

## The Elderly Nursing Personnel According to Ergonomic Aspects

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### Abstract

This study aims to analyze elderly nursing professionals aged 60 or over who are active in the nursing profession and to identify the socio-demographic data and the agents that provide ergonomic risks that are submitted to nursing professionals in performing their activities Within a hospital unit. The number of elderly people has increased significantly in Brazil, so it will be common to find elderly nursing professionals, who continue to work in hospital units. The methodology used was a qualitative-quantitative research, of the descriptive type, exploratory through questionnaires of closed questions. Four nursing assistants and two nursing technicians participated in the study. The results showed that all the interviewees are female, who did not receive educational training on ergonomic risks during all the nursing years.

**Keywords:** Occupational diseases; Ergonomics; Worker health

### Introduction

The objective of this study is to analyze elderly nursing professionals aged 60 and over who are active in the nursing profession, to identify the socio-demographic data and the agents that provide ergonomic risks that are submitted to nursing professionals when performing their activities within a hospital unit.

According to the Brazilian Institute of Geography and Statistics (2010), the number of elderly people in our country has increased. And consequently it will be increasingly common to find a larger number of elderly nursing professionals working in the health environment.

The workplace has a great influence on the health of the worker, taking into consideration that part of life is spent in the workplace. The hospital is the main working environment for nursing workers, so it becomes necessary to consider that this environment ends up being harmful due to the daily ergonomic exposure of these professionals in this place [1].

With the increasing number of elderly people in our country and consequently, a greater number of professionals are also in nursing who are elderly and continue to practice. Analyzing this context there is a need to analyze the health of these professionals, identify which ergonomic risks this category is subject to, a better future and better working conditions for these health workers.

As can be observed, the nursing worker faces numerous risk factors that may contribute to the onset of diseases, so the need to identify the factors that may aggravate the health of these professionals has been aroused, which activities require a greater effort of the musculoskeletal system of these workers and especially to which ergonomic risks are exposed.

### Objective

To identify the socio-demographic data and agents that provide ergonomic risks that are submitted to nursing professionals who are 60 or older years of age who are active in nursing when performing their activities within a hospital unit.

### Theoretical Foundation

#### Ageing population

Population aging began in the late nineteenth century in Europe and in the early twentieth century in the more developed countries.

The aging process has become more intense in Brazil since the 1960s, due to a significant decrease in fertility and birth rate and a progressive increase in life expectancy [2].

The Brazilian population is comprised of 190,755,199 million people according to the 2010 demographic census, of which 51%, or 97 million are women and 49%, or 93 million, are men. The number of elderly people is 20,590,599 million, or approximately 10.8% of the total population [3].

The increase in life expectancy has been surprisingly higher among the elderly over 80 years of age, because between 1997-2007, the population aged 60-69 grew from 21.6% and that of over 80 years of age increased 47.8% [4].

The entire elderly population has seen a significant increase in our country. According to the Statute of the Elderly and the National Policy of the Elderly people are considered elderly people of 60 years or more. This is due to the diversity of the segment considered elderly, since there are included people from 60 to 100 years old or older [5].

#### Elderly in the job market

In the Brazilian reality the elderly people emerge as new social agents, with greater presence and participation, being part of the sociocultural, sanitary and economic scenario. This fact is perceived not only by numerical growth, but also by healthy aging, becoming active, participatory and constructive subjects, and can contribute to society in the elaboration of new concepts that help in the planning of effective actions in the various social and economic fields with a view to new changes in the world scenario due to the increase in life expectancy and aiming to minimize the worries due to the demand for pensions [6].

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With improved quality of life and also due to better health conditions, the elderly are now allowed to stay at work until the more advanced ages. It is evidenced that income from work has also constituted an important complement to his retirement [7].

The need to be useful, productive, interact with the environment and give life experience to the young, has been a relevant point for the elderly to remain in the work environment, these characteristics overlap money, allowing the elderly a total utility [7].

Silva e Rosa (2016) highlight three main factors that make the elderly remain or return to the labor market: for the complementation of income, due to the low renumbering in relation to retirement; the permanence of adult children and / or grandchildren in their dependence reinforcing and the need to remain active in society [8]. The authors also conclude that although the elderly do not have a significant income increase - a little more than two minimum wages, they refer to having a good quality of life.

