.

The results related to the quality of life of the military police officers highlight their perceptions regarding health status and overall well-being. As shown in Table 2, 28 officers (10.5%) rated their quality of life (Question 1) as "very poor" or "poor," and 29 (10.8%) reported being "very dissatisfied" or "dissatisfied" with their health (Question 2). In addition, 67 officers (25.1%) considered their quality of life as "neither poor nor good," while 63 (23.6%) described themselves as "neither satisfied nor dissatisfied" with their health.

Table 2 - Perception of health and quality of life among military police officers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). Paraná, Brazil, 2018 (n = 267).

Question	Response options	n	%
How would you rate your quality of life?	1 – Very poor	4	1.5
	2 – Poor	24	9.0
	3 – Neither poor nor good	67	25.1
	4 – Good	152	56.9
	5 – Very good	20	7.5
	Mean score	3.6	
	Standard deviation	0.8	
	95% CI	3.5 – 3.7	
How satisfied are you with your health?	1 – Very dissatisfied	2	0.7
	2 – Dissatisfied	27	10.1
	3 – Neither satisfied nor dissatisfied	63	23.6
	4 – Satisfied	146	54.7
	5 – Very satisfied	29	10.9
	Mean score	3.7	
	Standard deviation	0.8	
	95% CI	3.6 – 3.8	

95% CI: 95% confidence interval.

The internal consistency of the military police officers' responses to the WHOQOL-BREF was adequate for the Physical ($\alpha = 0.795$), Psychological ($\alpha = 0.800$), Social Relationships ($\alpha = 0.773$), and Environment ($\alpha = 0.727$) domains.

Regarding the WHOQOL-BREF domains, the officers showed the greatest impairment in the Environment domain (mean score: 58.7), which includes aspects related to physical safety and protection; home environment; financial resources; health and social

care (availability and quality); opportunities to acquire new information and skills; participation and opportunities for recreation/leisure; physical environment (pollution, noise, traffic, and climate); and transportation.

In the remaining domains, mean scores were close to 70 points, indicating a generally good perception of quality of life among the officers in these areas (Table 3).

Table 3 - WHOQOL-BREF domain scores according to the assessment of military police officers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). Paraná, Brazil, 2018 (n = 267).

Domain	Mean score (±SD)	95% CI
Physical	68.1 (±14.7)	66.4–69.8
Psychological	67.6 (±15.6)	65.7–69.5
Social Relationships	68.8 (±13.4)	66.7–70.8
Environment	58.7 (±13.1)	57.0–60.2

SD: standard deviation. 95% CI: 95% con idence interval.

As shown in Table 4, in relation to aspects related to quality of life that are assessed by the WHOQOL-BREF, military police officers presented impairment related to financial resources, with a score below 50 points.

As shown in Table 4, regarding the aspects of quality of life assessed by the WHOQOL-BREF, the military police officers demonstrated the greatest impairment in the Financial Resources facet, with a mean score of 47.7 points.

Other aspects in which officers exhibited lower scores were Opportunities to acquire new information and skills (51.8), Activities of daily living (53.8), Health and social care: availability and quality (55.9), Physical environment (57.0), Home environment (57.6), and Positive feelings (58.4). These mean scores, ranging between 50 and 60 points, indicate a moderate level of compromise in these dimensions.

Table 4 - WHOQOL-BREF facet scores according to the assessment of military police officers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). Paraná, Brazil, 2018 (n = 267).

