

Military firefighters of Rio de Janeiro: an analysis of the impacts of their activities on their health

Bombeiros militares do Rio de Janeiro: uma análise dos impactos das suas atividades de trabalho sobre sua saúde

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ABSTRACT Can the work activities performed by firefighters cause negative impacts on their health? This article is the result of a descriptive epidemiological study whose central objective is to analyze the relation between the diseases of military firefighters from the municipality of Rio de Janeiro and their work activities. The results indicate that the epidemiological profile of the firefighters is diversified and the records of diseases found within the category have connection to their specialties, frameworks and specificities of their work activities.

KEYWORDS Public health. Occupational health. Firefighters. Occupational risks. Occupational diseases.

RESUMO *As atividades de trabalho desempenhadas pelos bombeiros podem provocar impactos negativos sobre sua saúde? Este artigo é o resultado de um estudo epidemiológico descritivo cujo objetivo central é analisar a relação entre as doenças dos bombeiros militares do município do Rio de Janeiro e suas atividades de trabalho. Os resultados apontam que o perfil epidemiológico dos bombeiros é diversificado e que os registros de doenças encontradas na categoria possuem ligação com suas especialidades, quadros e especificidades de suas atividades de trabalho.*

PALAVRAS-CHAVE *Saúde pública. Saúde do trabalhador. Bombeiros. Riscos ocupacionais. Doenças do trabalho.*

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Introduction

The work of military firefighters can be summarized in the safeguarding and defense of lives and properties in emergency and contingency situations. Activities such as driving rescue vehicles, cutting trees, removing a victim from the hardware of an automobile accident, night work, combating various types of fire, rescuing victims in collapsed structures or in a chemical contamination environment, biological and radiological, as well as the handling of chemical substances, are everyday situations experienced by firefighters, in which the category is exposed to various risks and workloads.

Can the performance of such activities have negative impacts on your health? In Brazil, some studies were carried out on health-work-disease theme of firefighters, Monteiro *et al.* (2007) point out that firefighters undergo stressful situations; Silva Lima and Caixeta (2010) conclude that the category has risk factors for the development of burnout syndrome; and in their bibliographic review, Souza, Veloso and Oliveira (2012) find evidence that the category has been developing diseases related to mental health.

Due to the exposures demanded by the craft, it is possible that the various diseases found in the military firefighters have some relation with their work activities and with the specificities of each specialty, graduation, framework and station, since each presents a set of risks and workload inherent to the duties of the position.

Given the specificities of the profession, this study aims to analyze the relations between the diseases of the military firefighters and their work activities. The relevance of the research is due to the fact that the category develops essential activities for the maintenance of the lives of the people and, therefore, their state of physical and mental health is essential for the fulfillment of their mission.

Theoretical contributions to the analysis of the health-work-disease relation of military firefighters

The health of the worker is dedicated to the study of the health-work-disease relation of human groups, and its analysis is composed of several scientific fields, such as medicine, psychology, law, engineering, epidemiology, administration, ergonomics and others, configuring its multidisciplinary character.

[...] as Worker's Health it is understood a body of interdisciplinary theoretical practices - technical, social, human - and interinstitutional, developed by several actors located in different social places and informed by a common perspective. (GOMEZ; THEDIM-COSTA, 1997, P. 25, FREE TRANSLATION).

It is, also, a field belonging to the area of public health that differs from traditional practices (labor medicine, occupational health) by incorporating empirical knowledge and the active participation of workers at the core of their reflections and actions.

[...] it is consensual to consider that this theme fits into the broad spectrum of theories and practices in the field of collective health and the institutional frameworks of the SUS, with particular emphasis on the participation of workers as collective subjects. (GOMEZ, 2011, P. 28, FREE TRANSLATION).

The health of the worker recognizes health as a right to citizenship, in the role of human rights, which is not limited to contractual norms (labor and social security). In summary, it is assumed as a field of knowledge and practices that understands health as a complex set formed by all the instances that permeate human life.

Military firefighters are workers who, like others, are exposed to hazardous situations

at work. The peculiarity of their work, however, is that they deal with situations, most often dramatic, in which human life is exposed to the risks of various orders.

