



COST OF OCCUPATIONAL ILLNESS IN REFRIGERATOR COMPANY

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SUMMARY

The meatpacking sector employs around 800,000 workers across the country, and is responsible for high rates of accidents and illnesses among workers. According to data from the INSS (National Institute of Social Security), no economic activity generated more accidents and illnesses in the states of Rio Grande do Sul, Santa Catarina, Paraná, Mato Grosso, Mato Grosso do Sul, Minas Gerais and Goiás than work in slaughterhouses in the last three years (MARQUES, 2009). **Objective:** to collect, through the database of a meatpacking company, the items contained in the Occupational Disease Investigation Form (FIDO) and correlate them with the cost that the company incurred due to occupational disease. **Methodology:** This was a quantitative descriptive research, through a documentary study of the database of a company in the refrigeration industry. The focus of data analysis was the Occupational Disease Investigation Form (FIDO) for the period from March 2013 to March 2015, with the inclusion criteria being only the FIDOs of active employees. **Results:** Data were collected from 38 FIDOs, of which 31 were characterized as OD (occupational disease) and seven were characterized as Non-Occupational Disease (NOD OD). The year 2014 had the highest rate of occupational disease with 70.97% of FIDO/DO and the sector with the highest rate of DO was boning. Companies maintain a large database of their indicators, but few use them to correlate results for the feasibility of improvements.

Keywords: Occupational disease, Slaughterhouse, Work Accident Report, Work-Related Musculoskeletal Disease, Occupational Disease Investigation Form.

INTRODUCTION

The meatpacking sector employs around 800,000 workers across the country, and is responsible for high rates of accidents and illnesses among workers. According to data from the National Social Security Institute (INSS), no economic activity generated more accidents and illnesses in the states of Rio Grande do Sul, Santa Catarina, Paraná, Mato Grosso, Mato Grosso do Sul, Minas Gerais and Goiás than work in slaughterhouses in the last three years (MARQUES, 2009).

In Brazil, occupational diseases represent the main group of illnesses requiring social security leave. Annually, the country spends around 4% of the Gross Domestic Product (GDP), approximately R\$107 billion on illnesses and accidents at work (BRASIL, 2014).

The World Health Organization (WHO) revealed, in 2009, that musculoskeletal disorders were responsible for more than 10% of all years lost due to disability (FUNDACENTRO, 2014).

In Brazil, for more than a decade, musculoskeletal disorders have ranked first among work-related illnesses registered by Social Security. Of the accident benefits granted by the INSS, from 2006 to 2007 there was a jump from 19,956 to 95,473, a fact that occurred due to the implementation of the epidemiological criteria in the recognition of accidents and occupational diseases and which proved that there is underreporting, still present today (FUNDACENTRO, 2014).

Anti-ergonomic conditions, which subject the human body to the risk of serious injury due to repetitive efforts, use of force, positions or movements that force bones, joints and muscles in an unnatural way, lead to chronic illnesses that can incapacitate the worker for any activity, including in your personal life. Health can be affected by the work process from the moment the maximum limit of its capacity, through overtime, repetitive work, night work, unfavorable environmental factors, precarious housing conditions and poor nutrition, is exceeded (MARTINS, 2010).

According to the Technical Note from the Ministry of Labor and Employment (BRASIL, 2015), the meat production process is one of the most problematic with regard to the safety and health of workers, such as:

- a) companies working at a hectic production pace;
- a) little labor in the 90s, increasing the pace of work;
- b) complex tasks with different types of risk;
- c) activities such as reverse work, instead of the classic assembly that characterizes continuous production processes;
- d) ergonomic problems in the traction process;
- e) occurrence of accidents with machines and sharp tools, risks related to noise, humidity;
- f) biological risks;
- g) people work standing up, with arms raised;
- h) few breaks at work;
- i) high incidence of repetitive strain diseases;
- j) occurrence of WMSDs in the cutting sectors (MARTINS, 2010).

Research carried out by the Public Ministry of Labor (MPT) in two meatpacking plants revealed that more than 90% of employees in the sectors suffered from pain (JUSBRASIL, 2014).

Regarding pain complaints, the data is shocking: 93.33% of employees reported having had pain in the last week. The body regions most affected were the shoulder, followed by the back and arms. Another alarming number corresponds to 73% of employees who reported using medication in the last week (JUSBRASIL, 2014).

