EVALUATIVE LIST OF RISK FACTORS FOR HEALTH WORKERS IN FOOD SERVICES

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ABSTRACT

The Food Services (SA) are work environments that offer a variety of occupational hazards due to the nature of their work. According to the risks they are exposed, workers can have health problems or suffer accidents at work, which generates high costs and cumbersome for the company to employees. This study aimed to develop and validate the contents of a list of specific assessment that analyzes the risk factors that food service workers are exposed. The list was successfully evaluated by nutritionists, doctors and technicians work in safety, through the Delphi method adapted and the Thurstone scale, in the period from August to November 2011. The results obtained had a degree of more than 80% of convergence between the professional evaluators. This list will serve as a quick and effective tool in preventing harm to the health of workers in food services.

Keywords: *Safety, Risk Factors, Food Services*

1. INTRODUCTION

The Occupational Health is a specific field of public health which seeks to act through its own procedures in order to minimize risks to workers, improve business performance and establish a responsible image to the market (SILVA, 1998).

According to Brazil (2005), accidents affecting mainly people aged 20 to 30 years, who are in full condition. It is estimated that 6,000 workers die each day worldwide due to accidents and work-related diseases, and each year, there 270 million occupational accidents Non-fatal, resulting in at least three days of absence (ORGANIZAÇÃO INTERNACIONAL DO TRABALHO, 1998). These accidents generate high costs for companies and for society, not to mention the problems and suffering caused to workers and their families (MINISTÉRIO DO TRABALHO, 2008).

The very nature of work in food service predisposing factors that are not well controlled can cause harm to worker health, characteristics of the organization, handling or exposure to physical, chemical, biological, ergonomic situations of disability or mechanical hazards. Such characteristics can damage the health of workers in the short, medium and long term, causing immediate injury, illness or death, and damage to legal and asset to the company (BRASIL, 2005a).

Agents are considered the various forms of physical energy to which workers may be exposed such as: noise, vibration, abnormal pressures and extreme temperatures. Chemical agents are substances, compounds or materials that may enter the body through breathing, or who by the nature of the activity of exposure, may have contact or be absorbed by the body through skin or swallowed. Since biological agents are bacteria, fungi, bacilli, parasites, protozoa and viruses 5. Ergonomic risks are linked to the tasks, the factors of poor posture, repetition of movements, weight lifting, monotonous. The mechanical hazards are very diverse and are present in the physical arrangement improper, or irregular little resistant floors, machinery and equipment without protection, faulty wiring, defective or improper tools, excessive or insufficient lighting, possibility of fire or explosion, inadequate storage (BRASIL, 2003).

In any type of work activity becomes indispensable to the need to examine the work environment to meet the risks to which employees are exposed and thus correct them. The inclusion of best practices in managing health and safety at work collaborating to protect against the risks in the workplace, preventing and reducing accidents and diseases and thus significantly reducing costs (BRASIL, 2005b).

Given the importance of knowing and controlling the risk factors and the scarcity in the literature of practical methods for the assessment and prevention of such food service, verified the importance of developing a specific method for assessing the risk factors that workers are exposed in food service. And so, thus helping the management team in identifying, preventing and reducing accidents at work, contributing to the transformation of health and safety conditions.

2. MATERIALS AND METHODS

This work was carried out from August to November 2011, in the form of a descriptive study. To make the list of evaluation factors were considered the risks to food service employees are exposed daily in the performance of their duties. The risks analyzed, included in the instrument were the physical, chemical, biological, mechanical and ergonomic (NEPOMUCENO, 2004).

Considered for compiling the list the following sectors of the food services: receiving area, storage areas, processing areas, production area, washing area and area of distribution of the finished product.

The list was developed based on some of Regulatory Standards (NR), as follows: NRs 68, 89, 96, 1110, 1211, 1512e to 1713. We also used the NBR 541,314 documents and the International Labour Organization (ILO) (MINISTÉRIO DO TRABALHO, 2008).

To validate the contents of the list were asked, for convenience, a group of ten professionals with expertise in occupational health. They received by e-mail the Statement of Informed Consent (IC), also signed and returned by email. There was confidence among the participating professionals, so that there was any kind of embarrassment to them and that none could influence the other's opinion. The project was approved by the Ethics Committee in Research at Franciscan University Center - UNIFRA, under registration 093.2011.2.

