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WORK-HEALTH RATIO OF MILITARY FIREFIGHTERS FROM PARAÍBA'S 4TH MILITARY FIREFIGHTING BATTALION

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Abstract: The aim of this study was to identify the work-health conditions of military firefighters from the 4th Military Firefighter Battalion in Paraíba. The study was quantitative, descriptive, cross-sectional and field-based. The population consisted of 58 military firefighters belonging to the 4th Military Firefighter Battalion of Paraíba. Two questionnaires were used: the first was the modified Quality of Life and Health Assessment Questionnaire (QOL-80) and the second was the adapted Goldberg questionnaire. The results show that the soldiers from Paraíba's 4th Military Firefighter Battalion who took part in the research had long working hours, which had a direct effect on reducing the time available for other physical activities, making demands that were harmful to their health and favoring work problems. Weight overload and problems with ergonomics have been the variables most pointed out in the study as predictors of health problems among military firefighters. Long working hours produce difficulties in personal, social and family relationships, and also influence the time available for health care, which can lead to occupational illnesses. As a result, workers end up reducing their time for physical exercise, which could help their performance and reduce health problems. This study recommends specific actions, especially in adapting the work environment in terms of ergonomics and physical fitness exercises, with the aim of preserving the well-being of these soldiers so that they remain active and collaborate even more with regional society, ensuring that the mission of protecting the lives and property of the population is fulfilled.

Keywords: Health; Work; Military firefighters.

INTRODUCTION

Military firefighters are involved in firefighting, pre-hospital care, emergency assistance, as well as preventive measures and inspections. These firefighter amphibious tasks are complex and when their presence is required, they must have the motor skills to meet the demands (QUEIROGA, 2015).

Military firefighters carry out risky activities that sometimes put their lives at risk during certain interventions, and the quality of their work will depend directly on their physical, mental and motivational condition. Firefighter activity can lead to a number of health problems, some of which are considered to be a reaction of the body to diverse and extreme situations that can cause physiological responses in the body, causing wear and tear during work activity, which can directly interfere with the quality of their work and their professional performance (BEZERRA, 2011).

The relationship between people, the work environment and the circumstances in which they live can have a direct correlation with occupational illnesses, jeopardizing their well-being and health at work (MENDONÇA; MENANDRO; TRINDADE,

2011). These are inherently related to the individual reaction of the worker and their work experiences, involving various items such as job satisfaction, environmental, ergonomic and motivational factors, among others (PEREIRA JUNIOR, 2012). With these considerations in mind, it is necessary to identify the occurrence of these health-related problems and check the level of commitment at work of the military firefighters of the 4th military firefighter battalion of Paraíba.

The study is a production of knowledge in this area that can provide relevant information to both managers and workers, broadening and improving possible multidisciplinary proposals, and also creating opportunities to improve the working environment.

In view of what has been mentioned and the notoriety of the subject for the institution, the execution of this research is justified so that with the data analyzed we can implement improvements that can contribute significantly to the Work and Health of the Military Firefighters of the 4th Military Firefighter Battalion of Paraíba.

The research problem asks: what occurrences at work cause the most health-related problems for the Military Firefighters belonging to the 4th Military Firefighter Battalion in Paraíba?

METHOD

The research was carried out with a quantitative profile, translating information into numbers in order to classify and analyze it, requiring the use of statistical resources and techniques (SILVA; MENEZES, 2010). With all this, it was carried out through research based on data collection techniques, informing about the object of study requiring previously established and presented methodological procedures (BARROS; LEHFELD, 2017). The research was carried out at the 4th Firefighter Battalion Military of Paraíba, from August to December 2020.

The sample assessed a population of 58 Military Firefighters belonging to the 4th Military Firefighter Battalion of Paraíba. It was calculated based on the target population with a sampling error of 5% and a 95% confidence level, resulting in a sample of 48 Military Firefighters.

The inclusion criteria were being a Military Firefighter from the 4th Military Firefighter Battalion of Paraíba; being on active duty or attached. Exclusion criteria: being on leave during the data collection period.

