

# Nurses with chronic illness: relations with the illness, prevention and the work process\*

ENFERMEIROS COM DOENÇA CRÔNICA: AS RELAÇÕES COM O ADOECIMENTO, A PREVENÇÃO E O PROCESSO DE TRABALHO

ENFERMEROS CON ENFERMEDAD CRÓNICA, LAS RELACIONES CON LA ENFERMEDAD, LA PREVENCIÓN Y EL PROCESO DE TRABAJO

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## ABSTRACT

Nurses work within the interface of the population's process of falling ill and of occupational diseases. In this setting, chronic diseases are evidenced, and they affect the work process. The purpose of this study was to identify, in nurses, the measures used to prevent health problems in the presence of a chronic disease, analyze the relation between their knowledge and attitudes toward chronic diseases, and the relation of risk factors with their work process. This is a quantitative and descriptive study, involving 23 nurses with chronic diseases, representing 76.6% of the 30 nurses diagnosed with a chronic illness at a Federal Hospital, 22 of whom are women. It was observed that the nurses comply with the treatment proposed for their disease and have effective strategies to cope with the fact of falling ill, changing their lifestyles. Furthermore, they reported there were factors in their work environment that contribute to worsen their illness.

## KEY WORDS

Chronic disease.  
Nursing.  
Working process.  
Stress.

## RESUMO

Os enfermeiros atuam na interface do processo de adoecimento da população e das doenças relacionadas ao trabalho. Ali se evidenciam doenças crônicas, que interferem no processo de trabalho. O estudo teve como objetivos identificar nos enfermeiros as medidas de prevenção de agravos à saúde na presença de doença crônica, analisar a relação entre o conhecimento e suas atitudes frente a elas e verificar a relação dos fatores de risco com o seu processo de trabalho. Trata-se de uma pesquisa quantitativa e descritiva, realizada com 23 enfermeiros portadores de doenças crônicas, representando 76,7% dos 30 enfermeiros com diagnóstico de enfermidade crônica em uma Instituição Hospitalar Federal, sendo 22 do sexo feminino. Verificou-se que os enfermeiros aderem ao tratamento proposto para sua doença, possuem estratégias efetivas para enfrentar o adoecimento com mudança no estilo de vida, e relatam fatores de seu ambiente de trabalho que contribuem para o seu agravamento.

## DESCRIPTORIOS

Doença crônica.  
Enfermagem.  
Processo de trabalho.  
Estresse.

## RESUMEN

Los enfermeros actúan en la interface del proceso de enfermarse de la población y de las enfermedades relacionadas al trabajo, en que se pone en evidencia las enfermedades crónicas, las cuales interfieren en el proceso de trabajo. El estudio tuvo como objetivos identificar, en los enfermeros, las medidas de prevención de problemas de salud en la presencia de una enfermedad crónica, analizar la relación entre el conocimiento y sus actitudes frente a ellas y verificar la relación de los factores de riesgo con su proceso de trabajo. Se trata de una investigación cuantitativa, descriptiva, realizada con 23 enfermeros portadores de enfermedades crónicas, representando 76,7% de los 30 enfermeros con diagnóstico de enfermedad crónica de una Institución Hospitalaria Federal, siendo 22 del sexo femenino. Se verificó que los enfermeros adhieren al tratamiento propuesto para su enfermedad, poseen estrategias efectivas para enfrentar la enfermedad con cambio en el estilo de vida, y relatan factores del ambiente de trabajo que contribuyen para su agravamiento.

## DESCRIPTORIOS

Enfermedad crónica.  
Enfermería.  
Proceso de trabajo.  
Estrés.

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## INTRODUCTION

Nurses share illness and death profiles with the general population, according to their age, gender, social group or insertion into a specific risk group. They can also become ill or die for work-related reasons, as a consequence of the profession they perform or had performed, or as a result of adverse conditions in which it is or was performed<sup>(1)</sup>.

The investigations into this *complex work environment and the workers* date from the 1980s, but the knowledge that working can lead to illness is ancient and acknowledged as long as the cause and effect relation is chemical, physical and biological. It has been less accepted that the work itself or the work process can lead to illness<sup>(2)</sup>.

