



Acta Paulista de Enfermagem

ISSN: 0103-2100

ISSN: 1982-0194

Escola Paulista de Enfermagem, Universidade Federal de São Paulo

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Avaliação do Sono em um Grupo de Policiais Militares de Elite
Acta Paulista de Enfermagem, vol. 31, núm. 2, Março-Abril, 2018, pp. 153-161
Escola Paulista de Enfermagem, Universidade Federal de São Paulo

DOI: 10.1590/1982-0194201800023

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Sleep Assessment in a Group of Elite Military Police Officers

Avaliação do Sono em um Grupo de Policiais Militares de Elite
Evaluación del Sueño en un Grupo de Policías Militares de Élite

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Keywords

Sleep; Sleep wake disorders; Polysomnography; Occupational health; Sleep deprivation; Police

Descritores

Sono; Distúrbios do sono; Polissonografia; Saúde do trabalhador; Privação do sono; Polícia

Descriptores

Sueño; Trastornos del sueño-vigilia; Polisomnografía; Salud laboral; Privación de sueño; Policía

Submitted

January 24, 2018

Accepted

April 9, 2018

Abstract

Objective: Study sleep disorders in a Group of Elite Military Police Officers.

Method: Cross-sectional study in which 22 elite military police officers from the Brigada Militar were assessed, corresponding to the total operational headcount of the group studied.

Results: There were four main findings in this study. First, a high prevalence of sleep disorders was observed (100% presented some sleep-related disorder or complaint) and bad sleep quality (63.6%) among these officers. Second, a high prevalence (27.3%) of obstructive sleep apnea syndrome was observed among the police officers studied, who presented greater daytime sleepiness. Third, among the police officers who presented some occupational accident, a higher prevalence of daytime sleepiness, bad sleep quality and obstructive sleep apnea syndrome was found. Fourth, officers with a bad quality of sleep presented worse quality of life scores.

Conclusion: Considering the high prevalence of sleep disorders among military police officers and the different consequences resulting from a bad quality of sleep, sleep-related questions, questionnaires to screen for sleep disorders and, depending on the case, polysomnography should be included in the routine health evaluation of Elite Military Police Officers.

Resumo

Objetivo: Estudar os distúrbios do sono em um Grupo de Policiais Militares de Elite.

Método: Estudo transversal, que avaliou 22 policiais militares de elite da Brigada Militar, o que corresponde a totalidade do efetivo operacional do grupo estudado.

Resultados: Os principais achados deste estudo foram quatro. Primeiro, observou-se uma elevada prevalência de distúrbios do sono (100% apresentaram algum distúrbio ou queixa relacionada ao sono) e de má qualidade de sono (63,6%) entre esses policiais. Segundo, observou-se uma elevada prevalência (27,3%) de síndrome da apneia obstrutiva do sono entre os policiais estudados sendo que estes apresentaram maior sonolência diurna. Terceiro, dentre os policiais que apresentaram algum acidente de trabalho constatou-se uma maior prevalência de sonolência diurna, de má qualidade do sono e de síndrome da apneia obstrutiva do sono. Quarto, policiais com má qualidade de sono apresentaram piores escores de qualidade de vida.

Conclusão: Considerando-se a elevada prevalência de distúrbios do sono entre os policiais militares e as diversas consequências advindas de um sono de má qualidade, sugere-se a inclusão de questões relacionadas ao sono, de questionários de triagem para distúrbios do sono e dependendo do caso, do exame de polissonografia, dentro da inspeção bial de saúde dos Policiais Militares de Elite.

Resumen

Objetivo: Estudiar los disturbios del sueño en un Grupo de Policías Militares de Élite.

Método: Estudio transversal evaluando a 22 policías militares de élite de la Brigada Militar, que constituyen la totalidad de efectivos operativos del grupo estudiado.

