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NURSING DIAGNOSES RELATED TO MILITARY FIRE FIGHTERS DIAGNÓSTICOS DE ENFERMAGEM RELACIONADOS AOS DESPACHANTES BOMBEIROS MILITARES

DIAGNÓSTICOS EN ENFERMERÍA RELACIONADOS A LOS DESPACHANTES BONBEROS MILITARES

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ABSTRACT

Objective: to identify nursing diagnoses related to military firefighters. **Method:** this is an exploratory, descriptive, cross-sectional, quantitative approach, carried out with 20 firefighters from the Integrated Center of Social Defense Operations of Pernambuco. Six specific questionnaires were applied to the nursing diagnoses initially proposed. The data was analyzed in Microsoft Excel 2010 and presented in tables and figures. **Results:** of the six nursing diagnoses proposed at the beginning of the study, only 04 were identified as being related to the Fire Department dispatchers (unbalanced nutrition - more than bodily needs, fatigue, insomnia and stress overload). **Conclusion:** several factors inherent to the service and the military firefighter profession interfere in the existence of the identified diagnoses, being the implementation of the nursing interventions to improving the health of the dispatchers. **Descriptors:** Nursing Diagnoses; Dispatcher; Military Fireman.

RESUMO

Objetivo: identificar os diagnósticos de enfermagem relacionados aos despachantes bombeiros militares. **Método:** estudo exploratório, descritivo, transversal, de abordagem quantitativa, realizado com 20 despachantes bombeiros do Centro Integrado de Operações de Defesa Social de Pernambuco. Foram aplicados seis questionários específicos para os diagnósticos de enfermagem inicialmente propostos. Os dados foram analisados no Microsoft Excel 2010 e apresentados em tabelas e figuras. **Resultados:** dos seis diagnósticos de enfermagem propostos no início do estudo, apenas quatro foram identificados como estando relacionados aos despachantes do Corpo de Bombeiros (Nutrição desequilibrada - mais do que as necessidades corporais, Fadiga, Insônia e Sobrecarga de stress). **Conclusão:** diversos fatores inerentes ao serviço e à profissão de bombeiro militar interferem na existência dos diagnósticos identificados, o que requer a implementação das intervenções de enfermagem com vistas à melhoria na saúde dos despachantes. **Descritores:** Diagnósticos de Enfermagem; Despachante; Bombeiro Militar.

RESUMEN

Objetivo: identificar los diagnósticos de enfermería relacionados a los despachantes bomberos militares. **Método:** estudio exploratorio, descriptivo, transversal, de enfoque cuantitativo, realizado con 20 despachantes bomberos del Centro Integrado de Operaciones De Defensa Social de Pernambuco. Fueron aplicados 06 cuestionarios específicos para los diagnósticos de enfermería inicialmente propuestos. Los datos fueron analizados en Microsoft Excel 2010 y presentados en tablas y figuras. **Resultados:** de los seis diagnósticos de enfermería propuestos en el inicio del estudio, apenas 04 fueron identificados como estando relacionados a los despachantes del Cuerpo de Bomberos (nutrición desequilibrada - más de lo que las necesidades corporales, fatiga, insomnio y sobrecarga de stress). **Conclusión:** diversos factores inherentes al servicio y a la profesión bombero militar interfieren en la existencia de los diagnósticos identificados, cabiendo la implementación de las intervenciones de enfermería para mejorar en la salud de los despachantes. **Descriptores:** Diagnostico de Enfermería; Despachante; Bombero.