Nursing has some peculiar features, such as providing ongoing support 24 hours a day, with activities directly related to the care and recovery of a satisfactory state of well-being, being responsible for about 60% of health care. They are the health care workers who come into the most direct contact with sick patients; in addition, there is a predominance of female workers and the education is fragmented and hierarchical<sup>(3)</sup>.

Acknowledging these facts and keeping my professional career as a nurse in mind, on several occasions I developed and participated in programs for the prevention of chronic illness, with periodic medical examinations of workers and the whole university community. In one of the programs, I came across alterations in 60% of capillary blood tests of workers from the University Hospital, composed of workers from the medical and nursing teams, who were at risk for developing chronic illness.

The presence of a chronic illness may represent a continuous threat to both the person affected and the people surrounding him/her, since a chronic condition affects life as a whole. It causes dramatical changes to their daily life<sup>(4)</sup> and lifestyles in many different ways, and also preventing or hindering the affected person from being part of the productive environment in society and accessing consumer goods<sup>(5)</sup>.

In addressing these workers and their health, a differentiated treatment with its own characteristics should be considered, since they permanently dedicate themselves to direct care of patients with varying illnesses, often infectious and contagious. The constant exposure ultimately affects their psychological conditioning, with highly elevated stress levels caused by anxiety and suffering for their patient. This scenario is aggravated by long working hours, since many nurses have two or more jobs, and the health-work relationship and the ways in which the care for their own health become very important for preventing damages and chronic illness.

Thus, this research aimed at identifying chronic illness and damage prevention measures in nurses, examining the relationship between nurses' knowledge about chronic ill-

ness and attitudes towards them, and also to investigate the relationship of chronic illness risk factors and the nursing work process. This research is justifiable due to the necessity of acknowledging this reality, proposing prevention measures to avoid the worsening of illness in nurses.

## LITERATURE REVIEW

Non-transmissible chronic illnesses (NTCDs), the objects of this study, are hypertension, diabetes mellitus and dyslipidemia. These illnesses present several inter-related risk factors, and the emergence of new patients would be reduced by prevention, thus reducing the emergence of irreversible damages or complications that would lead to varying degrees of disability, even permanent disability. Damage prevention in nurses emerges as an extremely important measure.

Systemic Hypertension (SH) occupies a prominent place in the context of epidemiological transition, as a chronic-degenerative, asymptomatic illness, with greater exposure and susceptibility of people to a number of disorders that can impair quality of life. It is the most prevalent illness among

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non-transmissible illness and disorders. It can be regarded as a relatively severe illness due to its chronicity and progression to lesions on target organs, leading to the development of several other illnesses such as aneurysms, peripheral vascular illness, heart failure, chronic kidney illness, and retinal disorders, among others, contributing to over a third of all deaths. According to the World Health Organization, in the global view, hypertension affects more than 20% of the population and is

increasing in most countries. It is responsible for 7.1 million deaths, accounting for 13% of the total number of deaths worldwide in 2002. It is estimated that one-third of the retirement disability in Brazil occurs due to hypertension as the main cause. Moreover, these early retirements occur on average at 55 years of age<sup>(6)</sup>.

Diabetes Mellitus (DM) is not a single illness, but a heterogeneous group of metabolic disorders which present hyperglycemia as a common feature; 11% of the population aged 40 years or more is estimated to have it. In 1996, the illness prevalence was of 120 million people worldwide, and it is forecast to reach 250 million by 2025 due to increasing aging, obesity, sedentary life-style and changes in diabetics patterns<sup>(7)</sup>.

Dyslipidemia may be both the cause and consequence of various disorders, especially cardiovascular and endocrine disorders. Increases in total cholesterol, especially due to LDL, result in the high risk of atherosclerosis, diabetes mellitus, alcoholism, and hyperthyroidism that evolve with hyperlipidemia<sup>(8)</sup>.

The work environment strongly influences health; working conditions reflect social values and rules and workers' illness relate to many personal and institutional variables.

Many health changes people go through are associated with how they react and respond to work events, a fact that is also true for nurses.