Resultados: El estudio arrojó cuatro hallazgos principales. Primero, se observó elevada prevalencia de disturbios del sueño (100% presentó algún disturbio o queja relativa al sueño) y de mala calidad del sueño (63,6%) entre estos policías. Segundo, se observó elevada prevalencia (27,3%) de síndrome de apnea obstructiva del sueño entre los policías estudiados, presentando los mismos mayor somnolencia diurna. Tercero, entre los policías que refirieron algún accidente de trabajo, se constató mayor prevalencia de somnolencia diurna, de mala calidad del sueño y de síndrome de apnea obstructiva del sueño. Cuarto, los policías con mala calidad del sueño muestran peores puntajes de calidad de vida.

Conclusión: Considerando la elevada prevalencia de disturbios del sueño entre los policías militares y las diversas consecuencias derivadas del sueño de mala calidad, se sugiere incluir preguntas relacionadas al sueño, de preguntas de triaje para disturbios del sueño y, dependiendo del caso, de una polisomnografía en la revisión bianual de salud de los Policías Militares de Élite.

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DOI

http://dx.doi.org/10.1590/1982-0194201800023

How to cite:

Pinto JN, Perin C, Dick NR, Lazzarotto AR. Sleep assessment in a group of elite military police officers. Acta Paul Enferm. 2018;31(2):153-61.

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Conflicts of interest: article taken from the thesis entitled: "The profile of the sleep pattern of military police officers". Presented at Centro Universitário La Salle, 2015, Canoas, RS, Brazil.



Introduction

Population studies have shown that more than 46.7% of Brazilians present some type of sleep disorder.^(1,2) Most of them remain undiagnosed and without proper treatment, resulting in physical and mental health, quality of life and work performance losses.⁽³⁾

Obstructive sleep apnea syndrome (OSAS) is associated with hypertension, cardiovascular disease, cognitive impairment, and increased risk of motor vehicle accidents.⁽⁴⁾ Insomnia is a risk factor for depression and hypertension, causing damage in daily functioning, leading to absenteeism and decreased productivity.⁽⁵⁾

Military police activity is considered of high risk, so it requires the police to always be in full physical and mental health. In this perspective, the quality of sleep is very important, as it directly impacts several aspects of people's health. Military police officers, especially those in elite groups, work in high-risk situations with a high degree of physical and mental stress, with specific functions, requiring constant attention. Work under stress and in extended shifts predisposes these policemen to present poor quality of sleep, which in turn causes damages in the areas of physical and mental health, quality of life and work performance.

To date, there are no studies in Brazil evaluating sleep and its consequences for the work and life of elite military police officers. Thus, the study of sleep in this specific group is still an open field, but of great clinical importance for these individuals, as alterations during sleep can have repercussion on the quality of life and genesis of health problems, such as: hypertension, cardiovascular diseases, depression, among others. It is noticed that there is a lack of international studies on the sleep of elite military policemen. Therefore, this study is the first to evaluate the sleep of elite military police officers in Brazil.

Thus, this study is justified by the clinical need to characterize, define the prevalence and determine the consequences of sleep disorders in military police officers with a view to their treatment and prevention of future adverse consequences.

The general objective of this article was to study sleep disorders in a group of elite police officers of the Brigada Militar (BM) in the city of Porto Alegre, State of Rio Grande do Sul (RS). The specific objectives were: 1) to determine the prevalence of sleep disorders in military police officers; 2) to determine the prevalence of OSAS among military police officers and its association with excessive daytime sleepiness; 3) to verify if there is an association between the quality of sleep and the quality of life of the military police officers; 4) to verify if sleep disorders and poor quality of sleep are associated with occupational accidents.

The research problems we investigated are: the prevalence of sleep disorders among elite military policemen of the BM and the consequences of poor quality of sleep on the quality of life and the incidence of occupational accidents in these police officers. The hypotheses are that the prevalence of sleep disorders and poor sleep quality is high among elite military police officers and that those with poor sleep quality present greater daytime sleepiness, poorer quality of life, higher risk of work-related accidents and higher incidence of chronic diseases.