Rescues, aids and a number of care in tragic situations – fires, collisions, collapses, shipwrecks –, in which the urgency of the decision of what to do is a habitual part of the activity, put this worker in a permanent state of psychic tension and requires, in general, body responses of force and unusual performance in everyday situations. Military firefighters work with the uncertainty of what will be required in every action they take. It can be inferred that few human activities work in their daily lives with the usual uncertainties. The effect of labor, under these conditions, still remains an inference, an assumption of how much it affects the health of the military firefighter.

In this context, it can be assumed that these workers are exposed to the most diverse risks and workloads. In addition to the classic risks – physical, chemical, biological, ergonomic and, mainly, accidents –, the workloads are higher in the military firefighter. As evident causes in this type of activity, workloads are the primary source of wear (LAURELL; NORIEGA, 1989), whose health consequences are vast, from psychic suffering to psychosomatic diseases, to social and behavioral mismatches.

Wear can then be defined, therefore, as the loss of effective and/or potential, biological and psychic capacity. That is, it does not refer to some particular isolated process, but to the whole of the biopsychic processes. (LAURELL; NORIEGA, 1989, P. 115, FREE TRANSLATION).

To study the sickness mode of the military firefighter, based on the theoretical basis of the health field of the workers, that is, the valorization of worker participation incorporating their empirical knowledge and having the activity as a central factor for the reflection of the health-work-disease

relation of the category, can increase the capacity to review procedures, protocols and prescriptions of the work with the objective of improving the quality of life of these workers and, even, to provide a better service to the population that, in situations of acute vulnerability, have in this professional, often, the salvation of their lives and health.

Methodology

From the methodological point of view, descriptive epidemiology was used, since, according to Ribeiro (2012), this model is dedicated to the study of the frequency distribution of diseases and health problems considering elements that are present in the daily life of the universe researched; this way, it allows the identification of the epidemiological profile and contributes to more effective health care, prevention and promotion actions. Therefore, were used as analysis variables the length of time away from work, the age range, the post of the Officers, the graduation of the Enlisted Men, the specialties of the firemen and their respective activities, the five chapters of the International Classification of Diseases (ICD-10) and the five most commonly found diagnoses.

The quantitative approach is mainly based on the measurement of data, that is, on quantification.

The use of quantitative methods has the objective of bringing to light data, indicators and observable trends or to produce theoretical models of high abstraction with practical applicability. (MINAYO, 2014, P. 56, FREE TRANSLATION).

With the quantitative approach used, it was possible to establish a relation between factors that usually do not correlate and, from there, to think solutions to questions and problems found in the analysis.

The work fulfilled all the requirements requested by the Committee on Ethics in

Research with Human Beings of the National School of Public Health Sergio Arouca (Ensp/Fiocruz), being approved by the opinion nº 1.321.515. Prior to its beginning in the field, the research, which was funded by the authors themselves, was evaluated by the Ethics Committee of the Military Fire Department of the State of Rio de Janeiro (CBMERJ), which, when finding no conflict of interest, authorized its realization.

The searched universe

Initially, the General Directorate of Personnel (DGP) of the CBMERJ was sought to find out the number of workers of the institution crowded in the municipality of Rio de Janeiro in the year 2015. The personnel management software used by DGP only allows the visualization of the effective for the day the query is performed. It went to the organ in december 2015, consequently, the number found is an approximation for the whole period investigated.

According to data from the DGP/CBMERJ, in 2015, the institution had 99 operating units throughout the state. The studied universe is composed of 25 units located in the city of Rio de Janeiro. The units are divided into 2 administrative centers: the Area I Capital Fire Department Command (CBA-I Capital) with 14 units located in the North and West Zones with approximately 1.413 firefighters and the Area X Capital II Fire Department Command (CBA-X Capital II), with 11 units distributed in the region of Grande Tijuca, Central and South Zone, totaling 1.041 firefighters approximately, that is, the article was developed in a universe of approximately 2.454 soldiers of the CBMERJ.

According to the Statute of the Military Firefighters (RIO DE JANEIRO, 1985), the career of the military firefighters can be divided into two groups: that of Enlisted Men, which begins at the Soldier Graduation ending up as Sub-lieutenant and has 12 specialties called Professional Military Firefighter

Qualification (QBMP); and the Officers with three forms of entry: through the School of Military Firefighter in the Post of Cadet being Combatant Officer; (QOC), as Health Officers (QOS), who because they entered the institution having a higher level they started their career at the Post of Lieutenant, and as Administrative Officers (QOA) and Special Officers (QOE), who are workers belonging to the Enlisted Men circle and through internal competition entered the officership as Lieutenant. It should be noted that the QOC and QOS finish their career at the Post of Colonel while the QOA and QOE can reach the Post of Major.