Issuing the Work Accident Report (CAT) is still difficult, as companies refuse to issue it, and by issuing it the employee will enjoy stability for one year after returning to work (MARTINS, 2010).

The Occupational Disease Investigation Form (FIDO) is an instrument used whenever there is a suspicion that a pathology may be related to work. The FIDO is a document used by the Specialized Service in Safety Engineering and Occupational Medicine (SESMT) of the company under study to investigate occupational diseases.

Through outpatient care, with complaints of pain brought by workers, the medical team requests the FIDO to be completed by the ergonomist, when there is a suspicion of a link between the pathology and work. Once the FIDO is completed and analyzed together with the information contained in the worker's medical record, the doctor coordinating the Occupational Health Medical Control Program (PCMSO) classifies the pathology as occupational or non-occupational.

If an accident occurs or an illness is diagnosed, the company must report the fact to the INSS, issuing a CAT.

Article 121 of law number 8,213/91: "the payment by Social Security of benefits for accidents at work does not exclude the civil liability of the company or others" (CIPA, 2014).

OBJECTIVE

The objective of this study was to collect, through the database of a meatpacking company, the items contained in the Occupational Disease Investigation Form (FIDO) and correlate them with the cost that the company had with occupational disease.

METHODOLOGY

The present study consisted of quantitative descriptive research, through a documentary study of the database of a company in the meat processing industry, located in the Serra Gaúcha, with 970 workers linked to the company. The focus of data analysis was the FIDO from March 2013 to March 2015, where information regarding:

- a) amounts of FIDO that are not characterized as an occupational disease;
- amounts of FIDO that are characterized as an occupational disease (part of the body affected by the occupational disease; most affected sectors; whether there was INSS leave; time taken away from the INSS; cost to the company; payment for days off; Time Guarantee Fund collection of Service (FGTS); cost of medication; cost of transportation; cost of complementary exams; cost of physiotherapy; cost of invasive procedures.

As an inclusion criterion in the study, only the FIDOs of active employees were considered.

RESULTS

The FIDO analysis period was between March 2013 and March 2015. Data were collected from 38 FIDOs, of which 31 were characterized as Occupational Disease (OD) and seven were characterized as Not an Occupational Disease (NOT Occupational Disease) , with the FIDO/DO serving as the basis for data collection, as shown in Table 1.

Table 1 - Distribution of FIDOs per year (N=31)

Year	FIDO/DO number	%
2013	7	22,58
2014	22	70,97
2015	2	6,45
Total	31	100%

Source: Quantitative research (2013-2015).

The year 2014 had the highest rate of occupational illness with 70.97% of FIDO/DO, as shown in Table 1. Of the 31 FIDO/DO, 20 were female, and 11 were male.

TABLE 2 - Part of the body affected by occupational disease (N=31)

Body Part	FIDO/DO number	%
Right shoulder	9	29,03
Left Shoulder	5	16,13
Right Elbow	1	3,23
Left Elbow	1	3,23
Right Fist	10	32,26
Left Fist	2	6,45
Right hand	2	6,45
Left hand	1	3,23
Total	31	100%

Source: Quantitative research (2013-2015).

The part of the body most affected by occupational disease was the right wrist with 32.26%, followed by the right shoulder with 29.03%, as illustrated in Table 2.

In Table 3 we can see the company sector with the highest number of FIDO/DO.

Table 3 - Company sector and number of FIDO/DO (N=31)

Sector	FIDO/DO number	%
Boning	16	51,61
Industrialized	9	29,03
Slaughter	4	12,90
Expedition	1	3,23
Maintenance	1	3,23
Total	31	100%

Source: Quantitative research (2013-2015).

The boning sector was responsible for more than half of the total FIDO/DO.

Table 4 shows the company's cost of occupational illnesses. The cost involves purchasing medication, paying for invasive procedures, paying for physiotherapy, paying for bus tickets, absenteeism costs and FGTS collection.

Table 4- Company cost of occupational illness per year (N=31)

Year	Cost (R\$)
2013	17.582
2014	29.739
2015	2.436
Total	49.757

Source: Quantitative research (2013-2015).