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INTRODUCTION

The Integrated Center for Social Defense Operations - CIODS - is an activity body of the Department of Social Defense of Pernambuco - SDS/PE, as established by Decree 35.305, of July 08, 2010, published in the Official Gazette of State 128 of July 9, 2010.¹

CIODS manages the service of receiving requests for occurrences through the connections of the applicants. The first contact is carried out with third party civil telemarketers, who will generate the occurrence according to their nature, registering the data in the system and passing it on to the dispatchers of the operational organs of SDS/PE: Military Police, Civil Police, Fire Brigade and Scientific Police. This transfer will occur according to the area of action of each body.¹

Military Firefighters who are dispatchers of the CIODS have the primary mission of analyzing the nature of the occurrence (fire, rescue or pre-hospital care), identifying the location, checking the nearest available vehicles and dispatching them to the assistance, and such activation may be via radio or telephone. They also have the task of confirming the occurrence, maintaining contact with the applicant through telephone calls.

During the service, the military works simultaneously with the computer, telephone and radio systems to manage vehicle movement and attendance, and an agile activation will result in a shorter response time of the troops, minimizing the victims and damage to property.

Dispatchers are currently competing on a shift schedule of 8 service hours, interspersing the 3rd shift (10 pm to 6 am) on the first day, followed by a break on the second day. On the third day, they complete the 1st shift (06 to 14), and on the fourth day they complete the 2nd shift (14 to 22), taking three days off and again taking the 3rd shift.

Initially, it is worth highlighting the definition of telemarketing work, the concept of which is included in Annex II of Regulatory Standard 17 (NR17). This work is understood as the communication with interlocutors, clients, and patients is carried out at a distance through the voice and/or electronic messages, with the simultaneous use of hearing/listening equipment and telephone speech and computerized or manual data processing systems.²

The prevalence of tendonitis and low back pain has been analyzed in some clinical settings related to repetitive stress injuries

(RSI) and work-related musculoskeletal diseases (DORT).

In a telemarketing service, there are frequent complaints of dissatisfaction and stress, as well as malaise, headache and tachycardia attacks.⁴ It was evidenced that there is a relevant percentage of complaints related to auditory processing disorders, as well as to the interference of environmental noise, characterized by a physical environment not very favorable for the development of the activity, and quality of the telephony equipment.⁵

In a content analysis of the sources of stress reported during group interviews with military firefighters, four categories were identified of frequency of reports: sources of stress related to work organization, sources of stress related to working conditions, sources of stress Interpersonal relationships and sources of stress related to work-family conflicts.⁶

The work organization was described as stressful, mainly due to the occurrence of time and control pressure, followed by demands for productivity, problems regarding the rules and characteristics of task.⁶

The telemarketers pointed the night work as less intense and with lower pressure indexes since the flow of connections is smaller when compared to the daytime and evening period. However, this type of journey also has its burden. The telemarketers reported finding impairments in sleep quality due to night time work. The sleep between them is trimmed and reduced. Lack of sleep causes damage both in social life and in the physiological and emotional order.⁷ In the biological aspect, a change in the temporal ordering of individuals can lead to sleep disorders such as insomnia or daytime sleepiness, and lead to a higher incidence of diseases such as gastrointestinal disorders, feeling hungry at inappropriate times, and falling performance in various physical and mental activities.⁸

The weight gain after working as an operator was reported by 49.0% of the operators; 42.8% reported no change and 8.2% had weight reduction. Regarding the gender, 51% of men and 48% of women increased their weight after work as an operator. Among the reasons reported as related to weight gain after working as operators were: predominant sedentary work, different snack times each day, work stress and food pinching.⁹

Nursing diagnosis is a clinical judgment about the responses of individuals, families or communities to actual or potential health problems or life processes.¹⁰

It is considered of great importance to evaluate the musculoskeletal symptoms and the ergonomic risks to which the firemen are exposed, since this knowledge may provide subsidies for adapting working conditions to the psychophysiological characteristics of the workers to provide greater comfort and safety for the development of their professional practice.¹¹

Diagnosis is the second stage of the nursing process and can be considered a source of scientific knowledge for the profession, making it critical to planning patient care. This stage is valid when it represents the problem inferred by the nurses. The publications on validation of nursing diagnoses became very frequent in the mid-1990s, when there was a concern to improve and legitimize the diagnoses described by the Taxonomy of the North American Nursing Diagnosis Association (NANDA) and to increase its generalization capacity and prediction.¹²