WHOQOL-BREF facet	Mean score (±SD)	95% CI
Mobility	78.1 (±19.4)	75.8–80.4
Thinking, learning, memory, and concentration	77.0 (±21.8)	74.3–79.6
Social support	75.2 (±21.4)	72.7–77.8
Energy and fatigue	74.7 (±25.0)	71.7–77.7
Body image and appearance	72.7 (±24.4)	69.8–75.7
Pain and discomfort	72.1 (±24.9)	69.1–75.1
Negative feelings	68.9 (±21.1)	66.3–71.4
Participation in and opportunities for recreation/leisure	68.7 (±23.5)	65.9–71.5
Work capacity	68.1 (±18.2)	65.9–70.3
Personal relationships	67.7 (±20.7)	65.2–70.2
Transportation	66.9 (±25.0)	63.9–69.9
Dependence on medication or treatments	66.0 (±19.9)	63.6–68.4
Spirituality/religion/personal beliefs	65.4 (±24.3)	62.5–68.4
Sleep and rest	63.7 (±18.8)	61.5–66.0
Physical safety and protection	63.6 (±21.6)	61.0–66.2
Sexual activity	63.3 (±21.0)	60.9–66.0
Self-esteem	62.9 (±21.1)	60.3–65.4
Positive feelings	58.4 (±19.5)	56.0–60.7
Home environment	57.6 (±21.6)	55.0–60.2
Physical environment (pollution/noise/traffic/climate)	57.0 (±25.8)	53.9–60.2
Health and social care: availability and quality	55.9 (±17.4)	53.8–58.0
Activities of daily living	53.8 (±25.9)	50.7–57.0
Opportunities to acquire new information and skills	51.8 (±20.8)	49.3–54.3
Financial resources	47.7 (±22.4)	45.0–50.4

SD: standard deviation. 95% CI: 95% confidence interval.

Regarding Burnout, the internal consistency of the Maslach Burnout Inventory applied to the military police officers was high: Emotional Exhaustion (α = 0.900), Personal Accomplishment (α = 0.721), and Depersonalization (α = 0.816).

The results indicated that 135 officers (50.6%) showed a moderate level and 93 (34.8%) a high level of Emotional Exhaustion. With respect to Depersonalization, 167 officers (62.8%) presented a high level and 93 (35.0%) a moderate level. Conversely, Personal Accomplishment was high in 219 officers (82.0%), suggesting the preservation of positive aspects of engagement and professional competence (Table 5). Considering all three dimensions together, 90 officers (33.7%) showed indicators of Burnout Syndrome, of which 77 (28.8%) were classified as having a high level and 13 (4.9%) a moderate level.

Table 5 - Average scores and burnout categorization, according to the assessment of military police officers from the 3rd BPM/PR. Paraná, Brazil, 2018. (n = 267).

| Subscale | Mean score (±SD) | 95% CI | Burnout levels | | | |
			Low n (%)	Moderate n (%)	High n (%)	p-value*
Emotional Exhaustion	24.0 (±7.1)	23.1–24.8	39 (14.6)	135 (50.6)	93 (34.8)	< 0.001
Depersonalization	13.8 (±3.7)	13.4–14.2	6 (2.2)	94 (35.0)	167 (62.8)	< 0.001
Personal Accomplishment	27.2 (±4.8)	26.1–27.8	2 (0.8)	46 (17.2)	219 (82.0)	< 0.001

SD: standard deviation. 95% CI: 95% confidence interval.
*ANOVA test.

In the analysis of quality of life according to Burnout levels, it was observed that military police officers without Burnout presented a better quality of life compared to those with moderate or high levels of Burnout. As shown in Table 6, the higher the level of Burnout, the lower the quality of life among the officers.

Table 6 - Assessment of quality of life according to Burnout levels among military police officers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). Paraná, Brazil, 2018 (n = 267).

| Quality of Life Domains | Burnout Level | | | p-value** |
| | Absent (n = 177) | Moderate(n = 13) | High (n = 77) | |
	Mean (±SD)	Mean (±SD)	Mean (±SD)	
Physical	72.1 (±12.8)	68.9 (±10.8)	58.8 (±15.2)	< 0.001
Psychological	75.6 (±10.1)	71.4 (±13.4)	57.3 (±16.4)	< 0.001
Social Relationships	71.8 (±15.4)	68.5 (±10.3)	61.9 (±20.6)	< 0.001
Environment	66.5 (±9.9)	61.2 (±12.1)	51.4 (±12.9)	< 0.001

SD: standard deviation.
**ANOVA test.