In a synthetic way, it can be said that the officers have as main activities the leadership, organization and direction of units, relief teams, sections and organs of the CBMERJ. The QOA and QOE officers do not hold management positions, a fact that does not occur with the others. Health officers perform activities related to their areas of training (medicine, psychology, social work, nursing, etc.), as well as those related to their position. The Enlisted Men, Capes and Soldiers, they are elements of execution, while Sub-lieutenants and Sergeants assist the officers and act as a link between those who decide what to do and those who execute.

The Combatant (QBMP/00), the first specialty of Enlisted Men acts in firefighting operations; the specialists in Search and Rescue (QBMP/01) carry out many types of rescues such as in forests and even animal capturing. The Drivers (QBMP/02) conduct the various land rescue vehicles. The Specialist in Maintenance of Motomechanization and Specialized Equipment or 'Artificer' (QBMP/03) performs the maintenance of the vehicles of the institution.

The activity of the musicians (QBMP/04) and buglers (QBMP/07) is to participate in ceremonies, solemnities and trainings in which musical instruments and bugle are required. The Operator and Maintenance and

Specialized or 'Communicating' Equipment (QBMP/05) is responsible for handling the calls and activating the assistance teams.

The Health Assistant (QBMP/06) may be a Nursing Technician, Dental Assistant or Radiology Technician. They carry out activities specific to their training: the first, besides acting in the ambulances, can work in the health units of the institution like the other two. The Maritime, also called 'Master' (QBMP/08), conducts activities of piloting small boats. The Hydrant Firefighter (QBMP/09) performs maneuvers in the water supply network in firefighting; The Lifeguards (QBMP/10) rescue bathers drowning victims on the waterfront.

The Emergency Medical Technician (QBMP11) performs pre-hospital care, especially in ambulance services in various types of situations that are characterized as critical to human life. It is important to highlight that both risks and workloads vary according to the peculiarities of the activities and attributions between the framework, positions (for Official), specialties and graduations (for Enlisted Men).

Results and discussion

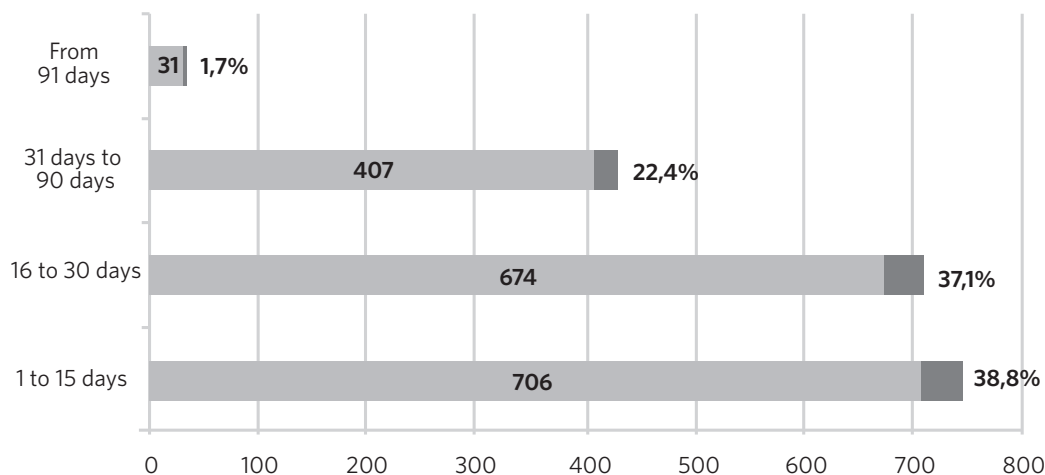
During the visit to the Center for Medical Expertise and Occupational Health (CPMSO) of the CBMERJ, a total of 16.898 registers of medical services regarding all

institutions were collected from January 2015 to the second half of December 2015. After the tabulation and exclusion of duplicate records, 1.818 were obtained, of which 1.125 were from CBA-I units, and the other 693 from units subordinated to CBA-X Capital II.

It is worth highlighting two facts: the first one is that only the records that generated at least one day of work leave were counted; the second one is that in the medical chart there is no information about the specialties of the firefighters, this information was obtained through the General Registry (RG) in the medical records with those present in the DGP/CBMERJ system through the Microsoft Access® program, which is a database management system.