The proposal of this work was starting from the relation of the activity of military fire dispatcher with the telemarketing service, as well as an analysis of the military characteristic service, to initially suggest the existence of 06 nursing diagnoses that may be related to the execution of the work Of CIODS military firefighter: 1) unbalanced nutrition: more than the bodily needs; 2) sedentary lifestyle; 3) fatigue; 4) insomnia; 5) disturbed sensory perception (hearing); And 6) stress overload. Based on this assumption, it was tried to apply specific questionnaires to each of the proposed diagnoses to prove the validity of the initial suggestion.

In this way, if the incidence of the diagnoses in the firefighters were proven, the main factors associated with their occurrence would be related, as well as proposals for alternatives that could improve the identified picture to maintaining the quality of life of the study group.

OBJECTIVE

- To identify nursing diagnoses related to military fire dispatchers.

METHOD

This is an exploratory, descriptive and cross-sectional study, with a quantitative approach, carried out with 20 military fire dispatchers at CIODS/SDS-PE. Currently, there are 26 firefighters competing on the dispatch scale. The inclusion criteria were: individuals who compete for the CIODS-PE military firefighter service and are not separated from the service for more than 60 days, due to

medical waiver or license, special license or license to treat a particular interest, and the exclusion criteria were firefighters who were away from the scale for more than 60 days, due to the same reasons. Thus, 20 military personnel were interviewed (out of a total of 26, 06 fit the exclusion criteria, 04 were removed for health reasons and 02 for special leave). For the purpose of this study, the graduations of the military personnel (sergeants, officers, and soldiers) were not considered, since all perform the same service, without distinction as to their classification in the Corporation, and the factors related exclusively to work developed considered specifically for the evaluation of results.

For the data collection, 07 questionnaires were applied, being socio-demographic, containing personal, professional and general health information, and the others related to each proposed nursing diagnosis. The calculation of the Body Mass Index (BMI), using weight and height data, is part of the study to identify the presence or not of obesity and risk factors for cardiovascular diseases in the military.¹³ Considering BMI cannot be defined only as an obesity identification factor¹³, waist-hip circumference, waist-hip ratio (WHR), systemic arterial pressure (SBP), and the presence of high cholesterol were also inserted. The specific questionnaires were also applied for each proposed diagnosis: 1) Food questionnaire from the Ministry of Health; 2) Baecke's habitual physical activity questionnaire; 3) Bipolar fatigue evaluation questionnaire; 4) Pittsburgh Sleep Quality Index Questionnaire; 5) Questionnaire on noise-induced hearing loss; And 6) Scale of stress at work.

The criteria adopted for proving that the proposed diagnoses affect the military, for the purpose of this work, are the following:

- 1) **Unbalanced nutrition - greater than the body needs:** four parameters will be considered: BMI, waist circumference and waist-hip ratio and the results of the Ministry of Health Food Questionnaire (2006). For the BMI, the general average of the values found will be calculated and classified according to World Health Organization (WHO) standards, such as: low weight (BMI <18.5 kg/m²), adequate weight (BMI ≥ 18, (BMI ≥ 25 and <29.9 kg/m²), obesity class I (BMI ≥ 30 and <34.9 kg/m²), obesity class II (BMI ≥35 and <39.9 kg/m²) and class III obesity (BMI ≥ 40 kg/m²).¹³

Waist circumference (WC) and waist-to-hip ratio (WHR) will be calculated according to gender, according to the values proposed by

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WHO, which considers no risk for cardiovascular diseases individuals with WC <80 cm for women and <94 cm for men; with risk for cardiovascular diseases, individuals presenting WC $\geq$ 80 cm for women and $\geq$ 94 cm for men, as well as WHR, with risk parameters for men > 0.9 and women > 0.85.¹⁴

The application of the Food Questionnaire of the Ministry of Health was carried out to identify the dietary habits of the studied population, but its result will not consider identifying the existence of the nursing diagnosis proposed for the case.