Two questionnaires were used to collect the data: the first was the modified Quality of Life and Health Questionnaire (QOL-80) developed by Leite, Vilela Junior et al. (2007).

The second questionnaire used was the adapted Goldberg questionnaire developed by Goldberg & Williams in 2007.

The current research, since it involves human beings, followed the faithful recommendation of the regulatory guidelines emanating from Resolutions No. 510/2016 of the National Health Council / MS and its complements, granted by decree December 12, 2012, aiming to ensure the rights and duties that concern the scientific community, the research subject (s) and the state. Our non-delegable and non-transferable responsibility, keeping all the information inherent to this research on file, respecting the confidentiality and secrecy of the records corresponding to each subject included in the research, for a period of 5 (five) years after the end of this research. We will submit a report on the progress of the research whenever requested by the CEP/FIP (Research Ethics Committee/University Center of Patos - UNIFIP) or CONEP (National Research Ethics Council).

RESULTS

In Patos/PB there is only one Fire Brigade unit, called the 4th Military Fire Brigade Battalion, which is made up of 58 military personnel, divided into garrisons: Pre-hospital care and rescue platoon, Search and rescue, Firefighting, Technical activities center, as well as the administrative sector. With the exception of the administrative sector and the Technical Activities Center, these professionals work 24-hour shifts with 72 hours off.

On a daily basis, military firefighters operate with various factors that cause exhaustion, whether they come from traffic, family, society or even their own work.

Physical vigor is considered one of the fundamental elements for readiness to perform one's duties. In this way, physical health is closely related to the adequate capacity to perform activities, which can guarantee psycho-

logical accuracy, social support and satisfaction with work activities (MARTINS, 2005).

The sample studied is characterized by the following variables presented in the Tables.

	<i>n</i>	(%)
Marital status		
Single	10	17,2%
Married	39	67,2%
Others	09	15,6%
Education		
Medium	22	37,5%
University degree completed	26	43,9%
Specialization	08	13,7%
Master's Degree	02	4,9%
No. of children		
No Children	07	12,01%
01 child	19	32,75%
02 children	10	17,24%
03 children	06	10,34%
04 children	03	5,17%
05 children	02	3,44%
No answer	11	18,96%
No. of smokers and ex-smokers		
Ex-smoker	03	5,2%
Non-smoker	55	94,8%
Use of alcoholic beverages		
Socially	27	43,1%
No	33	56,9%
Proper nutrition		
YES	40	69%
Sometimes	13	22,4%
Never	05	08,6%

Table 1: Personal Characteristics of the Military Firefighters of the 4th Military Firefighter Battalion of Paraíba.

SOURCE: authors(2021).

Table 1 shows that 43.9% (n=26) had completed higher education. According to Fernandes et al. (2002), a high level of education reflects the difficulty these individuals have in joining the occupational labor market, which is why they may have looked for a job that could have been brief, but became a broader

situation. We found 67.2% (n=39) were married and 32.75% (n=9) had only one child. According to Leone et al (2010), this reduction in fertility is a “portrait” of what has been observed in Brazil recently, which is a sustained decrease in fertility in the middle and upper socio-economic strata, especially among people with a higher level of education.

Question	<i>n</i>	(%)
Are you a smoker?		
NO	55	94,8%
EX SMOKER	03	05,2%
2- Do you regularly drink alcohol?		
NO	33	56,9%
YES	25	43,1%
3- Eating properly?		
NO YES	18	31,0%
	40	69,0%
4- Do you play sports?		
NO	10	17,02%
YES	48	82,85%
5- Do you follow any religion?		
NO	18	31,6%
YES	39	68,4%
6- Do you have an illness that started recent (acute)?		
NO	55	94,9%
YES	03	05,1%
7- Do you have any chronic illnesses?		
NO	49	86%
YES	09	14%
8- Do you have trouble sleeping?		
NO	52	89,7%
YES	06	10,3%
9- Have you undergone psychological treatment or psychiatric?		
NO	56	98,2%
YES	02	01,8%
10- Have you suffered any accidents at work?		
NO	50	86,2%
YES	08	13,8%

Table 2: General Health Status of the Military Firefighters of the 4th Military Firefighter Battalion of Paraíba.