As shown in Table 7, Emotional Exhaustion and Depersonalization were negatively correlated with quality of life, indicating that higher levels of Emotional Exhaustion and Depersonalization are associated with lower quality of life across all WHOQOL-BREF domains. Conversely, a positive correlation was observed between Personal Accomplishment and quality of life levels, demonstrating that the higher the level of Personal Accomplishment, the better the quality of life.

A moderate negative correlation was found between the Emotional Exhaustion subscale and the Physical (r = -0.552; p < 0.001), Psychological (r = -0.557; p < 0.001), and Environment (r = -0.442; p < 0.001) domains. Additionally, a moderate positive correlation was identified between the Personal Accomplishment subscale and the Psychological domain (r = 0.452; p < 0.001).

Table 7 - Correlations between quality of life domains and Burnout subscales among military police offi-cers from the 3rd Military Police Battalion of Paraná (3º BPM/PR). Paraná, Brazil, 2018 (n = 267).

Quality of life domains		Burnout Subscales		
		Emotional Exhaustion	Depersonalization	Personal Accomplishment
Physical	r	-0.552**	-0.264**	0.372**
	p-value	<0,001	<0,001	<0,001
Psychological	r	-0.557**	-0.285**	0.452**
	p-value	<0,001	<0,001	<0,001
Social Relationships	r	-0.360**	-0.257**	-0.257**
	p-value	<0,001	<0,001	<0,001
Environment	r	-0.442**	-0.341**	-0.341**
	p-value	<0,001	<0,001	<0,001

**Note: Correlation significant at the 0.01 level.

DISCUSSION

The sociodemographic profile of the military police officers evaluated in this study reflects the hierarchical structure and traditionally male organizational culture of military institutions, where both symbolic and practical barriers to women's inclusion and recognition persist[5,7,19,20]. The literature indicates that institutional machismo, harassment, and unequal task allocation may negatively affect female officers' mental health and perceived quality of life, highlighting an urgent need for gender equity policies within these organizations[19,20].

The findings of this study demonstrate that adverse working conditions — characterized by work overload, long shifts, low salaries, and shortages of material and human resources — continue to have a significant influence on job satisfaction and quality of life among military police officers[2,5,7]. These factors particularly affect the Environment domain, which encompasses aspects related to safety, social support, leisure, and financial resources — dimensions consistently identified in the literature as critical weaknesses in the reality of Brazilian police forces[2,21].

The regular practice of physical activity, reported by a substantial proportion of participants, may act as a protective factor, contributing to better scores in the Physical and Psychological domains. The literature reinforces that physical conditioning and functional training programs for police officers have a positive impact on mood, sleep quality, and occupational performance[22]. Thus, institutional investment in systematic physical health promotion programs may serve as an effective strategy to mitigate Burnout-related symptoms and improve overall quality of life.

The prevalence of Burnout found in this study (33.7%) is lower than that reported in other Brazilian police forces[23,24] and slightly higher than the average described in police organizations of developed countries, estimated between 20% and 30%[25,16]. However, it is lower than that observed in recent Latin American studies conducted during and after the pandemic, which identified prevalence rates between 39% and 45%[27,28]. Methodological differences, sociocultural context, institutional resources, and levels of organizational support may account for these variations[8].

Considering the organizational structure and inherent demands of police work, it becomes evident that precarious working conditions not only limit perceptions of well-being and professional fulfillment but also increase psychosocial risks that can lead to mental health issues such as Burnout Syndrome[5,7,8]. This relationship underscores the multidimensional nature of police officers' health, in which occupational, institutional, and psychosocial factors are interwoven and demand integrated interventions.