Therefore, the following criteria will be adopted considering the existence of this diagnosis for this study: 1) The BMI should present a total average above 25 kg/m²; 2) The mean values of the specific values for each gender should be $\geq$ 80 cm for women and $\geq$ 94 cm for men, and waist-hip ratio of > 0.85 for women and > 0.9 for waist circumference for men.

2) Sedentary lifestyle: application of the Habitual Physical Activity Questionnaire (AFH)¹⁵ by Baecke et al. who investigates AFH in the last 12 months. This instrument is composed of 16 questions and covers three components of physical activity: 1) occupational physical activities - AFO - (Q1 to Q8); 2) physical exercises during leisure time - EFL - (Q9 to Q12); And 3) physical activities during leisure time and physical activities of locomotion - ALL, excluding physical exercises (Q13 to Q16). The final score is obtained by adding the 03 items (AFO + EFL + ALL). Considering that this questionnaire does not have parameters for the classification of results¹⁵, for this study, the existence of the nursing diagnosis provided in this item will be considered if at least 50% of the scores obtained (of the total of the study group) are among the lowest possible values for the population and the first quartile. In this case, the lowest and highest possible value of the scores for the dispatchers is 3.0 and 15.0, respectively, and the first quartile will approach the values between 3.0 and 6.0. That is, if at least 50% of the results of the questionnaire are included between the values 3.0 and 6.0, the incidence of the diagnosis of sedentary lifestyle will be considered.

In this study, item "1)" of the questionnaire dealing with the main occupation of the interviewee, will be considered for all as "military fire dispatcher", classified as "light energy expenditure" associated with "general office work", according to the Compendium of

Physical Activities of Ainsworth¹⁶, due to the characteristics of the service.

It should also be highlighted the concepts of sedentary behavior and physical inactivity. Currently, it is recommended that the term sedentary behavior (from Latin sedere, which means "to sit") be used to characterize any activity performed with energy expenditure $\leq$ 1.5 metabolic equivalent (MET) and in a seated or reclined posture.¹⁷ On the other hand, physical activity is inserted as a distinct and beneficial behavior to health, subdivided into three classifications according to energy expenditure: light activities, which refer to activities of daily living such as walking slowly and climbing stairs (1.6 to 2.9 MET), moderate activities such as fast walking and jogging (3.1 to 5.9 MET) and vigorous activities, such as sporting practices in the competitive context ($\geq$ 6 MET).¹⁷ In other words, both situations can coexist in the daily life of the people, as may be the case with the dispatchers. Although they spend the entire shift of seated service practically, firefighters can also perform moderate to vigorous physical activities.

For this study, and considering that the nursing diagnosis according to the classification of NANDA International¹⁰ is a sedentary lifestyle, the latter term will be adopted to refer to its incidence or not in the study group.

3) Fatigue: application of the bipolar fatigue assessment questionnaire¹⁸, with 3 paper sheets, with the first, applied when the worker starts the journey, the second in the middle of the work shift and the third at the end of the journey. Each sheet has a table with 14 rows (items) and 7 columns (levels of fatigue). The participant should mark the levels ("1" as the lowest level and "7" as the highest level). That is, the more to the right the columns are marked, the greater the fatigue. In the results, it is expected to classify the fatigue in 02 moments: beginning of the working day, observing the existence or not of accumulated fatigue, and end of the working day, being classified as the absence of fatigue, moderate fatigue or intense fatigue. The incidence of this diagnosis will be identified in the 02 moments, and the accumulated fatigue will be considered if at least 1/2 of the total of the effective presenting it when filling the questionnaire at the beginning of the working day. The existence of fatigue at the end of the working day will be considered if the items moderate and intense fatigue corresponds to at least 2/3 of the total researched.