After the list has been drawn up, was sent to professionals for validation of their content, a process carried out all over the internet, via e-mail. Professionals had a period of seven days for return of each round, and the maximum number of contact for the return was three consecutive attempts. The entire evaluation process took place during September and October 2011.

For examining the list of evaluation by the professional was used Delphi adapted. This method it is an interactive questionnaire, which runs several times by a group of experts have the answers until convergence, preserving the anonymity of personal responses (BRASIL, 1978). In the literature on studies that used the Delphi method, we found a standard way to obtain consensus. In this study arrived at a consensus of rounds, when there was concordance of 70%, and the assessments were made in the first round of areas and issues for the second.

In the first round evaluators had to sort the items in each area of the list as: Indispensable, when the item level critical influence on the safety of workers; necessary, when the item influences degree less critical, recommended, if not in degree influences critical and informative, and this item would offer subsidies for better interpretation of demais (WRIGTH, 2000). Were added to the percentages of essential and necessary items because these are the only items that impact on critical degree, the safety of workers.

After the changes were sent back to reviewers, then asking if they agreed or disagreed with each of the issues list. The scale used Thurstone to distinguish between the judges the degree of convergence in each case, since the correlation within the areas was above the predetermined pattern (WENDISCH, 2010).

The analysis and tabulation of data, two rounds, were entered in Excel and analyzed by the software application Statistical Package for Social Sciences (SPSS) version 18. The results are shown in absolute and relative frequencies.

3. RESULTS

Of the ten professional guests, only eight participated in the validation of the list, three of the guests are in the area of nutrition, with specialties in the field of management and advisory business, three others, specialists in occupational medicine and the other two, technical work safety.

Figure 1 shows the results obtained in the first round, initially containing 76 questions to be evaluated after the evaluation this was down to 58 because of the changes suggested by the evaluators. At this stage of the assessment results were above the standard level of 70% consensus among the evaluators.

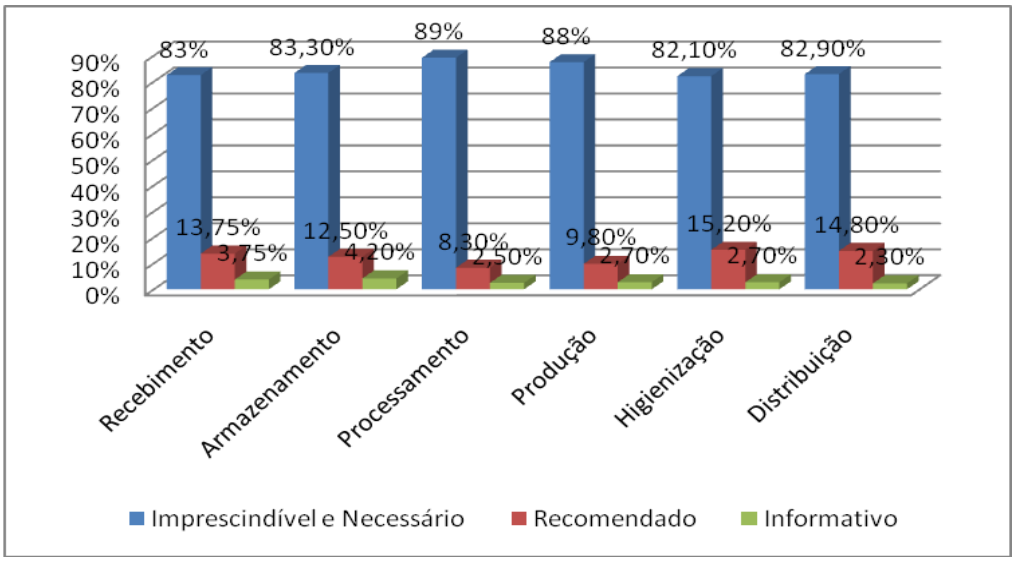

Figure 1- Degree of convergence, for area, inter-rater List assessment of risk factors for health workers in food service, Santa Maria (RS), 2011.