Source: authors(2021).

Table 2 shows that the firefighters studied did not smoke, 94.8% of them (n=55) had never smoked and 5.2% (n=03) had quit a few years ago. The same applies to drinking, with 56.9% (n=33) not drinking and 43.1% (n=27) drinking socially.

With regard to personal quality of life, 82.8% (n=48) of them practiced sports regularly and 69% (n=40) of them ate a healthy diet balanced. With regard to religion, 50.9% (n=29) have and attend some kind of religion.

At work, using the professional quality of life questionnaire, it was possible to examine the negative health consequences of some of the activities carried out by these professionals. Some firefighters reported that working hours, physical discomfort and the quality of the materials available significantly affected their health.

Question	n	(%)
1-What position do you work in most of the time?		
SITTING	31	55,4%
STANDING	25	44,6%
2- Do you feel physically tired doing your job?		
SOMETIMES	06	10,3%
NO	13	22,4%
YES	39	67,2%
3- What time of day do you feel most physically tired?		
MORNING	06	11,3%
AFTERNOON	18	34,0%
NIGHT	29	54,7%
4-Do you feel any pain or discomfort?		
NO	15	25,8%
YES	43	74,2%
5-Places with the most discomfort/pain:		
COLUMN	27	62,79%
OTHER JOINTS	16	37,3%
6-What is the intensity of this pain?		
LIGHT	31	72%
MODERATE	12	28%

7- What activity causes the most pain at work?		
WEIGHT (Transporting Patients, Some Materials)	21	48,8%
REPETITIVE STRAIN	10	23,2%
FIREFIGHTING	10	23,2%
OTHER	02	04,8%
8- Regarding the quantity and quality of materials available to carry out the work, do you consider:		
FITNESSED	34	58,6%
INADEGATE	24	41,4%
9- Is the number of activities required in your job adequate for the time available to carry them out?		
FITNESSED	49	84,5%
INADEGATE	09	15,5%
10- Do you feel psychologically pressured when performing a job?		
SOMETIMES	25	43,9%
NO	28	49,1%
YES	05	7%

Table 3: Biomechanical Health Characteristics of the Military Firefighters of the 4th Military Firefighter Battalion of Paraíba
Source: authors (2021).

The results of Table 3 on biomechanical characteristics show that 67.02% (n=39) individuals feel physically tired when carrying out their work, while 74.02% (n=43) reported feeling pain or muscle discomfort as a result of their professional activities. Of these, 62.79% (n=27) claimed to feel back pain, with 72% of this being of mild intensity.

When asked about the quantity and quality of materials available to carry out their activities, 58.6% (n=34) of the soldiers said that they were suitable for the job. However, the weight of transporting patients and materials to work was the activity that caused the most pain and discomfort, with 48.8% (n=21) of the interviewees. According to Silva et al, the weight of some materials for efficient work in rescue and/or firefighting operations will depend on various factors, including the varia-

tion in weight according to handling. For this reason, when a person is subjected to stressful conditions, their level of physical fitness must be taken into account.

CONCLUSION

Soldiers from the 4th Military Firefighting Battalion of the Paraíba who took part in the survey had long working hours, resulting in a direct effect on the reduction of time available for other physical activities, raising demands that are harmful to health and favoring problems at work.

Weight overload and problems with ergonomics have been the variables most pointed out in the study as predictors of health pro-

blems among military firefighters.

Long working hours cause difficulties in personal, social and family relationships, and also affect the time available for health care, which can lead to occupational illnesses. As a result, workers end up cutting back on physical exercise that could help their performance and reduce health problems.

This study recommends specific actions, especially in adapting the work environment in terms of ergonomics and physical conditioning exercises, with the aim of preserving the well-being of these soldiers so that they remain active and collaborate even more with regional society, ensuring the fulfillment of the mission of safeguarding lives and the well-being of the population.

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