4) Insomnia: when the Pittsburgh Sleep Quality Index Questionnaire (PSQI)¹⁹ was

applied classifying sleep quality as good, bad or presence of sleep disorder. The PSQI consists of seven components: the first refers to the subjective quality of sleep; the second is the sleep latency; the third is the duration of sleep, obtained through the relation between the number of hours spent sleeping and the number of hours spent in bed, not necessarily sleeping; the fourth is to the habitual efficiency of sleep; the fifth is to sleep disorders, that is, the presence of situations that compromise the hours of sleep; the sixth is to the use of medications, that is, whether or not the patient used sleeping pills; and the seventh is the daytime sleepiness and daytime disturbances, referring to the change in mood and enthusiasm for performing routine activities. The overall score is determined by the sum of the seven components, and each scored a score between zero and three points. The maximum score of the instrument is 21. The scores of more than five points indicate poor quality in the sleep pattern.¹⁹ After the sum of the 07 components of the questionnaire, the results will be computed and classified according to the predicted criteria, and the existence of this diagnosis will be considered if at least 2/3 of the military present a score higher than 5

The sum is the valid answers; the minimum is the smallest possible sum of the valid answers, and the maximum is the largest possible number of valid answers.

After standardization of the scores, the results were classified into three distinct categories representing the level of stress in the firefighters surveyed: low (0 to 33.33%), moderate (33.34% to 66.66%) and high (66, 67% to 100%). For this study, the presence of stress in the participants will be verified if the values referring to the items “moderate” and “high” are at least 2/3 of the total population.

The Military Firefighters were summoned to a meeting on September 30, 2015, in the auditorium of CIODS, where the reason for the work was explained, emphasizing the non-mandatory participation in the research. After a declaration of free participation, the informed consent form was filled out, and soon after, the questionnaires were applied to the dispatchers. The results were published in a workbook of the program Microsoft Excel, version 2010, containing 7 spreadsheets, one with the general data and the other with the information related to each particular questionnaire, in which the criteria initially

points, being classified as having a poor sleep or presence of sleep disorder.

5) Disturbed sensory perception - hearing: application of the noise-induced Questionnaire.⁵ The questionnaire has 10 objective questions, with answers that can be yes or no. This questionnaire is a perception of the individual about his/her auditory conditions, and the relationship between it and the work performed. The existence of this diagnosis will be considered if the number of responses as yes is at least 1/2 about the total of the study population.

6) Stress overload: application of the Paschoal and Tamayo Work Stress Scale (EET) (2004),²⁰ composed of 23 items with a five-point Likert scale: 1 (totally disagree), 2 (disagree), 3 (I agree in part), 4 (agree), 5 (totally agree). The categorization of the data was carried out to identify the stress levels resulting from the response of each, considering the calculation of the sum of the individual's responses about the 5-point Likert scale used in the instrument. Of the sums, they were standardized on a scale of 0 to 100% according to the following equation:

$$x = 100 * \left(\frac{SUM - MINIMUM}{MAXIMUM - MINIMUM} \right)$$

established for the incidence or not of each nursing diagnosis.

The present research was approved by the Ethics Committee of Estácio University of Recife, registered under protocol CAAE 45979715.5.0000.5640, all by Resolution 466/12 of the National Health Council.

RESULTS

Of the 20 firefighters interviewed, 04 are female, and 16 are male. Regarding age, 50.0% are in the range of 26 to 35 years old, 45.0% are in the range between 36 and 45 years old and 5.0% over 45 years old. There were no participants under 26 years old.

The time of service as a dispatcher at CIODS was 85.0% between 2 and 5 years and 15.0% between 6 and 10 years. There was no military personnel with less than 2 or more than 10 years in service performance.

The results of the specific questionnaires that were applied to the participants will be now analyzed.