These findings highlight the need for continuous occupational health monitoring and structured institutional interventions focused on psychosocial support, emotional education, and improved working conditions. It is essential for police institutions to implement policies aimed at promoting mental health and improving workplace conditions, emphasizing balance between organizational demands and the human needs of professionals. Initiatives such as strengthened psychological and social support, workload adjustment, leisure promotion, and professional recognition could mitigate physical and emotional strain while fostering engagement and performance, ultimately benefiting both officers' well-being and the quality of public security services.

Another noteworthy finding is the coexistence of high levels of Emotional Exhaustion (34.8%) and Depersonalization (62.8%) with elevated Personal Accomplishment (82.0%). This seemingly paradoxical pattern can be explained by the cultural character-

istics of the military organization, which emphasizes professional identity, a sense of mission, and pride in public service. These elements act as organizational coping mechanisms, buffering the impact of chronic stress and reinforcing a sense of purpose and belonging[7,8,29]. However, when institutional culture prioritizes endurance and duty above emotional awareness, it can foster denial of psychological distress and delay help-seeking behaviors, perpetuating the cycle of strain.

The negative correlation between Burnout and quality of life observed in this study supports existing evidence that chronic occupational stress compromises both mental health and job performance[5,16,23]. The strongest associations were found between Emotional Exhaustion and Depersonalization with the Physical and Psychological domains, indicating that emotional suffering in police work is multidimensional, affecting somatic, relational, and environmental aspects[8,23]. Within this context, the results underscore the need for structured and continuous mental health prevention and promotion initiatives within military organizations, including:

(i) implementation of institutional psychological support programs offering confidential, preventive care focused on emotional regulation and coping with traumatic events;

(ii) revision of work schedules to ensure adequate rest intervals and reduce excessive workloads;

(iii) creation of professional appreciation and recognition policies, including career incentives, continuing education, and improved material working conditions; and

(iv) longitudinal occupational health monitoring using standardized tools such as the WHOQOL-BREF and the Maslach Burnout Inventory to assess the effectiveness of interventions over time.

Moreover, strengthening mental health indicators in the field of public security should be integrated into state and federal policies, aligning with the *Política Nacional de Promoção da Saúde do Trabalhador e da Trabalhadora*[30] and with intersectoral mental health programs.

This study presents limitations that must be acknowledged. First, the cross-sectional design precludes causal inferences between the analyzed variables. Additionally, the sample was limited to a single battalion (3º BPM/PR), restricting generalization to other units with different contexts and characteristics. The use of self-administered instruments may have introduced response bias, as institutional stigma and fear of exposure could have influenced response accuracy. Finally, data collection prior to the COVID-19 pandemic prevented assessment of the pandemic's impact on police well-being — a gap that future post-pandemic comparative studies should address.

Despite these limitations, the findings provide a solid basis for understanding the determinants of health and Burnout among military police officers in pre-pandemic contexts. The high prevalence of exhaustion and depersonalization, contrasted with elevated personal accomplishment, suggests a fragile balance sustained by institutional and cultural values. The study underscores the urgency of public policies focused on mental health and professional appreciation within security forces, promoting not only officers' well-being but also the quality and effectiveness of policing services delivered to society.

CONCLUSION

This study revealed significant impairments in the quality of life of military police officers, particularly in the environmental and financial resource domains, along with a considerable prevalence of moderate to high Burnout levels. Officers with higher emotional exhaustion and depersonalization scores presented poorer quality of life, while personal accomplishment had a positive effect.

These results reinforce the urgent need for policies that promote better working conditions, including improvements in the work environment, adequate material resources, and fair compensation. Moreover, mental health and psychological support programs should be expanded to meet these professionals' needs, including support for their families and social networks.

By addressing the challenges faced by military police officers, this study contributes to the formulation of strategies aimed not only at improving individual well-being but also at strengthening the effectiveness of police services provided to society. Future studies expanding the geographic scope and considering the post-COVID-19 context may further deepen understanding of occupational and health conditions among these professionals.