Methods

A cross-sectional research design was adopted. The study population consisted of a group of elite military police officers from the BM in the city of Porto Alegre-RS. This group currently consists of 30 military police officers, 22 of whom work in the operational part because they have taken the specific training course, while the other eight work in the administrative and support activities of the specialized group. The research project was submitted to CAAE: 24905413.4.0000.5307 and approved by the Research Ethics Committee (CEP) at Centro Universitário La Salle - Canoas, RS.

The inclusion criteria in the study were the participants' agreement to collaborate with the research, the availability to perform the polysomnography exam on their day off and to answer the questionnaires on the days and times estab-

lished by the researcher. The exclusion criterion was to work in the administrative area, that is, non-operational.

After a lecture given by one of the researchers in the BM, the importance and the objectives of this research were explained and all the policemen of this group were invited to participate in the study. All those who agreed to participate signed an informed consent form in compliance with Resolution 466,⁽⁶⁾ containing all information regarding the objectives, justification, instruments, dissemination of the research and contact of the researcher. After signing the form, the date for the application of the research instruments was set.

All participants were submitted to a clinical and nutritional assessment according to the data collection form and answered questionnaires related to sleep quality (Pittsburgh Questionnaire - PSQI), daytime sleepiness (Epworth Scale - ESE) and quality of life (WHOQOL- Bref) before the polysomnography examination.

The anthropometric measures of weight, height, body mass index (BMI) and waist circumference were measured using a Sanny inextensible anthropometric tape and an anthropometric scale, capacity 180 Kg, model PL, following the recommendations of the Brazilian Society of Hypertension.⁽⁷⁾

The PSQI is a self-administered questionnaire that measures sleep quality over the past month.⁽⁸⁾ The Epworth Sleepiness Scale (ESS) is a self-administered, reliable and validated questionnaire that measures daytime sleepiness in adults. Individuals with a score > 10 points are considered to be excessively drowsy.⁽⁹⁾

The WHOQOL-bref consists of 26 questions, two of which address general quality of life, while the other 24 represent each of the 24 facets that make up the original instrument. Thus, WHOQOL-bref is composed of four domains: Physical, Psychological, Social Relations and Environment. The higher the percentage (closer to 100%), the better the quality of life.⁽¹⁰⁾

All participants underwent a full-night polysomnography examination, using the Resmed® Apnea Link Plus® portable monitor, which included airflow through the nasal cannula, respiratory strain

measuring through a thoracic brace, snoring sensor, peripheral oxygen saturation (SpO₂) and heart rate by pulse oximetry.⁽¹¹⁾

One of the authors performed the examinations free of charge. The device was installed and returned the next day in the facilities of a sleep clinic. The exams were conducted at the home of each participant, who turned the device on and off at his usual bed and wake up times. One of the authors, who holds a specialization degree in Sleep Medicine, transferred the records from the portable monitor to the computer the day after the examination and analyzed them using specific software, following international regulations.⁽¹²⁾ Records with less than 06 hours duration or displaying artifacts were excluded and then repeated.

The researcher individually informed each participants of the result of the polysomnography examination, and they were referred for treatment at the Brigada Militar Hospital in Porto Alegre in case of alteration in the examination.

Data were entered in an Excel spreadsheet and then imported into SPSS (Statistical Package for the Social Sciences), version 20. In all analyses, $p < 0.05$ was considered statistically significant (two-tailed test). Data are shown as median and interquartile range, mean \pm standard deviation, and percentage value for non-parametric, parametric and categorical variables, respectively. Differences of means were compared using Student's t-test (normal distribution) or Mann-Whitney's U-test (asymmetric distribution). The chi-square test was used to compare proportions. To establish correlations, Spearman's correlation was used.