Nurse's work presents many situations that expose them to continuous wear with important losses in satisfactory life conditions. International literature indicates that work overload, interpersonal relations, constant contact with pain and death situations, lack of autonomy, and exceeding authority from supervisors on nursing issues are areas of study that have originated discussions. In Brazil, studies have been conducted on this topic, and although they have identified various risk factors and workloads, especially on nursing team work, these factors are not related to work processes and chronic illness<sup>(9)</sup>.

Thus, it is important for the nurse to understand their work process, to be aware of the processes in different work locations, their practice, and their role in the development of a more creative way of working that benefits themselves, the patients and the profession as a whole. Excessive work does not favor the profession in the current context, in addition to harming the individual.

## METHOD

The approach of the research was quantitative, and descriptive, chosen for this analysis because it expressively represents the exposed goals.

The study location was a Federal Public Education Hospital, Reference Center in medium and high complexity health care of the Single Health System (SUS) with 643 beds distributed into various specialties, 510 clinics, 288 medical offices and 6,524 employees; a place where approximately 11,000 people circulate on a daily basis.

The research population was composed of 235 nurses employed under the Consolidation of Labor Laws (CLT) and the legal arrangements of the Single Judicial Regime (RJU), comprising the hospital staff.

After all nurses were counted and listed by their names, a search of medical records in the specialized service of Labor Safety and Medicine - SESMT - and at the Medico-legal Report Board, with prior permission from the Heads of these sectors, was performed focusing on the following inclusion criteria: 1) currently working, with no medical leave during data collection, 2) aged between 30 and 60 years old, 3) diagnosed with chronic hypertension and/or diabetes and/or dyslipidemia, and 4) willing to participate in this study. In all, 30 nurses were selected and 23 agreed to participate in this research

The research project was directed and approved by the Research Ethics Committee of the Health Sciences Division (CEP/SD: 344.024.07.04, CAAE: 0081.0.208.091-07).

Data collection was conducted between May and September of 2007, using a closed and self-administered structured questionnaire<sup>(10)</sup>, with 28 questions, divided into two different categories: the first was established with the intention of conducting a situational analysis from the profile of these nurses; the second, organized into open questions.

Data were described and systematized in worksheets and inserted in a Microsoft Excel 2003 database, enabling an initial categorization of the information provided by nurses; then, after they were grouped they were then processed. Spreadsheets were constructed and analyzed by statistics aided by the Statistical Package for Social Sciences (SPSS) software for Windows 5.0, analyzing the relationship between variables, comparing the results obtained and those expected. The answers for open questions were categorized by category affinity and similarity, in tables and charts.