It is important to emphasize that the data that could reveal the identity of the firefighters were not passed on, therefore, the secrecy about the identity of the military was preserved. After the processes described above, it was possible to obtain the age, the unit, the time of removal, the diagnosis according to the ICD-10, framework, specialty, post and graduation of the military firefighters. It is worth remembering that it was decided to call the data referring to the removal of records instead of cases, because it is possible that there are cases of renewal of medical licenses. Below, the analysis of the records beginning with the days of removal will be initiated.

Graph 1. Removal time from work of the military firefighters of the municipality of Rio de Janeiro year 2015

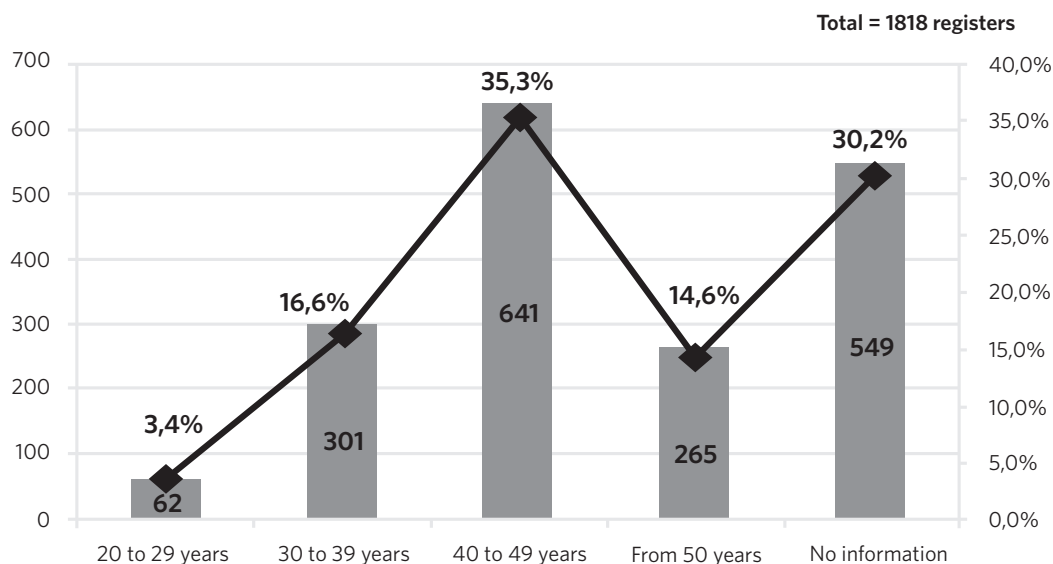


Source: Own elaboration according to the databases of the PCMSO CBMERJ (RIO DE JANEIRO, 2015a).

Regarding the days of removal, it has been found 706 records from 1 to 15 days and 674 records from 16 to 30, together they correspond to 75,9% of the total number. Records from 31 to 90 days totaled 407, and 31 records with more than 90 days of absence were found. The 1.818 records add up to a total of 55.507 days of removal from work for health

care, that is approximately 152 years. By dividing the total number of days of removal by the number of 2.454 firefighters of the universe surveyed, it was approximately 23 days of absence for each worker. Below, the age range of the removal data (*graph 2*) will be seen.

Graph 2. Distribution of removals of military firefighters of the municipality of Rio de Janeiro according to the age range year 2015



Source: Own elaboration according to the databases of the PCMSO CBMERJ (RIO DE JANEIRO, 2015b).

Regarding the age range, firefighters aged 20 to 29 years are the ones who are least away from work, for these, 62 records were found. For the range of 30 to 39 years, the records jump to a total of 301. The age range that most presented records was the firefighters between 40 and 49 years old with a total of 641 records. By analyzing the 1.269 records with the variable completed in *graph 2*, it is possible to say that firefighters who are older and, in general, have more working time, are those who withdraw to treat their health.

The 549 blank records reveal a storage failure that must be corrected, because, although the fact does not invalidate the findings, perhaps its absence allows a partial knowledge about the real health situation of these workers in relation to the investigated variable.

From the age of 50, there were 265 records, this does not mean that from this age group the number of sick firefighters is less. In general, at age 50, these workers are entering the paid reserve (retirement), so they are no longer registered as effective workers of any unit, this could explain the fall found.

