SELF-MEDICATION AMONG NURSING WORKERS FROM PUBLIC HOSPITALS[1]

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This study describes the prevalence of self-medication and associated factors among nursing workers. This epidemiological sectional study included 1,509 working nurses from two public hospitals in Rio de Janeiro, Brazil. The medications were identified and classified according to the Anatomical Therapeutic Chemical Index. The self-medication prevalence was 24.2% and the most reported anatomical group treated was the nervous system, while the therapeutic group included analgesics. Self-medication was more prevalent among young people, individuals with minor psychiatric disturbances, non-hypertensive individuals, those who did not exercise, those who reported a disease or injury in the last 15 days, with the highest number of self-diagnosed diseases, nurses, professionals with temporary work contracts and those highly involved with their work. Self-medication is a frequent practice among the nursing team members and is associated with factors that should be taken into account when planning strategies aimed at improving workers' health conditions.

DESCRIPTORS: self medication; drug utilization; occupational health nursing

AUTOMEDICACIÓN ENTRE LOS TRABAJADORES DE ENFERMERÍA DE HOSPITALES PÚBLICOS

Este estudio investigó la prevalencia de la automedicación y los factores asociados entre los trabajadores de enfermería. Se realizó un estudio epidemiológico seccional que abarcó 1.509 trabajadores de enfermería de dos hospitales públicos en Rio de Janeiro, Brasil. Los medicamentos fueron identificados y clasificados de acuerdo con el Anatomical Therapeutic Chemical Index. La prevalencia de automedicación fue de 24,2%, el grupo anatómico más referido fue el sistema nervioso y el grupo terapéutico incluyó los analgésicos. La prevalencia fue más alta entre: los más jóvenes, en aquellos con disturbios psíquicos menores, los no hipertensos, los que no hacían ejercicios físicos, los que refirieron enfermedad o herida en los últimos 15 días, en aquellos con mayor número de enfermedades autodiagnosticadas, los enfermeros, los de vínculo temporario, y los que refieren mayor envolvimiento con el trabajo. La automedicación es una práctica frecuente en el equipo de enfermería y está asociada a diversos factores que deberían ser considerados en estrategias que buscan mejores condiciones de salud entre ellos.

DESCRIPTORES: automedicación; utilización de medicamentos; enfermería del trabajo

AUTOMEDICAÇÃO ENTRE OS TRABALHADORES DE ENFERMAGEM DE HOSPITAIS PÚBLICOS

Este estudo investigou a prevalência de automedicação e fatores associados entre trabalhadores de enfermagem. Realizou-se estudo epidemiológico seccional que abrangeu 1509 trabalhadores de enfermagem de dois hospitais públicos no Rio de Janeiro. Os medicamentos foram identificados e classificados de acordo com o Anatomical Therapeutic Chemical Index. A prevalência de automedicação foi 24,2%, o grupo anatômico mais referido foi o sistema nervoso e o grupo terapêutico incluiu os analgésicos. A prevalência foi mais alta entre os mais jovens, aqueles com distúrbios psíquicos menores, não hipertensos, os que não faziam exercícios físicos, os que referiram doença ou ferimento nos últimos 15 dias, aqueles com maior número de doenças autodiagnosticadas, enfermeiros, de vínculo temporário, e os que referem maior envolvimento com o trabalho. A automedicação é prática frequente na equipe de enfermagem e está associada a diversos fatores que deveriam ser considerados em estratégias que buscam melhores condições de saúde entre eles.

DESCRITORES: automedicação; uso de medicamentos; enfermagem do trabalho

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INTRODUCTION

Self-medication is a common form of self-care and consists of consuming a product on one's own initiative in an attempt to relieve perceived symptoms or diseases[1]. It can be also defined as the "use of medication without prescription, medical guidance or follow-up"[2]. The major use of this practice has been associated with the following factors: female, young, higher education and income levels, knowledge of medication, and lack of access to the health system[3-5].

The consumption of drugs without prescription is a phenomenon of increasing relevance, motivated by a complex set of factors that are associated with values that predominate in modern society. Among these factors, the increased supply of alternative medication and the availability, unrestricted selling and propaganda of pharmaceutical products in the media are noteworthy[6].