CRediT author statement

Conceptualization: Vieira, E; Lourenção, LG; Santos, FB. Methodology: Vieira, E; Lourenção, LG; Santos, FB. Validation: Vieira, E; Lourenção, LG; Santos, FB; Sasaki, NSGMS; Arroyo, TR. Statistical analysis: Lourenção, LG. Formal analysis: Vieira, E; Lourenção, LG. Investigation: Vieira, E; Lourenção, LG; Santos, FB. Writing – original draft preparation: Vieira, E; Lourenção, LG. Writing – review and editing: Santos, FB; Sasaki, NSGMS; Arroyo, TR. Visualization: Vieira, E; Lourenção, LG; Santos, FB; Sasaki, NSGMS; Arroyo, TR. Supervision: Lourenção, LG. Project administration: Vieira, E; Lourenção, LG.

All authors have read and agreed to the published version of the manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the workreported in this paper.

REFERENCES

1. Pereira LR, Scatolin HG. Saúde mental e trabalho: do sofrimento ao adoecimento psíquico nas organizações frente às tecnologias e formas de gestão. Núcleo do Conhecimento [Internet]. 2020 [acessado em 12 de dezembro de 2024]; 03(09):139-152. Disponível em: https://www.nucleodoconhecimento.com.br/psicologia/saude-mental-e-trabalho

2. Arroyo TR, Borges MA, Lourenção LG. Saúde e qualidade de vida de policiais militares. Rev Bras Promoç Saúde [Internet]. 2019 [acessado em 12 de dezembro de 2024]; 32:7738. Disponível em: https://doi.org/10.5020/18061230.2019.7738

3. Carvalho LOR de, Porto R de M, Sousa MNA de. Sofrimento psíquico, fatores precipitantes e dificuldades no enfrentamento da síndrome de Burnout em policiais militares. Braz. J. Hea. Rev. [Internet]. 2020 [acessado em 12 de dezembro de 2024]; 3(5):15202-14. Disponível em: https://ojs.brazilianjournals.com.br/ojs/index.php/BJHR/article/view/18754

4. Ruidiaz-Gómez KS, Cacante-Caballero JV. Desarrollo histórico del concepto Calidad de Vida: una revisión de la literatura. Rev. cienc. cuidad. [Internet]. 2021 [consultado el 26 de enero del 2025]; 18(3):86-99. Disponible en: https://revistas.ufps.edu.co/index.php/cienciaycuidado/article/view/2539

5. Santos FB dos, Lourenção LG, Vieira E, Ximenes Neto FRG, Oliveira AMN de, Oliveira JF de, et al. Occupational stress and work engagement among military police officers. Ciênc saúde coletiva [Internet]. 2021 [access on 2024 Dec 12]; 26(12):5987–96. Available from: https://doi.org/10.1590/1413-812320212612.14782021

6. Ribeiro BM dos SS, Scorsolini-Comin F, Terra F de S, Dalri R de C de MB. Síndrome de burnout em policiais militares à luz do referencial interpretativo. Rev Recien [Internet]. 2023 [acessado em 12 de dezembro de 2024]; 13(41):532-539. Disponível em: https://doi.org/10.24276/rrecien2023.13.41.532-539

7. Flores de Oliveira J, Lourenção LG, Braga dos Santos F, Roberto Arroyo T, Vieira E, Andrade Borges M. Association between burnout and quality of life in military police officers from two Brazilian corporations. Rev Epidemiol Control Infect [Internet]. 2024 [access on 2025 Jan 6]; 14(2):342-349. Available from: https://online.unisc.br/seer/index.php/epidemiologia/article/view/19033