In all areas evaluated were percentages over 80%, which shows us a high degree of agreement in the opinion of the evaluators. The processing area is the area of greatest percentage, with a result of 89%, then after the production area 88%, 83.3% storage, distribution, 82.9%, 82.5% and receiving area finally hygiene.

In the second round, the answers and suggestions that were sent from the first round were analyzed and included in the list, was also made the union of the areas of processing and production at the suggestion of the evaluators, the results are reported in Table 1. In this evaluation phase we tried to know the opinion of the evaluators, questioning only the agreement or disagreement for each question.

At the end of the second round, with the results tabulated, it was noted the high percentage of agreement among raters, with almost 100% of the outstanding issues were more than 87%. Only the question of vehicles without excessive noise in the area of hygiene, had 75% and even below the other values being shown in the table, also fits the established pattern of 70% consensus for each question assessed.

4. DISCUSSIONS

Few studies were found in the literature in order to develop and evaluate the risks to which workers are exposed specifically in the area of food services.

According Pepe et al. (2006), one of the ways to assess and monitor the quality of health services is through normative evaluations, the standards with well-defined quality standards must be followed, and also occurs in food services which are based on standards regulatory as the assessment. In the search for guiding the operation rules of food services, it was found that there is available in Brazil an evaluation instrument specific for food service. However, we found many different rules and regulations, which could be used to guide the evaluation of this type of service.

It takes two months to validate the contents of the list, but there is no consensus in the literature about the time considered ideal for the realization of the method and may take from weeks to several months. The number of expert judges participating in the Delphi Method is not a consensus in the literature, ranging from three participants to vinte (HABIB, 2007) and as Spinola cited by Dal Ben et al., (2004) there is no ideal number of participants established, what matters is the degree of specialization. Although the number of participants might have been greater, it was deemed to have been suitable for the validation of the list, since it relied on professionals from different areas. The training and experience diverse panel of experts were valuable to the scope, relevance and specificity of the list, so leave it quite complete.

Recently, Wendisch (2010) developed an instrument to assess the quality of the Units of Food and Nutrition (HFS) hospital, also using the Delphi method, being the only Brazilian literature found for the construction of an instrument in food service. Was validated content therein of a tool, with the aid of 10 assessors, the time interval of 5 months in only two rounds, obtaining a degree of 70 to 90% of the items as essential and 50-70% of the items as required . The methods and results found in Wendisch come against the findings in this study, but this took less time, less professional and the number of rounds and the results themselves, which were higher than 80% in two rounds.

Once the standards and criteria have been well established in the instrument, anyone who knows minimally the terms of the assessment in question can do it, as regards Donabedian (1992). The instrument can be applied per unit area, divided without prejudice to the right, facilitating their understanding and application.

The suggestion Souza et al (2005) was the grouping at the same time, some elements for successful validation, the experts, the participants' anonymity and ease of achievement for extensive discussion. However, a consensus technique can hardly meet all these characteristics, however, in the present study we were able to collect all the above elements.

To ensure safety at work is of great importance to awareness and training of employees as well as awareness of the employer, so you can actually prevent risks to which workers are exposed and thus the diseases and accidents.

5. CONCLUSION

The listing evaluation was composed of fifty-eight questions covering areas from receiving to food distribution, they bring quite complete, criteria for evaluation of risk factors in food service. Thus, the list will be available for establishments carrying out assessments and monitoring.

We consider the instrument in relation to its content and form of presentation, not discarding, however, that adjustments can be made, according to the size and complexity of the food service, its use and application. The list compiled in this study will serve as an instrument can be rapidly applied, flexible and effective in the prevention of injuries to health workers in food services.

Please note that this tool does not replace other routine measures to control and ensure the health of the worker and serves but to add to other known methods.

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Table 1 - Degree of convergence, for issue in the receiving area, inter-rater List assessment of risk factors for health workers in food service, Santa Maria (RS), 2011.