The results regarding the *unbalanced nutrition diagnosis: more than the body needs* were evaluated as shown in the table 1:

Table 1. Average, minimum and maximum values of Body Mass Index (BMI), Waist Circumference (WC) and Waist-to-hip ratio (WHR), by gender and total. Olinda (PE), Brazil, 2015.

		Homem	Mulher	Total
BMI	Average	29.1	24.5	28.2
	Minimum	21.9	23.1	21.9
	Maximum	39.2	26.4	39.2
WC	Average	100.4	88.0	97.9
	Minimum	131.0	80.0	-
	Maximum	83.0	100.0	-
WHR	Average	0.93	0.86	0.91
	Minimum	0.83	0.78	-
	Maximum	1.08	0.96	-

The mean BMI of the CIODS dispatchers was 28.2 kg/m², and classified as “slightly overweight”.¹³ The average for the male was 29.1 kg/m² and for the female audience of 24.5 kg/m². The maximum and minimum values were 39.2 kg/m² and 21.9 kg/m² for all the study population.

Waist circumference in men presented a mean value of 100.4 cm, with a minimum value of 83.0 cm and a maximum of 131.0 cm. In women, the mean value was 88.0 cm, with a minimum of 80.0 cm and a maximum of 100.0 cm. In both genders, the military is considered to be in the risk classification for obesity and cardiovascular diseases.¹³

The waist-hip ratio in men presented a mean of 0.93, with minimum and maximum values of 0.83 and 1.08, respectively. For women, the mean value was 0.86, with a minimum of 0.78 and a maximum of 0.96. In both genders, for this criterion, firefighters are classified in the risk range for obesity and cardiovascular diseases.¹³

For the diagnosis of a sedentary lifestyle, it was observed that the participants’ scores presented a mean of 7.94, with a maximum of 10.38 and a minimum of 6.13. The values obtained per participant, considering the quartiles, were as follows: 1st quartile (3.0 to 6.0): 0.0%; 2nd quartile (above 6.0 to 9.0): 85.0%; 3rd quartile (above 9.0 to 12.0): 15.0%; 4th quartile (above 12.0 to 15.0): 0.0%. That is, there are no participants in the first quartile, and there is no relationship between this diagnosis and the military fireman dispatcher service.

It is important to consider the item “9” of the questionnaire, which refers to the physical exercises performed by the participants, addressing the possibility of executing 02 modalities, questioning the category (relating to the intensity), the duration of hours per week and in months per year, considering the last 12 months, obtaining the following results:

Table 2. Intensity and duration (in hours per week) of physical exercises performed, considering the last 12 months. Olinda (PE), Brazil, 2015.

Intensity	Modality 1	Modality 2
	%	%
Vigorous	55.0	30.0
Moderate	20.0	5.0
Mild	5.0	0.0
Without activity	20.0	65.0
Duration (hours per week)	Modality 1	Modality 2
	%	%
<1	30.0	65.0
1 to 2	10.0	15.0
2 to 3	10.0	5.0
3 to 4	20.0	15.0
>4	30.0	0.0

It is observed that 75.0% of the participants perform at least one moderate or vigorous exercise frequently, for at least 150 minutes per week, as recommended by the World Health Organization²⁰. It should also be noted that 35.0% of dispatchers carry out 2 physical exercises frequently.

The main activities carried out by firefighters were: bodybuilding (30.0%), walking (20.0%), running (10.0%), soccer (10.0%), swimming (5.0%) and Martial arts

(5.0%). The remaining 20% do not practice any activity.

For the diagnosis of fatigue, the evaluation was performed in two moments: the first moment before the beginning of the workday to verify the existence of accumulated fatigue and another at the end of the working day, trying to observe if the dispatchers report the existence of fatigue and how intense it is. For the first moment, only 2% of fatigue was observed, that is, fatigue complaints were reported before the shift, and 98% did not

report fatigue before the start of the workday. At the end of the work shift, it was observed that 70% of the dispatchers report intense fatigue and 30% report moderate fatigue. That is, at the end of the working day, all firefighters have levels of fatigue considered.