8. Ribeiro BMDSS, Scorsolini-Comin F, Robazzi MLDCC, dos Santos SVM, Terra FDS, Dalri RDCDMB. Factors associated with Burnout Syndrome in police officers: a scoping review. Rev Bras Enferm. [Internet]. 2024 [access on 2025 Oct 20]; 77(2):e20230444. Available from: https://doi.org/10.1590/0034-7167-2023-0444

9. Moreira TSV. O impacto do estresse ocupacional e Síndrome de Burnout entre militares do Exército Brasileiro. RCEsSEx [Internet]. 2019 [acessado em 3 de janeiro de 2025]; 2(3):29-5. Disponível em: https://ebrevistas.eb.mil.br/RCEsSEx/article/view/3208

10. Wahyuni OS, Dewi FIR. Burnout riot police officers: emotional regulation and five trait personality as predictor. Psikodimensia: kajian ilm. psikol. [Internet]. 2020 [access on 2025 Oct 20]; 19(2):206. Available from: https://doi.org/10.24167/psidim.v19i2.2856

11. Syed S, Ashwick R, Schlosser M, Jones R, Rowe S, Billings J. (2020). Global prevalence and risk factors for mental health problems in police personnel: a systematic review and meta-analysis. Occup Environ Med. [Internet]. 2020 [access on 2025 Oct 20]; 77(11):737-747. Available from: https://doi.org/10.1136/oemed-2020-106498

12. Xu Y, Zhang Q, Tuo X, Tan X, Chen X. Prevalence of job burnout and associated factors among police officers during the covid-19 pandemic: a cross-sectional study. Crim. Justice Behav. [Internet]. 2025 [access on 2025 Oct 20]; 52(4):611-627. Available from: https://doi.org/10.1177/00938548251313968

13. Correia I, Romão Â, Almeida AE, Ramos S. Protecting police officers against burnout: overcoming a fragmented research field. J Police Crim Psychol [Internet]. 2023 [access on 2025 Oct 20]; 38(3):622-638. Available from: https://doi.org/10.1007/s11896-023-09584-4

14. Faul F, Erdfelder E, Buchner A, Lang A-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behav. Res. Methods [Internet]. 2023 [access on 2025 Oct 20]; 41(4):1149–1160. Available from: https://doi.org/10.3758/BRM.41.4.1149

15. Fleck MP, Louzada S, Xavier M, Chachamovich E, Vieira G, Santos L, et al. Application of the Portuguese version of the abbreviated instrument of quality life WHOQOL-bref. Rev. saúde pública [Internet]. 2000 [access on 2024 Dec 12]; 34(2):178-183. Available from: https://doi.org/10.1590/S0034-89102000000200012

16. Cordioli Junior JR, Cordioli DFC, Gazetta CE, Silva AG da, Lourenção LG. Quality of life and osteomuscular symptoms in workers of primary health care. Rev Bras Enferm [Internet]. 2020 [access on 2024 Dec 12]; 73(5):e20190054. Available from: https://doi.org/10.1590/0034-7167-2019-0054

17. Robayo-Tamayo M. Relação entre a Síndrome de Burnout e os valores organizacionais no pessoal de enfermagem de dois hospitais públicos. Brasília: Instituto de Psicologia da Universidade de Brasília, 1997. Dissertação de Mestrado em Psicologia.

18. Campos ICM, Pereira SS, Schiavon ICA, Alves M. Maslach Burnout Inventory - Human Services Survey (MBI-HSS): revisão integrativa de sua utilização em pesquisas brasileiras. Arq. Ciênc. Saúde Unipar [Internet]. 2020 [acessado em 12 de dezembro de 2024]; 24(3):187-195. Disponível em: https://revistas.unipar.br/index.php/saude/article/view/7875

19. Lopes C da S, Ribeiro EA, Souza MA de. Policiamento e gênero: percepções entre policiais militares paranaenses. Opin Publica [Internet]. 2021 [acessado em 12 de dezembro de 2024]; 27(1):298–322. Disponível em: https://doi.org/10.1590/1807-01912021271298