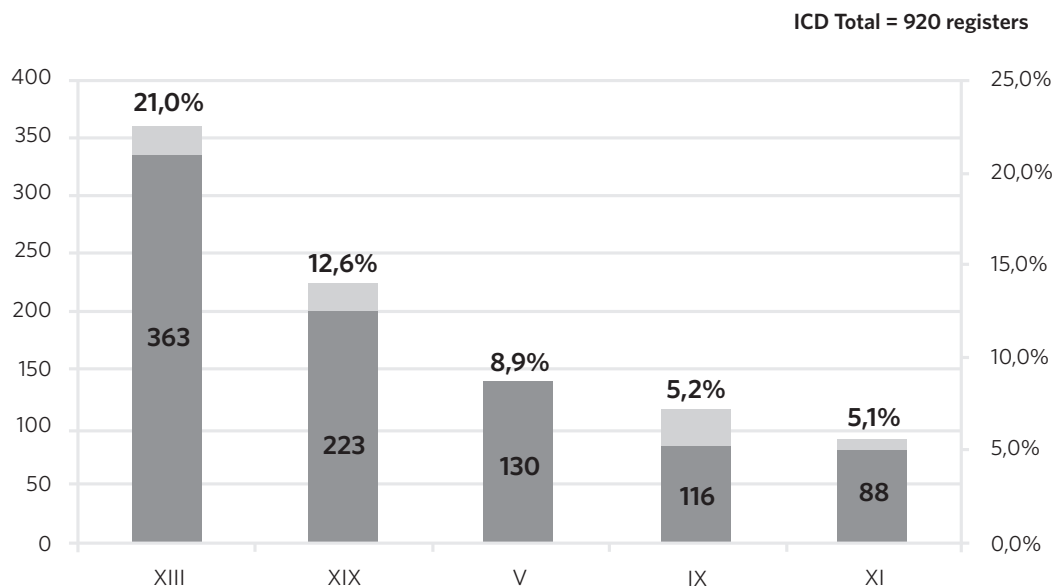
Of the 1.818 removal records, 59 are for Posts of the officership. One, equivalent to 1,7%, for Cadet; 2, or 3,4%, for Aspirant; 8, totaling 13,5%, for 2nd Lieutenant; 22, or 37,3%, for 1st Lieutenant; 20, or 33,9%, for Captain;

2, which is equivalent to 3,4%, for Major; 4, or 6,8%, to Lieutenant Colonel. As shown in *graph 2* no records were found for the post of Colonel.

In the Graduations of Enlisted Men, there were 1.759 records, of which 111 reaching 6,4% for Soldier; for Cape, 298, or 16,9%; 291, equivalent to 16,6%, for 3rd Sergeant; in the graduation of 2nd Sergeant, were found 316, or 17,9%; for 1st Sergeant, 448, which is equivalent to 25,4%, and 295, or 16,8%, for Sub-lieutenant. The records of Enlisted Men correspond to 96,7% of the total. It is important to emphasize that, regardless of the specificities between posts and graduations, in both circles, the lowest indexes are at the beginning of the careers, a fact that can be verified in *graph 2*, because in it one can see that the younger ones are the ones who least withdraw from work.

The possibility of sub-registries is not ruled out. The few official records were expected, as, according to the DGP data of the institution, in 2015, the institution had approximately 15.278 employees, of whom Officers accounted for almost 21%. It is worth noting that the distancing data of the officership correspond to 3,3% of the total of the universe surveyed. A wide range of pathologies affects firefighters, below will be seen the main ones.

Graph 3. Distribution of removals of military firefighters of the municipality of Rio de Janeiro according to the five main chapters of the ICD-10 year 2015



Source: Own elaboration according to the databases of the PCMSO CBMERJ (RIO DE JANEIRO, 2015b).

In *graph 3* there are the five chapters that most obtained diseases found in firefighters hold a total of 920 records. In the group of Musculoskeletal and Connective Tissue Diseases (Chapter XIII), 363 records were found; second are Injuries, Poisonings and Some Other Consequences of External Causes (Chapter XIX) with 223; third, Mental and Behavioral Disorders (Chapter V) with 130; fourth, the Diseases of the Circulatory System (Chapter IX) with 116 and in the fifth position are the Diseases of the Digestive System (Chapter XI) with 88 registers.

According to Robazzi *et al.* (2012, p. 530, FREE TRANSLATION):

[...] activities that require excessive hand force, inadequate upper limb postures, repeatability of the same pattern of motion, and compression of upper limb structures [...] are work activities that can cause musculoskeletal disorders; an example of category activity

with these loads and risks is the driving of rescue vehicles.