### Ergonomic risks that are submitted to health professionals

Ergonomics is the scientific study of the relationship between man and his work environment. The term environment encompasses the environment in which man performs his function, but also the methods, instruments and organization of work. The best way to reduce and / or avoid ergonomic risks is through simple measures such as job adaptation, tasks performed and workers' education for more functional and less aggressive positions [9].

According Turella et al. Among several factors that help in the motivation of employees, is ergonomics, which provides an improvement in the relationship between man and his work environment, optimizing processes and directly interfering with quality and productivity in general. Coherently, ergonomics need a holistic approach to the whole field, both in its physical and cognitive aspects, as well as in social, organizational and environmental aspects [10].

In Brazil, ergonomics is regulated by NR 17. This standard offers parameters to suit the working environment to the psychophysiological characteristics of the professional, in order to offer maximum comfort and safety for the worker to perform his work efficiently. The absence of adaptation of the work to the man has as consequence the overload in the physical structures of the body, affecting the physical or mental integrity of the worker and causing him discomfort or illness [11].

According to the Norma Regulamentadora NR 17, the Ergonomic Work Analysis aims to track, observe and evaluate the existing relationships between demands for diseases, accidents and productivity with working conditions, interfaces, systems and the organization of work [12].

Nursing is within the professions that deserve full attention regarding the health of the worker, since it is an activity that requires the physical force of the workers for the execution of some procedures as in the movement and removal of patients. These procedures become necessary and may cause back pain to the workers, directly interfering in the efficiency of the strength and ability to work in nursing [13].

Among the various occupational, biological and environmental hazards to which nursing workers are exposed, such as long periods of standing work, low back pain, disc herniation, complaints related to the musculoskeletal system represent one of the greatest causes of suffering of this working class, due to the physical effort required of these professionals, especially during the movement and removal of patients [14].

Carvalho e Magalhães (2013) Emphasize that the nursing professional is the professional who is most exposed to the risk of work in the health area. Considering that nursing comprises the largest group of individual workers, they provide uninterrupted care for 24 hours a day; performs 60% of health actions; is the most categories that come into physical contact with sick people [15].

Dul e Weerdmeester Argue that ergonomics can help solve various health, safety, comfort and efficiency problems. Many accidents occur due to human errors and in analyzing these errors we conclude that they are caused by the improper relationship between operators and their tasks [16]. The probability of occurrence of accidents can be mitigated when human capacities and limitations and the characteristics of the environment are adequately considered during the work project.

### Methodology

It is a qualitative-quantitative research, of the descriptive type with an exploratory approach. The study was carried out in a Santa Casa do Vale do Paraíba, with nursing professionals aged 60 or over.

The inclusion criteria of the research were: retired or not, who work in the hospital sector and at any work shift.

Older nursing professionals on vacation or on medical leave were not included in the study.

O presente estudo seguiu os preceitos estabelecidos pela Resolução nº 466/12, de 12/12/2012, do Conselho Nacional de Saúde.

Os aspectos éticos da pesquisa foram resguardados em todos os momentos do estudo, a coleta de dados só foi iniciada após o consentimento do Diretor Técnico da instituição e a aprovação, deste projeto, pelo Comitê de Ética em Pesquisa do Centro Universitário Teresa D'Ávila Lorena - SP, Brazil.

Upon authorization of the hospital, the data were collected at the place of performance of the subjects, in a reserved space at the convenient time for the professional approached.

The data were collected by the researcher, through closed questions elaborated with a focus on ergonomics and socio-demographic issues (sex, age, professional training, time of professional performance and time in the institution, work shift, elitism and smoking, health problems ergonomics, presence of noise, thermal comfort, lighting, load lifting, manual transport of cargo, identified ergonomic risks and continuous education on ergonomics).

The collected data were inserted in a spreadsheet (Excel software, 2003) and analyzed in the light of phenomenology.

Husserl's phenomenology aims to investigate the being of the form in which it appears in the phenomenon itself, which according to Triviños [17] is the study of the essences and all the problems according to it, define essence: the essence of perception, the essence of consciousness, for example".

### Results and Discussion

In compliance with the inclusion and exclusion criteria, six (100%) female nursing professionals, aged between 61 and 71, were included in this study, of which four (66.6%) were nursing assistants and two (33.3%) nursing techniques, as for schooling, three (50%) have completed the first grade and three (50%) have completed high school. They have been working in the same institution for more than 10 years.