Among health workers, there are factors related to the working environment and conditions and access to medication. Nursing workers handle several types of medications in their daily practice and the easy access can favor self-prescription and self-medication[7]. Even having theoretical and practical knowledge about these substances and their implications, these professionals are oftentimes trying to get rid of uncomfortable situations to better endure their workday[8]. The reality of nursing workers, who often have more than one job, coupled with the complex work performed at hospitals, leads to the conclusion that these professionals might face difficult moments or crises, making the consumption of medications a way to facilitate their lives[8].

Inappropriate self-medication can cause undesirable consequences and effects, iatrogenic diseases and mask progressive diseases[3]. It therefore represents an important problem that has to be acknowledged and prevented.

Although Brazilian studies have investigated the phenomenon of self-medication, the majority describe it among the elderly[4-5,9-11]. Among the few studies that investigate self-medication among health workers, the author and collaborators[3] are highlighted. These studies identified a 32% prevalence of self-medication for nurses, below only that identified for physicians (43%). Articles about the use of benzodiazepines among nursing students[12] and workers[13] were found in nursing publications, however, studies of self-medication among nursing workers were not found.

This study aimed to analyze the pattern of self-medication in nursing workers through the following: (a) to check the prevalence of self-medication reported by nursing workers; (b) to identify the medications most consumed without prescription and (c) to investigate the sociodemographic occupational characteristics and health patterns associated with self-medication. We believe that knowledge about this subject, still little studied among nursing workers, can support intervention projects that seek to improve working conditions and the health of nursing professionals and consequently the health of the population they care for.

METHOD

Data were obtained through a cross-sectional epidemiological study carried out in two public hospitals in Rio de Janeiro, RJ, Brazil: a large general hospital and a reference center for maternal-infant health. The study was based on census data and included all nurses, nursing technicians and auxiliaries who worked directly with nursing care, regardless of the work contract. The following exclusion criterion was used: nursing workers not providing care such as: head nurses and workers from the supply center. Of the 1,687 eligible nursing workers, 1,509 (89.4%) participated in the study.

A questionnaire with structured questions was used and it addressed, among other aspects, the following: (i) sociodemographic data, (ii) characteristics related to work, (iii) reported diseases and symptoms – high blood pressure, hospitalization, sleep and digestive disorders and minor psychiatric disturbances and (iv) the use of prescribed medication and self-medication. Three stages of pre-tests were carried out to refine the

questionnaire. The pilot test was carried out with 120 nursing workers from a federal public hospital with a social and functional profile similar to that of the nursing professionals addressed in this study.

Data collection was carried out during working hours by trained interviewers. Questionnaires were then reviewed, coded and independently typed up by two people using Validate (Epi-Info 2000) so as to identify and correct inconsistencies in data entry.

Information about the use of medication was collected through two questions included in the questionnaire: "did you take any medication (allopathic or homeopathic medication, home remedies, etc) in the last seven days?". If yes, the following question was: "which medication(s) did you take in the last seven days and who suggested it (them)?" (There were seven choices for answers.) Medications were identified and had their active principles separated and classified according to the Anatomical Therapeutic Chemical Index (ATC/DDD Index) developed by the World Health Organization Collaborating Centre for Drug Statistics Methodology[14]. According to this index, medication is classified in 14 large groups designated by a letter, given the agency or system in which the drug act in the anatomic group (for example, A – digestive tract and metabolism). Each group is in turn subdivided into subgroups. The first subgroup is represented by two numbers and corresponds to the therapeutic group (example: A02 – medication for dyspepsia). The second subgroup is represented by a letter and corresponds to the pharmacological group (example: A02A – Antiacids). The third subgroup is represented by a letter and corresponds to the chemical group (example: A02AB – Aluminum compounds). The fourth subgroup is represented by two numbers and corresponds to the chemical substance (example: A02AB01 – Aluminum hydroxide). In this study, we used the classifications of medication related to the two first groups (anatomic and therapeutic subgroup). However, this classification does not include some products such as teas, which were classified as natural products.

The prevalence of self-medication was obtained by dividing the number of workers who reported the use of at least one medication without medical prescription in the last seven days by the number of evaluated workers. Bivariate analyses were carried out to compare the prevalence of self-medication according to sociodemographic and occupational variables proposed in the study through the Pearson's Chi-square (levels of significance were set at 5%, that is, $p<0.05$) and prevalence ratios and their respective confidence interval at 95%.

Each employee signed a free and informed consent agreement authorizing the use of data in research. The Project was approved by the Ethics Research Committees of the involved institutions and also submitted to and approved by the National Research Ethic Committee (CONEP - Brasília) because it involved international cooperation (Process nº 1318/2004).