The lesions can be caused by an accident at work, which, according to Souza *et al.* (2008, p.66), may be the result of a fall or the handling of sharps machines and equipment. Height rescue is an example of activity in which the above factors are found, that is, these elements present in the work activities of firefighters can cause accidents and generate health problems.

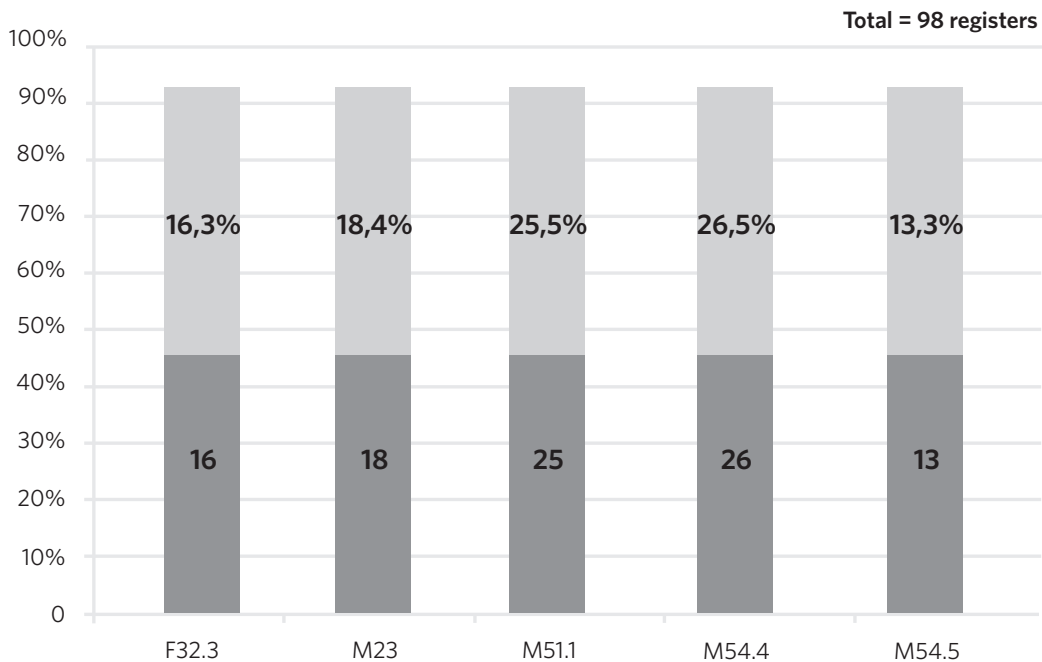
Rotenberg *et al.* (2001) point out that night work, the loss of hours of sleep or the exchange of chronobiological cycles may lead to the appearance of mental and behavioral disorders. The guard service in the barracks as well as the aid are performed during the 24 hours of the day, including the morning period, in this way, pose as burdens and risks inherent in the activities of the category that may cause some detrimental effect to the health of these workers.

Longatti and Ventura (2008) conclude that work activities that lead the worker to physical exhaustion can contribute to the onset of diseases of the circulatory system. An example of the activity of firefighters capable of causing this physical effect is firefighting in the woods, a task that can be followed for uninterrupted hours and/or last for days.

For the Ministry of Health (BRASIL, 2001), are work-related diseases of the digestive system: ulcers, colitis and gastroenteritis.

The occurrence of these diseases can be related to work activities in which there are contact with products of chemical origin and biological material. Firefighters are exposed to these burdens and risks when they supply vehicles, sterilize materials and rescues in floods and landslides. Faced with the main groups of diseases registered in the studied universe, and their possible causes, the question is: which are the diagnoses that have more records?

Graph 4. Distribution of the five diagnoses most found in the military firefighters of the municipality of Rio de Janeiro year 2015



Source: Own elaboration according to the databases of the PCMSO CBMERJ (RIO DE JANEIRO, 2015b).

As can be seen in graph 4, the first disease most found with 26 records was Lumbago with Sciatica (ICD-M54.4); second, Lumbar and Other Intervertebral Disc Disorders with Radiculopathy (ICD-M51.1) with 25 records; third, Internal Derangement of Knee (ICD-M23) with 18 records; fourth, with 16 records, Major Depressive Disorder, Single Episode, Severe with Psychotic

Features (ICD-F32.3) and last the Low Back Pain (ICD-M54.5) with 13 registers.