In 2013, the cost per patient with an occupational disease was R\$2,511.00. In 2014, the cost per patient with an occupational disease was R\$1,351.00. In 2015, the cost per patient with an occupational disease was R\$1,218.00.

Table 5 shows the time spent away from INSS. Twelve workers, whose illness was characterized as an occupational illness, had to be referred to the INSS.

Table 5- Time away from INSS (N=31)

Year	Days of Leave with the INSS by FIDO/DO in Days
2013	60
2013	210
2013	60
2013	425
2013	90
2013	90
2014	60
2014	90
2014	240
2014	60
2014	180
2015	90

Source: Quantitative research (2013-2015).

Referral to the INSS generates stability for one year after returning to work for the worker, and obliges the company to collect FGTS. The average number of days away from INSS in 2013 was 155 days away. The average number of days away from INSS in 2014 was 126 days away.

Of the total of 31 FIDO/DO, 19 workers had medical certificates related to occupational illness. The total number of days lost was 460 days.

The health salary payment, referring to days lost, was R\$ 18,952.00, which represents the highest cost for the company, when compared to other expenses.

Table 6 shows the healthcare salary costs per year.

Table 6- Health salary costs per year (N=31)

Year	Health Salary Cost(R\$)	%
2013	5.763	32,70
2014	12.622	42,44
2015	567	23,28

Source: Quantitative research (2013-2015).

Table 7- Cost of healthcare salary compared to other expenses (N=31)

Year	Health Salary Cost(R\$)	Cost of medication, transportation, exams, physiotherapy, invasive procedures and FGTS. (R\$)
2013	5.763	11.819
2014	12.622	17.117
2015	567	1.896

Source: Quantitative research (2013-2015).

DISCUSSION

The meat slaughtering and processing industry participates significantly in Brazilian economic activity, in terms of production volume, exports and the capacity to generate jobs, around 500,000 direct jobs (SARDA, 2009).

The meat processing industry and the meat complex today make Brazil one of the world's main exporters of animal products (MARRA, 2013).

The organization of work in companies in the sector still follows the assumptions of the Taylorist-Fordist system, centered on production goals, without considering the psychophysiological characteristics of employees or more rational methods aimed at reducing the risks inherent to work. In this production model, the prevalence of health problems has the fast pace of work as one of its main aggravating factors (SARDA, 2009).

For Guimarães apud Sarda (2009), the Taylorist-Fordist system promotes gains in scale by recruiting workers with little qualifications to perform a single task, simple enough to allow quick training.

In the International Classification of Diseases (ICD) code, the occupational illnesses with the most common ICD incidents were shoulder injuries, according to the 2010 Social Security Statistical Yearbook (WACHOWICZ, 2012).

Ergonomic factors prevent damage to workers' health and are used to better qualify their lives and protect them from occupational diseases. This theme is reinforced when ergonomics is defined as the process that aims to indicate and establish paths that allow the adaptation of working conditions to the characteristics of workers. This adaptation must encompass psychological, biological, social and spiritual aspects in order to promote comfort, safety, efficient performance at work, without risk to health (BUSNELLO, 2013).

The criteria established by the Guidelines for Ergonomic Management Programs for Meat Slaughtering and Processing Companies recommend the adoption of the following measures to reduce occupational diseases in this economic sector: a) change in the speed of the production process; b) reduction of the total number of repetitions per worker, by reducing production levels, as well as limiting overtime; c) fatigue recovery breaks; d) increase in the number of employees assigned to

carry out the most critical tasks, especially in relation to lifting heavy objects; e) task rotation; f) sufficient number of employees for production and to cover absenteeism (SARDA, 2009).

Similarly, the Technical Note from the Ministry of Labor suggests the adoption of the following measures (BRASIL, 2015):

a) I. Guarantee a 20-minute rest break after each period of 1 hour and 40 minutes of continuous work, for workers whose activities are carried out in artificially cold environments, counting these intervals as effective work, in accordance with the provisions of art. 253 of the CLT.