Results

Twenty-two military police officers from the elite group of the BM were assessed, corresponding to 100% of the operational headcount in the group studied. The mean age was 34.6 ± 6.1 years and all were male. All participants reported working in an alternate shift work system of 12/36 hours and 18% of the participants reported having an extra-official fixed job.

The median body mass index (BMI) of the sample was 25.2 kg/m², ranging between 23 and 31 kg/m². Although 36.3% of the sample was considered as suffering from overweight or obesity, all of them practice physical exercise daily, such as: bodybuilding, running, swimming. The clinical findings and professional profile of the sample are shown in table 1.

Table 1. Clinical characteristics and professional profile of the elite military police officers (n=22)

Variables	Results
Sex - Male (%)	100
Age (years)	34.6 ± 6.1
BMI (kg/m ²)	25.2 (23-31)
CF at rest (bpm)	6855 (47-97)
Systolic BP (mmHg)	136 (111-164)
Diastolic BP (mmHg)	78.5 (58-100)
Cervical circumference (cm)	40 (36-43)
Abdominal circumference (cm)	86 (56-97)
Hours of sleep per night (hours)	6.5 ± 0.8
Function/rank in BM (%)	
Major	4.5
Captain	4.5
Lieutenant	9.1
Sergeant	9.1
Soldier	72.7
Length of work in BM (years)	9 (6-25)
Shift work 12/36 hours (%)	100
Extra-official work beyond BM (%)	18
Finished secondary education (%)	100
Finished higher education (%)	22.7

BMI – body mass index; CF – cardiac frequency; BP – blood pressure; bpm – beats per minute; the data are presented as mean ± standard deviation, median (range), or n (%)

The polysomnography examination revealed that 06 participants (27.3% of the sample) presented diagnostic criteria for Obstructive Sleep Apnea Syndrome (OSAS), that is, an Apnea-Hypopnea Index (AHI) superior to 5.0 events/hour.

A moderate (r=0.48) and significant correlation (p=0.01) was found between daytime sleepiness measured by the Epworth scale and the Apnea-Hypopnea Index (AHI) measured by the polysomnography, that is, the higher the AHI, the greater the daytime sleepiness.

Table 2, it is observed that 05 military police officers (22.7% of the sample) presented excessive daytime sleepiness, characterized by a score superior to 10 on the Epworth Scale. It was observed that the group of policemen with excessive sleepiness presented a significantly higher (p<0.05) prevalence

Table 2. Comparison between police officers with and without excessive daytime sleepiness (n=22)

Excessive sleepiness	OSAS	Occupational accident	Bad sleep quality	Extra-official work
Yes (%)	40.0*	60.0*	80.0*	60*
No (%)	23.5	41.2	41.2	5.0

OSAS – Obstructive Sleep Apnea Syndrome; *Statistically significant difference, p-value <0.05

of OSAS, work-related accidents and bad quality of sleep. It was also observed that, among the police officers with excessive sleepiness, 60% reported having an extra-official job.

Table 3, the prevalence of sleep-related disorders in the sample analyzed is shown. It was observed that 63.6% of the police officers in the study presented bad quality of sleep (defined as a score > 5 points on the Pittsburgh Scale) and that 100% of the participants presented at least some type of sleep-related disorder or complaint.

Table 3. Prevalence of Sleep Disorders in the sample analyzed (n=22)

Sleep disorders	Yes (%)	No (%)
Insomnia	31.8	68.2
Bruxism	27.3	72.7
Obstructive Sleep Apnea Syndrome (OSAS)	27.3	72.7
Snoring	36.4	63.6
Excessive daytime sleepiness	22.7	77.3
Bad quality of sleep	63.6	36.4
Insufficient sleep (< 6 h/night)	9.1	90.9

Table 4, it is demonstrated that, in the previous five years, ten police officers (45.4% of the sample) reported some work-related accident. Among the officers who presented such accident (traumas, gunshot wound, motor vehicle accident, traumatic amputation, dislocation, strain and pulled muscles), a higher prevalence of daytime sleepiness, bad quality of sleep and OSAS (p<0.05) was found in relation to the group that did not report work-related accidents (Table 5).