20. Ribeiro L. Polícia Militar é lugar de mulher?. Rev. Estud. Fem. [Internet]. 2018 [acessado em 12 de dezembro de 2024]; 26(1):1-15. Disponível em: https://www.jstor.org/stable/90018797

21. Costa FG da, Vieira LS, Cócaro MG, Azzolin K de O, Dal Pai D, Tavares JP. Quality of life, health conditions and life style of civil police officers. Rev Gaúcha Enferm [Internet]. 2020 [access on 2025 Jan 25]; 41:e20190124. Available from: https://doi.org/10.1590/1983-1447.2020.20190124

22. Moreno AF, Karanika-Murray M, Batista P, Hill R, Vilalta SR, Oliveira-Silva P. Resilience Training Programs with Police Forces: A Systematic Review. J Police Crim Psych [Internet]. 2024 [access on 2025 Oct 20]; 39:227–252. Available from: https://doi.org/10.1007/s11896-023-09633-y

23. Ribeiro BM dos SS, Silva LA da, Scorsolini-Comin F, Robazzi ML do CC, Santos SVM dos, Terra F de S, et al. Factors associated with burnout in military police officers in a city in Paraná. Rev Bras Enferm [Internet]. 2024 [access on 2025 Jan 25]; 77(4):e20230510. Available from: https://pubmed.ncbi.nlm.nih.gov/39258611/

24. Santos Chaves MSR, Shimizu IS. Burnout syndrome and sleep quality among military police officers in Piaui. Rev Bras Med Trab [Internet]. 2020 [access on 2025 Oct 24]; 16(4):436-441. Available from: https://doi.org/10.5327/Z1679443520180286

25. Bezie AE, Getachew Yenealem D, Asega Belay A, Bitew Abie A, Abebaw T, Melaku C, et al. Prevalence of work-related burnout and associated factors among police officers in central Gondar zone, Northwest Ethiopia, 2023. Front. Public Health [Internet]. 2024 [access on 2025 Oct 24]; 12:1355625. Available from: https://doi.org/10.3389/fpubh.2024.1355625

26. Gómez-Galán J, Lázaro-Pérez C, Martínez-López JÁ, Fernández-Martínez MDM. Burnout in Spanish Security Forces during the COVID-19 Pandemic. Int J Environ Res Public Health [Internet]. 2020 [access on 2025 Oct 20]; 26;17(23):8790. Available from: https://doi.org/10.3390/ijerph17238790

27. Torres-Vences IN, Pérez-Campos Mayoral E, Mayoral M, Pérez-Campos EL, Martínez-Cruz M, Torres-Bravo I, Alpuche J. Burnout Syndrome and Related Factors in Mexican Police Workforces. Int J Environ Res Public Health [Internet]. 2022 [access on 2025 Oct 24]; 19(9):5537. Available from: https://doi.org/10.3390/ijerph19095537

28. Torres-Vences IN. Síndrome de Burnout en policías latinoamericanos: revisión. Tequio [Internet]. 2020 [access on 2025 Oct 24]; 4(10):56-61. Available from: https://doi.org/10.53331/teq.v4i10.8625

29. Queirós C, Passos F, Bártolo A, Marques AJ, da Silva CF, Pereira A. Burnout and Stress Measurement in Police Officers: Literature Review and a Study With the Operational Police Stress Questionnaire. Front Psychol. [Internet]. 2020 [access on 2025 Oct 24]; 11:587. Available from: https://doi.org/10.3389/fpsyg.2020.00587

30. Brasil. Ministério da Saúde. Portaria nº 1.823, de 23 de agosto de 2012. Institui a Política Nacional de Saúde do Trabalhador e da Trabalhadora [Internet]. Brasília: Ministério da Saúde; 2012 [acessado em 27 de outubro de 2025]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2012/prt1823_23_08_2012.html