a) II. Institute breaks of at least 10 minutes for every 50 minutes worked or 20 minutes of rest, after each period of 1 hour and 40 minutes of continuous work, in activities that require musculoskeletal overload of the neck, upper and lower limbs, when carried out in environments not artificially cold, using a written scale, in accordance with the provisions of subitem 17.6.3, item "b", of NR-17;

b) III. Size the number of workers in activity compatible with production;

c) IV. Respect in productivity requirements the individual production capacity of each worker versus the required quality of the product;

d) V. Ensure that the furniture is in accordance with the anthropometric characteristics of at least 95% of the population, in order to provide conditions for good posture, visualization and operation, meeting, at least, the provisions of subitem 17.3.2 and paragraphs of NR-17;

e) VI. Provide workers with psychosocial support for personal and/or work-related problems (WMSDs and depression, among others), complying with subitem 17.1 of NR-17 and subitems 7.2.2 and 7.2.3 of NR-7 of Ordinance 321478;

f) VII. Ensure the participation of workers in the evaluation and diagnosis of general working conditions, in proposals for improvements, in the planning and implementation of methods, tools, procedures and modifications to workstations, in accordance with sub-items 9.5.2 and 9.6.2 of NR-9;

g) VIII. Ensure that the Occupational Health Medical Control Program (PCMSO) and the Environmental Risk Prevention Program (PPRA) are articulated with each other and with other standards, in particular with NR-17, in accordance with subitems 7.2.1 and 7.2.4 of NR-7 and subitem 9.1.3 of NR-9;

h) IX. Notify all work accidents, occupational diseases and illnesses caused by special working conditions in meat processing activities, whether proven or suspected, by issuing an Occupational Accident Report, in accordance with art. 169 of the CLT, with subitem 7.4.8 of NR-7 and in accordance with current Social Security legislation (SARDA, 2009).

The third Panel of the Federal Regional Court of the fourth Region approved, on April 22, 2015, by unanimous vote and maintained the decision of merit given in the first collective accident regressive action filed in the country. Through this single action, the INSS managed to order the slaughterhouse to compensate for the expense of 111 benefits (sickness benefits) that were granted due to occupational diseases contracted by employees subject to precarious ergonomic working conditions. The total expectation of reimbursement exceeds the figure of R\$ 1 million (MACIEL, 2015).

Acting preventively and curatively within a company requires ensuring the health of its human resources inside and outside the work environment. In this way, returns can be obtained in the medium and long term, depending on the pace and actions required. Preventive intervention reinforces the idea that investing in workers' health is much more advantageous than dealing with their occupational weakness (BUSNELLO, 2013).

Identifying and understanding the risks to which slaughterhouse professionals are subject is a relevant approach for the occupational health of these professionals, as it lists the problems to be discussed, becoming the initial step towards resolving them. As well as mapping and identifying risks, a health surveillance system; use of safety equipment; individual protection and collective protection; Training workers regarding activity, personal hygiene and risks are essential for preventing and reducing the number of accidents and pathologies associated with these risks (MARRA, 2013).

CONCLUSION

By collecting FIDO data from a meatpacking company, it is possible to quantify the company's expenditure on occupational diseases.

Invest in prevention or pay for the disease? The expense/year paid by the company in relation to occupational disease is not such an alarming amount. But we're not just talking about money. When a worker becomes ill, as a result of their work, it is not only him who suffers from the illness. The work team, family and society also get sick. The work team is probably as committed as the patient.

Once a team member leaves for treatment and has restrictions in carrying out their task, the team works more intensely as a result. The work remains the same, at the same pace and quantity, just with less labor. This generates overtime, work overload, stress, a drop in product quality and an increase in the generation of by-products. And it finally evolves into a new occupational disease.

It is a vicious cycle that needs to be broken so that the worker can be safe when carrying out their task. So that the worker returns home to his family with health and satisfaction. When you work without pain and with motivation, you reap productivity. Not forgetting that a healthy company is well regarded by society, both nationally and internationally, since the market has analyzed the worker's health and the working conditions imposed on them from the beginning of the production chain to the finished product, when carrying out the purchase of the product.

With the current competitiveness of the market, efforts must be channeled to avoid spending on illness and absenteeism. Therefore, it is not enough to simply quantify monetarily what the company spent on occupational disease. Likewise, one should not fail to invest in prevention, because by avoiding occupational diseases, the company's gain will be incalculable. Investing in safety benefits the collective, both workers and society.

It is important to continue this study, since the cost of occupational disease is an indicator of health and safety and indicates where action should be taken to prevent and promote health.

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