Table 4. Comparison between police officers with and without history of work-related accidents

Work-related accident	Daytime sleepiness	OSAS	Bad quality of sleep	Extra-official work
Yes (%)	30.0*	40.0*	70.0*	10.0
No (%)	16.0	16.0	58.3	25.0

*Statistically significant difference, p-value <0.05

Table 5. Association between quality of sleep and quality of life (n=22)

Quality of sleep	PHYS (%)	PSYCH (%)	SOCIAL (%)	ENV (%)
GOOD = 8 participants (0-5 points)	68.7	75.5	82.2	71.8
BAD = 14 participants (> 5 points)	54.8 *	67.2	73.8	58.4*

PHYS – Physical Domain; PSYCH – Psychological Domain; SOCIAL – Social Domain; ENV – Environmental Domain. *Statistically significant difference, p-value <0.05

Table 5, better quality of life scores are observed in all domains for the participants with good quality of sleep. Nevertheless, statistical significance was only found in the physical and environmental domains. If the sample were larger, statistical significance might be found in all domains.

A negative and significant correlation ($p < 0.05$) was found between the Epworth sleepiness scale and the environmental domain of the quality of life scale, that is, the higher the score on the Epworth scale (greater sleepiness), the lower the score on the quality of life scale (worse quality of life). Similarly, a significant inverse correlation was observed between the Pittsburgh quality of sleep scale and three domains of the quality of life scale, that is, the higher the score on the Pittsburgh scale (worse quality of sleep), the lower the score on the quality of life scales (worse quality of life).

Discussion

Military police officers in general, especially those in elite groups, work in high risk situations with a high degree of physical and mental stress, requiring constant attention. Working under stress and in extended shifts predisposes these policemen to poor quality of sleep, which in turn causes damages in the areas of physical and mental health, quality of life and work performance. Therefore, the evaluation of sleep in these individuals is of great clinical importance, as sleep alterations can entail repercussions for the quality of life and the genesis of health problems such as hypertension, cardiovascular diseases, depression among others, besides increasing the risk of work-related and traffic accidents due to greater sleepiness and inattention caused by insufficient or poor quality of sleep.

Four main findings resulted from this study. First, there was a high prevalence of sleep disorders and poor sleep quality among the members of the Brigada Militar elite group. Second, there was a high prevalence of obstructive sleep apnea syndrome (OSAS) among the police officers, who presented greater daytime sleepiness. Third, among the policemen who presented some work-related accident, there was a higher prevalence of daytime sleepiness, poor sleep quality and OSAS. Fourth, police officers with poor sleep quality had worse quality of life scores.

In this study, we verified that all elite military policemen of the BM presented some sleep-related disorder or complaint. The sleep disorders most commonly identified were insomnia, bruxism and OSAS. Two other studies involving a large number of US military and police officers corroborate the results of this study. In both, there was a high prevalence of sleep disorders and poor sleep quality. In one of the studies involving 4,957 American police officers, who took part in a study via electronic questionnaires, the prevalence of sleep disorders was 60%.⁽¹³⁾ The police officers who presented with some sleep disorder (OSAS, insomnia, circadian rhythm disorder) were more likely to engage in a number of work-related adverse events, such as administrative errors, security breaches, sleeping at the steering wheel, uncontrolled anger during events and absenteeism. Also, an association was observed between the presence of sleep disorders and clinical outcomes such as depression, burnout, diabetes and cardiovascular disease.^(13-25,26) In the other study, the clinical and polysomnography data of 761 military officers were evaluated retrospectively, showing a high prevalence of OSAS (27.2%), insomnia (24.7%) and insufficient sleep time (41.8%).^(14,27) The main predictors of OSAS were obesity, male gender and age. For insomnia, these were female gender, painful syndromes and post-traumatic stress.^(14,28)