RESULTS

The study participants presented the following characteristics: 86.6% were women, 40.1% were 46 years or older, 44.2% were married, 39.5% reported to be mixed (in terms of ethnicity), 56.7% had a bachelor's degree, 52.3% were nursing auxiliaries and 46.2% reported a *per capita* family income below 700.00 *reais*[*].

The prevalence self-reported use of medication without medical prescription was 24.2%. The average number of drugs used in self-medication was 1.41 (varying from 1 to 8 reported drugs) whereas 71.9% reported the use of only one and 28.2% reported the use of one or two medications in the last seven days.

Table 1 presents these drugs according to the ATC anatomic classification (level 1) and therapeutic classification (level 2) and natural products. The most consumed medications were those for the nervous system (46.7%), digestive tract (15.4%) and natural products (10%). The most used subgroup was analgesics (43.4%), followed by anti-inflammatory and anti-rheumatic (7.3%) and vitamins (6.2%).

[*]NT. Brazilian currency equivalent to ~ USD 411.00.

Table 1 – Distribution of the frequency of drugs consumed in self-medication in the last seven days among nursing workers, Rio de Janeiro, Brazil 2007

Variables	ATC code	n	%
Nervous system	N	242	46.7
Analgesics	N02	225	43.4
Psycholeptic	N05	15	2.8
Anesthetics	N01	1	0.2
Psychoanaleptic	N06	1	0.2
Digestive tract and metabolism	A	80	15.4
Vitamins	A11	32	6.2
Antiacids, medication for treating peptic ulcers and flatulence	A02	24	4.5
Antiespamodic, anticholinergic and propulsive agents	A03	11	2.1
Bile and liver therapy	A05	3	0.6
Dental preparations	A01 A06	2	0.4
Laxatives	A09 A04	2	0.4
Digestives, including enzymes	A07 A12	2	0.4
Antiemetics and antinauseants	A16	1	0.2
Antidiarrheals, anti-inflammatory and intestinal anti-infectious		1	0.2
Mineral supplements		1	0.2
Other products for the alimentary tract and metabolism		1	0.2
Natural products	X	52	10
Musculoskeletal system	M	40	7.7
Anti-inflammatory and anti-rheumatic	M01	38	7.3
Topical products for joint and muscular pain	M03	1	0.2
Drugs for treating bone diseases	M05	1	0.2
Respiratory tract	R	36	7
Antihistamines for systemic use	R06	22	4.3
Preparations for coughs and colds	R05	11	2.1
Preparations for nasal use	R01	3	0.6
Several	V	36	7
All other therapeutic products	V03	30	5.8
General nutrients	V06	6	1.2
General anti-infective for systemic use	J	10	2
Antibacterial for systemic use	J01	8	1.6
Antimycotics for systemic use	J02	1	0.2
Antiviral for systemic use	J05	1	0.2
Cardiovascular system	C	8	1.5
Diuretics	C03	4	0.7
Agents that act on the rennin-angiotensin system	C09	2	0.4
Vasoprotectives	C05	1	0.2
Beta blockers	C07	1	0.2
Genitourinary system and sex hormones	G	7	1.3
Sex hormones and modulators of the genital system	G03	7	1.3
Blood and hematopoietic organs	B	5	1
Anti anemic preparations	B03	3	0.6
Antihaemorrhagics	B02	1	0.2
Blood substitutes and infusion solutions	B05	1	0.2
Systemic hormonal preparations, excluding sex hormones	H	1	0.2
Thyroid therapy	H03	1	0.2
Antiparasitic products, insecticides and repellents	P	1	0.2
Anthelmintics	P02	1	0.2
Total		518	100

Results of the analysis of association between reported self-medication and the variables considered in the study are presented on Tables 2, 3 and 4. In terms of sociodemographic variables, we observed that the prevalence of self-medication was higher among young people and those with the highest level of education (Table 2).

In relation to evaluated health conditions, we observed a greater prevalence among workers with minor psychiatric disturbances (depression and

anxiety); those who reported no physical activity; individuals dissatisfied with their sleep patterns; those who reported some disease or injury in the last 15 days and among those who reported the highest number of self-diagnosed diseases. Hypertensive individuals, however, reported less frequent self-medication (PR=0.75; CI95%=0.59-0.94) (Table 3).