Insomnia was assessed by the Pittsburgh Sleep Quality Index, with 60.0% of

respondents having poor sleep quality, 15% experiencing sleep disturbance, and 25% having a good quality of sleeping. The overall mean quality of sleep in the study group was 7.1, which was classified as a **poor** sleep quality.

For the diagnosis of disturbed sensory perception - hearing, the results of the table below will be analyzed.

Table 3. Questionnaire on the noise-induced hearing loss of CIODS/SDS/PE military fire dispatchers. Olinda (PE), Brazil, 2015.

Questions	Yes (%)	No (%)
1. Have you ever had ear problems: infection and pain?	40.0	60.0
2. Have you ever had or have had hypertension?	45.0	55.0
3. Do you use or did you use any ototoxic (for the ear) medicine?	10.0	90.0
4. Is anyone in the family with hearing problems?	15.0	85.0
5. Exposure to extra-work noise (outside of the job)?	10.0	90.0
6. Do you feel "buzzing" (noises in the ear)?	25.0	75.0
7. Do you feel dizzy?	25.0	75.0
8. Do you feel discomfort at loud sounds?	60.0	40.0
9. Do you find it difficult to follow a group conversation or in any of these situations: at work, in the car, on the bus or while shopping?	10.0	90.0
10. Do you feel the need to adjust the volume of the radio or television when you are in the presence of someone else?	45.0	55.0
Total	28.5	71.5

Of the 10 items evaluated in the questionnaire, a percentage of *no* answers was found of 71.5%, higher than that of *yes* answers, evaluated with 28.5%. It is worth mentioning that, of the 10 items, in only one

the yes answer obtained a greater result than the no answer, with 60% of the total number of participants, and the question number 8, dealing with "*feeling discomfort to strong sounds.*"

Table 4. Evaluation of the stress level of the military of CIODS/SDS/PE. Olinda (PE), Brazil, 2015.

Classification	Reference	Quantitative (n=20)	%
Mild	0% - 33.33%	04	20.0
Moderate	33.34% - 66.66%	13	65.0
High	66.67% - 100%	03	15.0

The stress level presented results for the mild, moderate and high parameters with respectively 20.0%, 65.0%, and 15.0%, with a minimum value of 16.30% and a maximum of 70.65%. The item of the questionnaire that obtained the highest score was the question number "16- The few prospects of career growth have left me distressed", getting a total of 95 points out of 100 possible. The item that obtained the lowest score, 43 of 100 possible, was the question "7- The lack of communication between my co-workers and me has made me angry." The classification of moderate stress (n=13; 65.0%) is in agreement with the research done by ALMEIDA et al..²⁰, which identified moderate levels of stress in firefighters, as well as that of LUCCA and

CAMPOS⁴, which identified high levels of stress in telemarketing professionals.

DISCUSSION

After analyzing the results found, and correlating them with the criteria initially established in this study for the nursing diagnoses in the military fire dispatchers, the presence of 04 diagnoses was identified: unbalanced nutrition: more than the body needs; Fatigue; Insomnia; and stress overload.

The results of the questionnaires related to diagnoses of a sedentary lifestyle and disturbed sensory perception - hearing did not obey the criteria initially established, and were not related to the CIODS military

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firefighters. For hearing, a more detailed analysis by a speech-language pathologist is required to perform specific tests, because although this diagnosis was not associated with the study group, two important details are observed: the questions present fairly objective answers, with the interviewee describing the state of his or her hearing; 60% of the participants referred to “feel discomfort to strong sounds”, which may be associated with some auditory damage.⁵

Although studies have shown sedentary lifestyle and/or physical inactivity in telemarketing professionals, the diagnosis of sedentary lifestyle was not identified in this study, according to parameters established by the WHO.²¹ Although the presence of unbalanced nutrition diagnosis: more than the body needs was observed, and considering that the diet routine is directly related to the practice of physical activities for the maintenance of health, it was observed that 75.0% practice moderate or vigorous activities during an average of 150 minutes per week. It can be concluded that, although dispatchers report adopting a physically active routine, they end up not feeding properly, leading to weight gain and a consequent risk of developing cardiovascular disease.