## RESULTS

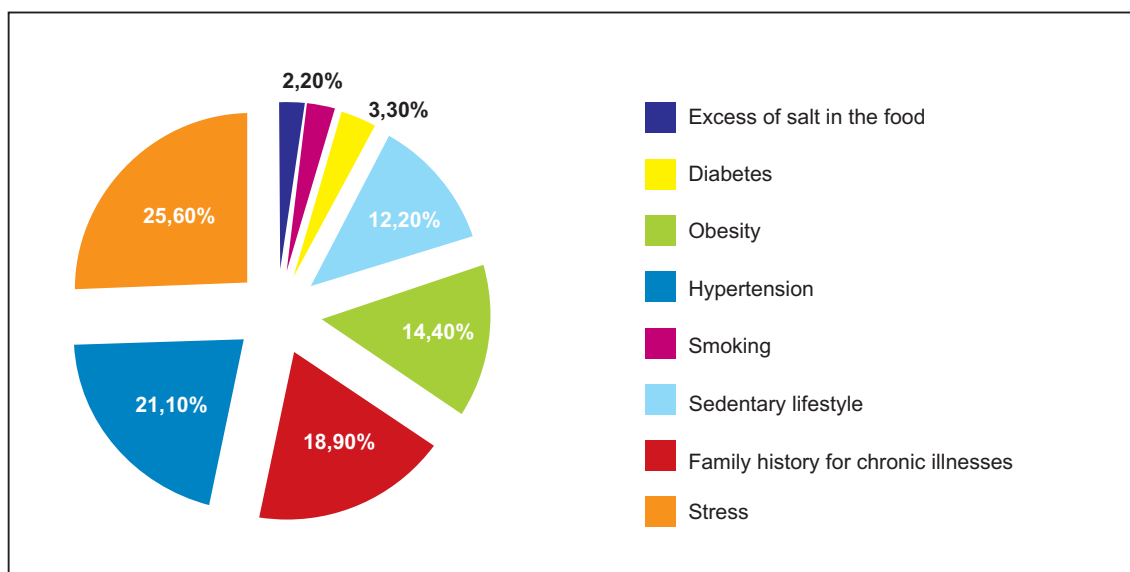
### *Characterization of nurses*

The research showed that the nurses' ages ranged from 35 to 58 years, averaging 47.3 years; professional practice was for a minimum of 10 and a maximum of 38 years, averaging 22.7 years. Married nurses, numbering 14 (60.87%), prevailed. The weekly working hours varied from 30 to 70 hours, with an average of 37.5 hours per week. Most nurses, 69.57%, are Catholic and 17.39% affirm not having a religion. Working time in the current institution ranged from 10 to 25 years, with most nurses staying in the same institution for many years. The majority of nurses (86.96%) have health plans.

### *Risk factors for chronic illness and the relationship with the nursing work process*

The relationship between the risk factors of chronic illness and the relationship with the nursing work process was observed by analyzing variables such as: nurses' responses to risk factors for chronic illness and the factors that contribute to chronic illness mentioned by them; nurses' capability; type of activity and illness; the percentage of nurses by the working time in the institution and time of the diagnosis; working shift versus illness and time of the diagnosis; and number of nurses' employment links and illness.

Looking at the diagram below, we can observe that this population reports four risk factors for cardiovascular illness in particular: stress (25.60%), hypertension (21.10%), followed by family history of chronic illness (18.90%) and obesity (14.40%).



**Figure 1** - Percentage of nurses' response by risk factor for chronic illness - Curitiba - 2007

Nursing was classified by the Health Education Authority as the fourth most stressful profession in the public sector, which is professionally trying to achieve higher social acknowledgement<sup>(11)</sup>. For these authors, some elements are known as threatening the occupational environment of nurses, including the small number of nurses in health care, for the excessive amount of activities they perform, the diffi-

culties in defining different roles between nurses, technicians and nursing assistants, and the lack of clear acknowledgement from the general public of who the nurse is.

Regarding the type of activity performed by nurses in the Institution and the relationship with chronic illness the following data were found:

**Table 1** - Relationship between the nurses' type of activity and illness - Curitiba - 2007

Type of Activity	Illness					Total
	S.H.	S.H. and Diabetes	S.H. and Dyslipidemia	Dyslipidemia	Diabetes	
Administrative	3	-	1	-	-	4
%	75.00	-	25.00	-	-	100.00
Care delivery	6	1	1	1	-	9
%	66.67	11.11	11.11	11.11	-	100.00
Care delivery and administrative	6	-	2	-	2	10
%	60.00	-	20.00	-	20.00	100.00
<b>Total</b>	<b>15</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>23</b>

It appears that the nurse that performs care delivery, whether or not it is combined with administrative activities, experiences more illnesses than those nurses working only in administrative activities. Nineteen nurses (78.3%) with chronic illness work in care delivery, a fact that shows the need to discuss their working conditions.

**Health disorders prevention measures adopted by nurses with chronic illness**

In this item, the knowledge of nurses regarding their illness and complications is examined, the number of em-

ployment links versus the number of leisure activities, the percentage of nurses in the leisure activity, time of diagnosis, and the number of leisure activities. In addition, prevention attitudes mentioned by nurses, ways of improving health, changes in the daily life of nurses after the illness, as well as whatever might be necessary to change the work environment and the suggestions to improve these professionals' health balance are also examined.

When asked about what they know of their illnesses and the complications related to them, their answers were grouped into the two themes above by similarity, in the following table:

**Table 2** - Nurses' knowledge about their illness and its complications - Curitiba - 2007

Knowledge	Nurses	%
Signs, Symptoms, Complications and Treatment	19	82.60
Signs, Symptoms and Complications	4	17.40
<b>Total*</b>	23	100.00

\* Some nurses reported more than one type of complication and knowledge about their illness.