There are several ways in which poor sleep quality can negatively affect health and increase the risk of death. Recent data from the US Centers for Disease Control and Prevention show that, compared with individuals who sleep more than seven hours, those who regularly sleep less than five hours

have a 42% higher chance of developing obesity, 40% higher chance of diabetes, 69% more likely to have hypertension, 36% more likely to have hypercholesterolemia, 62% greater chance of stroke and 152% more likely to have a heart attack.^(15,26,29)

In a study that assessed the association between sleep duration and sleep quality and metabolic syndrome in 796 Asian police officers, it was observed that more than half of the police officers had poor sleep quality. Sleep disorders were associated with metabolic syndrome and abdominal obesity. Police officers who slept less than 5 h were more likely to suffer from abdominal obesity than those who slept 7-7.9 h.⁽¹⁶⁾

OSAS, the sleep disorder most frequently diagnosed in police officers, has been involved as an independent risk factor for cardiovascular disease, diabetes, cardiac arrhythmias, plurimetabolic syndrome, traffic accidents and death.^(17,18,25) OSAS has also been associated with significant cognitive decline and difficulty to maintain vigilance and attention during work.⁽¹⁸⁾

In a study involving 316 military police officers from Feira de Santana, Bahia, the prevalence and factors associated with high cardiovascular risk (HCR) were estimated, based on abdominal obesity. In that study, it is concluded that the prevalence of HCR among the military police officers of Feira de Santana was high, especially among men, individuals with longer time on the job and those physically inactive. Time on the police force proved to be a modifier of the rank effect on HCR. Therefore, OSAS has currently been considered a public health problem.⁽¹⁹⁾

OSAS is clinically suspected in individuals who exhibit symptoms of snoring, breathing pauses during sleep and daytime sleepiness or unrefreshing sleep. The diagnosis is confirmed by the polysomnography examination, which also classifies the OSAS severity according to the apnea-hypopnea index (AHI). OSAS is caused by transient pharyngeal collapse, impeding the airflow between the environment and the lungs.^(20,29)

As highlighted above, OSAS has been associated with an increased risk of various diseases and increased mortality. Thus, the identification of indi-

viduals with OSAS and a correct orientation and treatment benefit the individual and society.

The prevalence of OSAS found among the police officers in this study was 27.3%. This prevalence is compatible with the prevalence of OSAS in the general adult population in the city of São Paulo (32.8%) in a population study carried out in 2010, observing that 60% of the analyzed population were overweight or obese.⁽²⁾ In international studies that investigated the prevalence of sleep disorders among police officers, OSAS prevalence rates ranging from 24% to 38% were found.^(14,18,19,29)

Shift work may result in deregulation of the circadian rhythm, insufficient sleep and disruption of family and social life, which can lead to an increase in the allostatic load (defined as the sum of the stresses prolonged stress causes in the body), altered homeostasis, immunological deficiency and endocrine dysfunction.^(10,21) Shift work has become increasingly part of a wide range of occupations, especially among police officers, firefighters and emergency services, where there is an obvious need for a 24-hour service. There is increasing evidence linking shift work to countless adverse health outcomes, including risk factors for cardiovascular disease, metabolic syndrome, diabetes, specific types of cancer, fatigue, work-related injuries and autoimmune hypothyroidism.⁽²²⁾ As the entire operational headcount of the elite group of the BM works on a shift regime, this may at least partially explain the high prevalence of poor sleep quality and sleep-related complaints.