It is important to emphasize that of the five diseases, four are musculoskeletal, this fact may be indicative that in most of the work activities of the firefighters they are required repetitive movements, inadequate postures and weight lifting. Document typing, firefighting and placing victims on

boards and stretchers are examples of work activities in the category in which the loads and risks capable of causing the health problems highlighted above can be found.

Do these professionals have diseases

that vary according to their specialties and frameworks? Below will be observed the most common diseases according to the professional division of the firefighters.

Chart 1. Distribution of the three main ICD-10 diseases of the military firefighters of Rio de Janeiro according to specialty and framework year 2015

SPECIALITY/Framework	DIAGNOSIS	NUMBER OF REGISTERS
Combatant	M54.4 Lumbago with sciatica	20
QBMP 00	M54.5 Low back pain	17
	M23 Internal derangement of the knee	10
Search and Rescue	S92.3 Fracture of metatarsal bone	7
QBMP 01	S52 Fracture of forearm	5
	F32.3 Severe with psychotic features	4
Driver	M23 Internal derangement of the knee	14
QBMP 02	M54.4 Lumbago with sciatica	12
	M54.5 Low back pain	11
Artificer	M51.1 Lumbar and other intervertebral disc disorders with radiculopathy	5
QBMP 03	M54 Dorsalgia	3
	M54.5 Low back pain	3
Communicator	M54.2 Cervicalgia	5
QBMP 05	M75 Shoulder lesions	3
	I21.9 Acute myocardial infarction, unspecified	2
Nursing Technician	B30 Viral conjunctivitis	1
QBMP 06	H10.2 Other acute conjunctivitis	1
	F32 Major depressive disorder	1
Bugler	F19.2 Other psychoactive substance dependence	3
QBMP 07	M23.2 Derangement of meniscus due to old tear or injury	2
	B00 Herpesviral infection	1
Master	S92 Fracture of foot and toe	4
QBMP 08	S83.6 Dislocation and sprain of joints and ligaments of knee	1
	S93.0 Subluxation and dislocation of ankle joint	1
Hydrant Firefighter	R55 Syncope and collapse	4
QBMP 09	B24 Unspecified human immunodeficiency virus [HIV] disease	3
	I82.9 Embolism and thrombosis of unspecified vein	3
Lifeguards	K11.5 Sialolithiasis	1
QBMP 10	Z30.2 Encounter for sterilization	1
Emergency Medical Technician		

Chart 1. (cont.)

QBMP 11	M54.4 Lumbago with sciatica	2
Administrative Officer	S62 Fracture at wrist and hand level	2
QOA	S42.0 Fracture of clavicle	2
	S62.0 Fracture of navicular bone of wrist	1
Combatant Officer	M23 Internal derangement of the knee	4
QOC	S62.6 Fracture of other and unspecified finger(s)	3
	H65 Nonsuppurative otitis media	2
Health Officer	M50 Cervical disc disorders	1
QOS	M54.5 Low back pain	1

Source: Own elaboration according to the databases of the PCMSO CBMERJ (RIO DE JANEIRO, 2015b).

It can be seen in *chart 1* that in Combatants, the most common disease was Lumbago with Sciatica (M54.4) with 20 registers; in the specialists in Search and Rescue, was the Fracture of Metatarsal Bone (S92.3) with 7 registers; in the Drivers, the most common diagnosis was Internal Derangement of Knee (M23) with 14 registers; in the Artificer, was the Lumbar and Other Intervertebral Disc Disorders with Radiculopathy (M51.1) with 5 records and in the professional responsible for the care of the distress calls, the most common disease was Cervicalgia (M54.2) also with 5 records.

Nursing Technicians, Emergency Medical Technicians, Vessel Pilots, Lifeguards, Buglers, Musicians and the Hydrant Firefighter are specialties with very specific assignments, and some are with their personnel reduced.

Due to the situation of these seven specialties mentioned above, some of these workers are based in specialized units or they are in small number, so there were few records and no records on them. This fact reveals the need to carry out this study in specialized units.