For the diagnoses identified, the following nursing interventions can be described, which will follow as a suggestion to the Chief of the sector in which the dispatchers work, so that they can be put into practice by the study participants to a subsequent improvement in the military firefighters' lifestyle.

Diagnosis	Related to	Evidenced by	Nursing Intervention	Expected Results
Unbalanced Nutrition: More Than Body Needs	Excessive intake compared to metabolic needs	1) BMI pattern as “slightly overweight”; 2) WC pattern and WHR for risk of cardiovascular diseases; 3) Matching meals with other activities (during shift duty).	1) Evaluating the associated risks; 2) Evaluating how customers perceive food and the act of eating; 3) Reviewing foods and fluids ingested daily;	1) Recognizing that you are overweight, and associated risks; 2) Participating in an exercise program; 3) Fitting a specific diet.
Fatigue	Stress, noises, occupational factors, exaggerated exertion during work, sleep deprivation	1) Physical and mental tiredness; 2) Complaints of joint pain; 3) Disturbed sleep pattern.	1) Implementation of a gymnastics program before, during and after the work shift; 2) Detecting the existence of physical and/or physiological conditions; 3) Proposing greater rest intervals and day-off	1) Will perform workout activities; 2) Improving posture in the workplace;
Insomnia	Stress varied work shifts, anxiety, activity pattern	1) Difficulty falling asleep or staying asleep; 2) Waking up too early; 3) Dissatisfaction with sleep	1) Identifying the factors that affect sleep; 2) Guiding to organize the sleep environment, making it quiet and cozy; 3) Guiding the ideal duration of sleep	1) Recognizing the factors that affect sleep quality; 2) Organizing the environment in which they sleep; 3) Adjusting the lifestyle
Stress overload	Occupational demand (reduction of time-response of occurrences), tension, anxiety	1) Professional dissatisfaction; 2) Pressure sensations, tension; 3) Physical symptoms, psychological distress	1) Determining stress-related events; 2) Proposing to carry out leisure activities; 3) Suggesting psychological counseling to reduce tension during service	1) Recognizing the stress situation; 2) Demonstrating interest in leisure activities; 3) Being able to deal with pressure in the workplace

Figure 1. Nursing diagnoses, related factors, nursing interventions and expected results of military firemen dispatchers of CIODS/SDS/PE, 2015.
*According to the nursing diagnoses of NANDA International¹⁰.

CONCLUSION

After analysis of the collected data, it was identified that of the six nursing diagnoses proposed at the beginning of the work as being related to the performance of the military fireman dispatcher activity, only 04 are directly related to the type of service: *unbalanced nutrition- more than the body needs, fatigue, insomnia and stress overload*.

The existence of these diagnoses occurs due to the type of work carried out by the study population, especially the variation in work shifts, the number of hours worked per shift, posture and sitting position during all or most of the work, the difficulty in following a specific sleep routine, the coincidence of the service shift with the meal times, causing difficulty in performing them properly during work, simultaneous use of computer (sight,

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screen and typing), telephone and inadequate ergonomic posture of the dispatcher, pressure from superiors and applicants for greater agility in service, constant search for reference points to facilitate service of the service troops, confirmation of the various occurrences that are generated daily, casualties expectations of career growth and low probability of wage increase.

All these factors led to the existence of these diagnoses, and this study aimed to identify, analyze and propose strategies aimed at improving the health status of the CIODS/SDS/PE military firefighters.

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