In terms of occupational variables, self-medication prevalence was lower among nursing auxiliaries and technicians when compared to nurses. In addition, the highest prevalence were found among those who were not public employees and those who reported not being able to stop thinking about work even when they were off duty (Table 4).

DISCUSSION

The prevalence of self-medication reported by the studied nursing workers was 24.2%, below that identified among nurses in the basic health care network in Pelotas, RS, Brazil (32.4%)[3], though this study evaluated the use of medication in the last 15 days. The frequencies were also below those found in a study of residents in Santa Maria, RS, Brazil (53.3%)[15] and in another that evaluated self-medication in elderly people in Salgueiro, PE, Brazil (77%)[9]. However, the prevalence found in this study was higher than that observed in adult populations of other countries, such as Spain (12.7%)[6].

Table 2 – Prevalence of self-medication and prevalence ratios (PR) according to sociodemographic characteristics of nursing workers, Rio de Janeiro, Brazil 2007 (n= 1,509)

Variables	Prevalence		PR** (CI95%)
	N	%	
Gender			
Female	319	24.4	1.00
Male	47	23.3	0.98 (0.91-1.07)
		p=0.725*	
Age			
16 to 35	142	30.3	1.00
36 to 45	100	23.6	0.79 (0.59-1.08)
46 or older	120	19.8	0.65 (0.53-0.81)
		p<0,000*	
Marital status			
Married	158	23.7	1.00
Single	141	26.4	1.11 (0.91-1.35)
Divorced and widowed	65	21.5	1.03 (0.96-1.10)
		p=0.259*	
Education			
Primary school	22	19.1	1.00
Secondary school	120	22.4	1.17 (0.78-1.76)
College	223	26.1	1.36 (0.92-2.01)
		p=0.041**	
Race/color			
White	140	25	1.00
Mixed	140	23.5	0.94 (0.77-1.15)
Black	85	24.6	0.98 (0.78-1.24)
		p=0.837*	
per capita income (minimum wage)			
Up to ½	38	21.6	1.00
½ to 2	74	23.9	1.11 (0.78-1.56)
2.1 to 3	77	21.7	1.00 (0.71-1.42)
3.1 to 4	60	28.2	1.30 (0.92-1.86)
		p=0.240**	

* Pearson's Chi-square test
**linear trend test; both significant at <0.05
**Prevalence ratio (PR) and respective confidence intervals (CI); association was considered when intervals do not include the value 1

Table 3 – Prevalence of self-medication and prevalence ratios (PR) according to health conditions among nursing workers, Rio de Janeiro, Brazil 2007 (n= 1,509)

Variables	Prevalence of self-medication		RP (CI95%)
	n	%	
Self-perception of health			
Very good or good	297	24.3	1.00
Average or poor	69	24.6	1.01 (0.75-1.37)
		p=0.918	
Minor psychiatric disturbances			
No	217	20.9	1.00
Yes	149	31.8	1.52 (1.27-1.82)
		p<0.0001	
High blood pressure			
No	292	25.9	1.00
Yes	74	19.4	0.75 (0.59-0.94)
		p=0.010	
Physical exercises			
Yes	97	20.7	1.00
No	269	25.9	1.25 (1.01-1.53)
		p=0.030	
Satisfied with sleep patterns			
Yes	116	19.2	1.00
No	250	27.7	1.44 (1.18-1.75)
		p<0.0001	
Disease or injury in the last 15 days			
No	200	19.9	1.00
Yes	165	32.9	1.65 (1.39-1.97)
		p<0.0001	
Number of self-diagnosed diseases			
None	88	17.1	1.00
One or two	117	25.1	1.47 (1.14-1.88)
Three or more	161	30.6	1.79 (1.42-2.26)
		p<0,0001	

* Pearson's Chi-square test; significant at <0.05
**Prevalence ratio (PR) and respective confidence intervals (CI); association was considered when intervals do not include the value 1

The most consumed medications were those for the nervous system (46.7%), while the most used subgroup was analgesics (43.4%), a pattern described by several authors[3,5,9,15]. The results presented here were different from those of another study[11] that identified medications for the cardiovascular system as the most used therapeutic category. However, it involved elderly people, an age when the prevalence of cardiovascular disease is high. The findings of this study are relevant when it comes to the category of nursing workers because the excessive use of analgesics might be a reflection of poor working conditions, with minimum rest, which leads to fatigue and the need for medication, and consequently, self-medication. Another factor possibly related to the use of analgesics could be the prevalence of musculoskeletal disorders already reported among nursing workers[16-17].