Ribeiro states in his research that health and safety at work play a

crucial role in promoting worker health and consequently active aging. With the increase in life expectancy and the change in the rules for retirement, we began to have an active population of a higher age group with new needs associated with the natural degradation of the system) [18]. The author also points out that in the future there will be a greater number of elderly people fit for work and with a strong production requirement.

The time of performance in the area is between 20 to 46 years in the exercise of the profession.

The elderly have been identified according to Walter as the most important coadjuvant in relation to family income, contributing to their retirement and also contributing to family organization [19].

Two (33.3%) nursing assistants worked during the daytime period and four (66.6%) during the night shift, 12 hours worked and 36 h rest.

According to Manhães, nursing professionals who work at night show alterations in the biological balance, eating habits and sleep, loss of attention, accumulation of errors, mood and family and social life [20]. These particularities require attention of the professionals who have the responsibility of dimensioning the human resources in relation to the nursing activities.

It is worth noting that it is not feasible to keep these nursing professionals in the day shift, considering that the elderly evolves to some losses over the years, one of which is the decrease of attention [20].

As for being alcoholic, five (83.3%) professionals reported not using alcohol, and six (100%) reported not being smokers.

Professionals reported the following health problems: diabetes, hypertension, arthrosis, hypothyroidism and heart problem. Even presenting chronic health problems, all said they did not interfere in the performance of the function they perform.

Four professionals (66.6%) were dismissed due to health problems.

Castro and Farias present in their study that in the health sector the injuries that most affect health professionals are musculoskeletal [21].

Brêtas and Rodrigues report in their study that when nursing workers are aging or becoming ill they are transferred to sectors of less complexity or performing lighter activities [22].

When asked about organizational ergonomics (arrangement of equipment, cabinets and shelves), all (100%) reported that they did not interfere with their work activities.

Murofús and Marziale report the need to pay more attention to the postures in the execution of the activities, under the appropriate furniture conditions; and only then, expert medical attention may fall sharply [23].

All evaluated that the noise in the work environment was tolerable and in terms of thermal comfort four (66.6%) reported being good.

Three (50%) stated that lighting in the workplace was good.

When asked about the capacity to load cargo, two (33.3%) said to be difficult, two (33.3%) said to be moderate, two (33.3%) easy.

For manual cargo transport, five (83.3%) responded to carry out this activity frequently.

As Iida states that the manual transport of loads has consequences for workers' health. And for the elderly nursing professional is not

different due to the physical demand of the work activity [24].

Heavy work is classified according to Grandjean as the use of great physical effort, with energy consumption, and great demands of the cardiocirculatory and pulmonary system [25].

Iida points out in a survey that weightlifting causes approximately 60% of muscle problems in workers leading to withdrawals from activities [24].

Regarding continuing education on ergonomic risks, all (100%) answered that they had never received training on the best way to carry out their activities, avoiding ergonomic risks.

Ribeiro and Schimizu bring the need for institutions to invest in training so that professionals adopt correct postures and modernize equipment, thus reducing the professional wear and tear caused by such disorders [26].

During the application of the instruments it was observed that the professionals six (100%) did not know the term ergonomic risks, did not know what it was, confirming what Duarte and Mauro conclude in their studies that the knowledge is insufficient on the principles of the ergonomics, by these nursing professionals, as another risk to which this team is exposed. They further assert that risks are eliminated only when we come to know them [27].

## Final Considerations

The results reveal a female profile, aged 60 or over, working in the same institution for more than 10 years, practicing for more than 20 years, denying alcoholic beverages and smoking, approving organizational ergonomics in the workplace, noise is tolerable, the lighting is good, they do the manual transport of loads and lifting frequently.

It should be emphasized that according to nursing professionals, they have never had training on ergonomic risks, which demonstrates a lack of concern for the health of professionals by those responsible for hospital administration.

The social and scientific relevance of this study refers mainly to nursing professionals who are elderly and active in nursing, since in our country a few studies directed to these professionals of this age group. Therefore, it is important that more studies are carried out with these workers, aiming to improve the working environment more and more for these professionals, who are increasingly working in the labor market, specifically in nursing.

Among the challenges faced to carry out this study, the low number of specific publications of the nursing area on the theme stands out. It is considered of paramount importance that nursing professionals and academics deepen in the study of this subject aiming at its greater dissemination and greater understanding.

It is suggested to carry out future studies whose research lines proceed to the standardization of methods of evaluation of the exposure and the myoskeletal outcome, aiming to offer safer means for proposing measures to prevent and promote the health of nursing workers.

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