The majority of nurses (82.60%) have good awareness of their illnesses and injuries. Of the 23 nurses, 19 knew the signs and symptoms, complications and the necessary medication to avoid worsening of their illness. The other 4 (17.40%) nurses knew their illness and the complications,

**Table 3** - Actions to prevent complications as reported by nurses - Curitiba - 2007

Preventive actions	No. of actions	%
Adherence to non-drug treatment	30	57.70
Adherence to drug treatment	15	28.85
Avoidance of stressful situations and environments	6	11.53
Self-medication	1	1.92
<b>Total*</b>	52	100.00

\* Some nurses reported more than one preventive action.

In the open question *What do you do to prevent complications of chronic illness*, the majority of nurses (57.70%) reported adherence to non-drug treatment, such as practicing physical activity and food intake control, followed by adopting drug treatment (28.85%).

When asked about which health problems lead them to seek professional help and which professionals they seek, doctors are generally the most frequently sought, and regarding the illness there are no specific symptoms, such as osteoarticular (17.4%), emotional (17.4%), respiratory (13.0%) and general metabolic (13.0%) problems among others.

As shown in Table 4, nurses responded in general about what changes occurred in their lives after the chronic illness diagnosis and most of the changes relate to the physical scope (44.83%), such as weight control, and behavioral changes (20.69%) such as reduction of involvement with patients.

**Table 4** - Changes in the daily lives of nurses after the diagnosis of illness - Curitiba - 2007

Types of changes	No.	%
Of the physical scope	13	44.83
Behavioral	6	20.69
At work	3	10.34
Valuing self care	3	10.34
None	4	13.80
<b>Total*</b>	29	100.00

\* Some nurses reported more than one type of change occurring in their lives

but did not mention the treatment, which does not mean that they are unfamiliar with it.

By cross-referencing the data on the number of employment links and leisure activities practiced by the nurses, no difference between the number of links and leisure activities were observed, indicating that even with more than one employment link, nurses are concerned about practicing some kind of recreational activity, contributing toward keeping healthy.

In the open question *What do you do to prevent complications of chronic illness*, the majority of nurses (57.70%) reported adherence to non-drug treatment, such as practicing physical activity and food intake control, followed by adopting drug treatment (28.85%), as shown in Table 3.

## DISCUSSION

Nurses' primary activity is the delivery of care to the human being and his family, and dealing with pain, illness and death is part of it. It is a complex and exhausting work; however, little has been invested in research to specify their roles both as users of health care services and as service providers, and in damage analysis.

Nurses are a population group that meets one of the most important social and humanitarian roles, and numerically, also occupy a significant position<sup>(12)</sup>. The high emotional tension arising from the direct care of sick people, linked to long working days, the low pay of most nursing professionals, the frequent need to work on more than one job, and the necessity of performing unpleasant tasks can cause health consequences such as accidents, shortening of life and even premature death of nursing workers<sup>(13)</sup>.

Everyone has a unique way of dealing with illness and treatment, and the impact they cause to the life of people in their social network. Factors such as will to live, support from loved ones, unquestioning conformance, and faith in God, among others, are used as a way to resist stress and continue functioning<sup>(14)</sup>. These attributes obviously vary from person to person and are influenced by their beliefs and values, but I believe they are used extensively by nurses.

Regarding the subjects' characteristics in this research, female nurses were predominant, an attribute of the profession, with a high average age (47.3 years) associated with the working time of 10 to 25 years in the same institution.



Nurses' knowledge about their illness and complications was evidenced since most of them (82.60%) show a good understanding of their illness and complications. The time for the diagnosis of these illnesses was an average of 8.5 years, where nurses at the beginning of treatment participate in more leisure activities, however, as the time from diagnosis goes by, they tend to reduce these activities by 50%.