Still according to the analysis of *chart 1*, in the Buglers the most recorded diagnosis was the Other Psychoactive Substance

Dependence (F19.2) with 3 registers; In the Hydrant Firefighters, the most common disease was Syncope and Collapse (R55) with 4 registers; in the Pilots of Vessels, the most frequent diseases was the Fracture of Foot and Toe (S92) also with 4 registers. Sialolithiasis (K11.5) and Encounter for Sterilization (Z30.2) were the most common diagnoses found in the Lifeguards, both with 1 registry; the most common diseases in the Technicians in Medical Emergencies was Fracture of Metatarsal Bone (M54.4) with 2 registers; with respect to Nursing Technicians or Health Aides, as they are known within the institution, only 3 registries were found: Viral Conjunctivitis (B30), Major Depressive Disorder (F32), and Other Acute Conjunctivitis (H10.2).

As shown in *chart 1*, in the circle of officers the most frequent disease in the Combatants Officers was Internal Derangement of the Knee (M23) with 4 records; for the Officials of the Health, was the Cervical Disc Disorders (M50) and Low Back Pain (M54.5), both with 1 registry. For Administrative Officials, Fracture at Wrist and Hand level (S62) and Fracture of Clavicle (S42.0), both with 2 registers, were found. No records of diseases were found for Special Officers.

When observing the diseases that affect

the category, it is possible to verify that they vary according to its specialty and framework. Within this wide range of diagnoses recorded in firefighters, those belonging to musculoskeletal diseases such as low lumbar pain, those caused by injuries and other external causes, such as fractures and those of a mental and behavioral character such as depressive episodes, are the most frequent diseases in the category.

Firefighters have the right to health guaranteed in their Statute (RIO DE JANEIRO, 1985). The category has its own hospital, and the health care of these workers is provided in the form of medical and hospital care aimed at the treatment and cure of diseases, however, the wide range of diseases found in these workers deserves attention that goes beyond the model of health prevailing in the institution, that of occupational health.

Final considerations

The setting of a health care model with emphasis on the prevention and participation of firefighters in all phases of their construction and implementation, that is, based on the ideas of the field of worker health, may provide subsidies for intervention on the workloads and the risks existing in the work activities of the category rather than only in the already sick body of these professionals.

With health care practices that privilege the exchange of knowledge, experiences, livingness and empirical knowledge, that is, workers are understood as formulators, managers, actors and executors of these practices, it is possible to make positive changes in the health framework, reduction of the registers of removals by work-related diseases and an overall improvement in the quality of life of the category.

It can be concluded, from the data analyzed, that the epidemiological profile of firefighters is diverse, since they have diseases listed in 20 of the 21 chapters of the

ICD. It should be emphasized that the wide range of diseases that the category possesses is related to its specialties, frameworks and specificities of its work activities.

Due to the close relation between the diseases of the category and its work, a systematic review of the ways in which these work activities are carried out is of fundamental importance, as a change in their implementation can lead to a reduction in the number of firefighters affected by work-related diseases.

With regards to the computerized management systems, that is, those of control of personnel and those of medical data storage, an upgrade is suggested. It is believed to be important that the personnel control software of the DGP/CBMERJ can produce data not only from the day of a particular query, but also to verify information about previous days, months, and years.

In the medical records of PCMSO/CBMERJ, it is interesting to include the specialty item of the military firefighter; and others, such as the ICD, gender, age, graduation, post and unit of origin, could be compulsory. The changes suggested for the two systems in addition to providing more effective control over the data would facilitate future studies on the category health-work-disease relationship.

In the firefighters' anthem, it's found find the following passage: "[...] *double mission duty points us, to rescue wealth of people's life, and in war punishing an affront with value for the country to fight...*" (free translation). The mission of the category is still double as in its anthem, however, today this duplicity is not in the action of saving lives in the Country or fight in a war for its defense, the duplicity of its mission is in the act of its professional exercise, since, at the same time as these workers aim to safeguard lives and properties, they must safeguard and protect themselves. This is the dual task of the military firefighters in the contemporaneity.

Collaborators

Luiz Antonio de Almeida Pires: author of the dissertation which provided the basis for the confection of the article and author of the synthesis. Luiz Carlos Fadel de Vasconcellos and Renato José Bonfatti: supervisors of the dissertation; they participated in the synthesis and revision of the text.

Thankfulness

This article is dedicated to Clari Salete Garbin Branco de Camargo – her sweetness, gentleness, patience, affection and hospitality were fundamental at all times when her home was used as a refuge in the search for concentration and peace to organize the analyzes and produce this work; her examples will remain throughout my life. Thank you, my mother by choice. ■

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