Indicative list of issues relating	Agree n (%)	Disagree n (%)
Receiving Area (food, chemicals and packaging)		
Suitable layout	8 (100)	0
Floor slip	7 (87,5)	1 (12,5)
Use of PPE	7 (87,5)	1 (12,5)
adequate illumination	8 (100)	0
Taken with protectors	7 (87,5)	1 (12,5)
Receipt of Materials	7 (87,5)	1 (12,5)
Receiving consistent with the ability to force	8 (100)	0
Transportation of materials	7 (87,5)	1 (12,5)
Overcharging weight	8 (100)	0
Vehicles without excessive noise	7 (87,5)	1 (12,5)
Total	92,50%	7,50%

Table 2 - Degree of convergence, as a matter in the storage area, inter-rater List assessment of risk factors for health workers in food service, Santa Maria (RS), 2011.

Indicative list of issues relating	Agree n (%)	Disagree n (%)
Storage Areas (food, chemicals and packaging)		
Suitable layout	8 (100)	0
Floor slip	7 (87,5)	1 (12,5)
Use of PPE	7 (87,5)	1 (12,5)
adequate illumination	8 (100)	0
Proper ventilation	8 (100)	0
Taken with protectors	7 (87,5)	1 (12,5)
Cold rooms, PPE	8 (100)	0
Storing chemicals	8 (100)	0
Transportation of materials	7 (87,5)	1 (12,5)
Overcharging weight	8 (100)	0
Vehicles without excessive noise	7 (87,5)	1 (12,5)
Compatible storage capacity to force	8 (100)	0
Total	**94,80%**	**5,20%**

Table 3 - Degree of convergence, as a matter in the area of food production, inter-rater List assessment of risk factors for health workers in food service, Santa Maria (RS), 2011.

Indicative list of issues relating	Agree n (%)	Disagree n (%)
Food Production		
Suitable layout	8 (100)	0
Floor slip	7 (87,5)	1 (12,5)
Free from accumulation of water, fat or waste	8 (100)	0
Use of PPE	7 (87,5)	1 (12,5)
adequate illumination	8 (100)	0
Proper ventilation	8 (100)	0
Taken with protectors	7 (87,5)	1 (12,5)
Noise, PPE	8 (100)	0
Equipment and cutting tools, PPE	8 (100)	0
Furnaces, EPI's	8 (100)	0
Laboratory tests	7 (87,5)	1 (12,5)
Transportation of the genera	7 (87,5)	1 (12,5)
Overcharging weight	8 (100)	0
Vehicles without excessive noise	7 (87,5)	1 (12,5)
Exertion compatible with ability to force	8 (100)	0
Waste storage	7 (87,5)	1 (12,5)
Total	**94.5%**	**5,50%**

Table 4 - Degree of convergence in the area for reasons of hygiene, List of assessors for the evaluation of risk factors for health workers in food service, Santa Maria (RS), 2011.

Indicative list of issues relating	Agree n (%)	Disagree n (%)
Sanitation (food and / or utensils)		
Suitable layout	8 (100)	0
Floor slip	7 (87,5)	1 (12,5)
Use of PPE	7 (87,5)	1 (12,5)
adequate illumination	8 (100)	0
Proper ventilation	8 (100)	0
Taken with protectors	7 (87,5)	1 (12,5)
Noise, PPE	8 (100)	0
Chemicals, PPE	8 (100)	0
Chemicals, periodic training	7 (87,5)	1 (12,5)
Hygiene, PPE	8 (100)	0
Vehicles without excessive noise	6 (75)	2 (25)
Exertion compatible with ability to force	8 (100)	0
Total	**93,70%**	**6,30%**

Table 5 - Degree of convergence, as a matter in the distribution of the final product, inter-rater List assessment of risk factors for health workers in food service, Santa Maria (RS), 2011.

Indicative list of issues relating	Agree n (%)	Disagree n (%)
Distribution of the final product		
Suitable layout	8 (100)	0
Floor slip	7 (87,5)	1 (12,5)
Free from accumulation of water, fat or waste	7 (87,5)	1 (12,5)
Use of PPE	7 (87,5)	1 (12,5)
adequate illumination	8 (100)	0
Proper ventilation	8 (100)	0
Hot utensils, EPI	8 (100)	0
Exertion compatible with ability to force	8 (100)	0
Total	**95,30%**	**4,70%**