The number of jobs worked does not influence the number of leisure activities, mostly entertainment activities (44.44%), followed by physical activities (30.87%) and trips (24.69%). It is understood that leisure holds a fundamental role as an alternative way for relaxing and relieving the stress from problems arising from the everyday and the individual context<sup>(15)</sup>.

As for prevention activities, 57.70% of nurses reported adherence to non-drug therapy, followed by the adherence to drug treatment (28.85%). All subjects adopted at least one type of treatment, and most of them follow their doctors' guidelines as to the use of recommended medications, following a balanced diet and practicing physical exercises, as opposed to the literature on the subject that refers to non-adherence to treatments, especially in the case of hypertension. Up to 80% of coronary disease cases, 90% of diabetes cases (type 2) and one-third of cancer cases and their complications can be prevented through increasing physical activity, changing eating habits and quitting smoking<sup>(16)</sup>.

Patients who do not adhere to recommendations for changing lifestyle will hardly ever present controlled levels of blood pressure, or improvement of other chronic illnesses, a fact that does not occur for the most part with the nurses in this study since most of the nurses adhere to them<sup>(17)</sup>.

As for the ways they care for their health, they invest in religious, family and social activities, leisure activities, physical activities, and changes in the work place such as: reducing hours worked, no overtime, workload reduction, avoiding stress exposure, control their agitation, and avoidance of positions requiring working of night shifts.

When asked about the changes following the chronic illness diagnosis, in order to understand the process of illness, we find that for the majority (86.20%), this diagnosis has changed their lives, but for the others (13.80%) there was no significant change, and they refer to the physical sphere (44.82%), such as weight control and behavioral changes (20.69%), as a waiver of certain professional goals and the reduction of involvement with patients. The main change was the inclusion of physical activities into nurses' everyday life. The very prolonged treatment of chronic illness causes nurses to remember, all the time, that self-care actions must be practiced to maintain health balance.

Chronic illnesses cause changes in people's lives, not only in the structure and functioning of the body, but also in the conditions and quality of life, with the need for developing new habits, reviewing social roles and incorporating

the illness into their living process<sup>(18)</sup>, which can be demonstrated in this study because nurses changed habits, making changes in the workplace such as avoiding stressful situations and changing attitudes that aggravate their illness.

Regarding chronic illness risk factors and the relation to nursing work, most nurses reported stress (25.60%), and hypertension (21.10%), followed by a family history of chronic illness (18.90%) and obesity (14.40%) as predominant factors.

In this study, based on the richness of the data found, one of the assumptions made by us was that the work of nursing contributes to chronic illness, and nurses need to understand themselves as people who face this process; demonstrating this assumption was not possible due to factors such as: the studied population did not portray the actual number of nurses in the institution with chronic illness, because not all of them report to the Occupational Health Service or the Medical Expert Board, usually only those on sickness leave for these reasons; conducting the study in only one institution prevented us from generalizing results; and the quantitative approach did not allow a detailed analysis of the open questions that would have benefitted from a qualitative study. It is important to emphasize that the subjects of this study were nurses with the same level of education and therefore have good knowledge of the chronic illnesses studied; and since all nursing courses approach them, their answers were somewhat influenced, since they tend to answer the expected thing to do, but not necessarily what they actually practice.

## CONCLUSIONS

The detriment to the nursing worker's health is real and deserves major emphasis in hospital work and throughout the health context. It is therefore recommended to incorporate prevention practices into the daily life of these professionals through the Hospital Occupational Health Service, offering adjustments to life and work conditions, with adjustment of functions, sectors, and less stressful working hours for better coping with external and internal stimuli; this is essential to prevent emergence or worsening of chronic health conditions, as well as studies with other methodological approaches on nurses who are patients with chronic illness and the extension of this research to other institutions.

Finally, this research is likely to support future studies if the nurses are aware of their work process, the effect of stress, and the scientific knowledge to face health problems and work environment situations.

Nurses feel cared for if the environment, socially and structurally, provides the conditions and means necessary so that they can experience comfort, welfare, development and recovery in the professional and personal scope, and enables the expression of emotions and points of view;

healthy work must be suitable as it regards the potential and limits of humans, organizations, adjustment conditions,

and when possible to the workplace to minimize the occurrence of chronic illness.

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