In a study of 52 air traffic controllers (ATCs) in Southern Brazil, excessive daytime sleepiness was identified in 25% of this sample. Of these, 84.6% belonged to the same air traffic control unit, which is characterized by a greater movement of aircraft with 24-hour operation and the service schedule in alternate shifts.⁽²³⁾

A study of 464 police officers working in Buffalo, New York, USA between 2004 and 2009 provided information on the effect of long and short-shift work on the number of circulating white blood cells. Shift work can lead to rupture

of blood components by the circadian influence of the immune system, which in the end can result in various chronic diseases. These findings, in addition to previous findings, may provide evidence that shift work may lead to deregulation of the immune system.⁽²⁴⁾

In this study, it was observed that 22.7% of the police presented criteria for excessive sleepiness. The group of police officers with excessive sleepiness had a significantly higher prevalence of OSAS, occupational accidents and poor sleep quality. It was also found that, among the police officers with excessive sleepiness, 60% reported having an unofficial job. Thus, the importance of diagnosing sleep disorders, especially OSAS, and of discouraging informal work to prevent excessive sleepiness and work-related accidents among police officers is demonstrated, especially those who belong to elite groups, as they work in situations of high risk with a high degree of physical and mental stress, needing constant attention.

It was observed that, among the elite military police officers who had suffered some work-related accident, there was a higher prevalence of daytime sleepiness, poor sleep quality and OSAS in relation to the group of police officers who did not report occupational accidents.

A US study interviewed 1,000 workers by telephone to examine the extent to which sleep impacts job performance and the extent to which work affects sleep. This study found that extended workdays were associated with short sleep time and, consequently, with greater chance of work-related accidents. Also, it was observed that, among the workers classified as having some sleep disorder, worse performance at work, greater absenteeism and greater chance of work-related accidents were observed.⁽³⁾ Thus, the identification and treatment of sleep disorders is extremely important and useful to prevent work-related accidents among the military police officers. There is an urgent need to diagnose and treat sleep disorders among police officers in order to reduce the incidence of occupational accidents and all its consequences (leaves, injury, retirement, etc.).

Another important finding of this study was that policemen with good sleep quality had better quality of life scores compared to police officers classified as having poor sleep quality. Also, police officers with excessive sleepiness presented worse quality of life.

Sleep disorders cause adverse effects on people's lives by diminishing their daily functioning, increasing the proneness to psychiatric disorders, cognitive deficits, emergence and aggravation of health problems, traffic accident risks, absenteeism at work, and by compromising the quality of life.^(20,30) Sleep disorders trigger adverse effect on the health and well-being of individuals, affecting work, cognition, relationships and daily functioning, with different outcomes in the short, medium and long term.^(20,30)

Thus, interventions are needed to improve the quality of sleep of the police officers in order to improve their quality of life and, consequently, perform better at work.

This study, despite being original in Brazil, comes with some limitations, such as the relatively small sample and the cross-sectional design. Future studies involving a larger number of military police officers from different battalions are necessary to confirm the findings of this study. In addition, prospective studies are suggested to analyze the impact of a diagnosis and treatment program of sleep disorders to improve these military police officers' quality of life and performance.

Conclusion

The findings of this study point to a high prevalence of sleep disorders and poor sleep quality among elite military police officers, which were associated with adverse outcomes such as excessive daytime sleepiness, work-related accidents and poorer quality of life. Thus, police officers with sleep disorders not properly diagnosed and treated may have impairments in performance at work and ultimately put at risk their own safety and that of the population they serve. In summa-

ry, considering that sleep disorders are common among elite military police officers and the many consequences of poor sleep, we suggest the inclusion of sleep-related questions and screening questionnaires for sleep disorders within the routine health evaluation of the police. According to the results of this screening, the police officer may be referred for the polysomnography exam and/or for care by an expert physician within the institution. We consider that this will contribute to the improvement of the quality of life and performance in the work of the police, with consequent improvement of their attendance provided to the community.

Collaborations

Pinto JN, Perin C, Dick NRM and Lazzarotto AR declare that they contributed to the general structure of the project, data analysis and interpretation, relevant critical review of the intellectual content, results and final approval of the version for publication.

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