Table 4 – Prevalence of self-medication and prevalence ratios according to professional characteristics of nursing workers, Rio de Janeiro, Brazil 2007 (n= 1,509)

Variables	Prevalence		PR (CI95%)
	n	%	
Professional category			
Nurse	117	28.1	1.00
Nursing technician	61	20.1	0.71 (0.54-0.94)
Nursing auxiliary	188	23.8	0.85 (0.69-1.03)
		p=0.041	
Public employee			
Yes	155	21.1	1.00
No	210	27.3	1.29 (1.08-1.55)
		p=0.005	
Number of jobs			
One	222	23.7	1.00
Two or more	144	25.1	1.05 (0.88-1.27)
		p=0.554	
Working hours			
Day	187	24.1	1.00
Night	91	24.7	1.02 (0.81-1.29)
Mixed	78	23.2	0.96 (0.73-1.27)
		p=0.856	
Cannot stop thinking about work even when off duty			
Disagree	298	23	1.00
Agree	68	32.5	1.14 (1.03-1.26)
		p=0.003	
Weekly working hours			
Up to 36	141	22.6	1.00
From 37 to 50	100	26.3	1.16 (0.93-1.45)
More than 50	119	24.5	1.08 (0.88-1.34)
		p=0.392	

*Pearson's Chi-square test - both significant at <0.05
**Prevalence ratio (PR) and respective confidence intervals (CI); association was considered when intervals do not include the value 1

Other studies[4-6,9] reported different results such as: more frequent self-medication among women, which can be explained by the fact that women usually seek health services more frequently and take better care of themselves.

In general, the consumption of medication increases as people get older[4,9]. However, self-medication tends to be higher among younger people[3,5-6]. This pattern was also identified in this study.

Marital status was not associated with self-medication among the studied nursing workers. The association between this variable and self-medication did not reach a consensus in literature. For example, results similar to those of this study were reported by another Brazilian study[5] that addressed a population of elderly people. However, a Spanish study identified a higher level of self-medication among adults who live alone[6].

Similar to this study's results, people with higher levels of education tend to self-medicate themselves more frequently[3,6]. The reasons have been attributed to the following factors: more knowledge about medication, higher economic status, less confidence in physicians and a greater feeling of personal autonomy in the face of decisions about their own health[6].

Studies have shown that self-medication is associated with the presence of less severe signs and symptoms of acute characteristics such as pain and fever. Chronic diseases that in general involve medical follow-up favor the use of prescribed medication[10]. Corroborating these findings, a higher level of self-medication was found among those who reported a disease or injury in the last 15 days and lower level among hypertensive individuals. Additionally, a higher consumption was found among those classified with minor psychiatric disturbances, among those dissatisfied with their sleep patterns and those with a higher number of self-diagnosed diseases. These aspects deserve more specific studies so as to understand how getting ill is related to the use of medication among nursing workers.

Similar to this study's results, other studies reveal that individuals with low physical activity present a higher consumption of medication[9]. Although one cannot establish a cause-effect relation based on cross-sectional studies, we know that physical activity is associated with improved health.

This study evidenced higher frequencies of self-medication among nurses. Another Brazilian

study[3] had already described a higher prevalence of self-medication among professionals with a bachelor's degree (including nurses) when compared to professionals with only secondary education completed.

The high prevalence found among those who were not public employees can be attributed to the age of the studied population. Although the difference for age was not presented in this study's analysis, the reported group was much younger than the public employees.

It is noteworthy that such a high prevalence was identified among professionals excessively involved with their work, who are unable to stop thinking about their work even when they are off duty. The importance of occupational stress is acknowledged as a risk factor for workers' diseases[3,6]. Therefore, studies that better clarify the influence of the psychosocial work environment on the use of medication are needed.

This study's findings should be evaluated considering the main limitations of cross-sectional studies, which do not permit establishing a clear temporal relation between events, hindering the establishment of cause and effect. One can also assume some degree of underestimation of information about the use of medication, due to forgetfulness or because participants did not want to report the use of certain drugs. Some medications could not be identified according to the adopted classification, because some participants did not provide sufficient information since they would have to recall the names or active substances of medications.

CONCLUSIONS

The issue "self-medication" is controversial in relation to the benefits and harms it causes to workers' health. This practice can be favored by factors such as easy of access to drugs and difficult of access to health services (as users of health services), whether due to a lack of time or money to pay for health insurances or because they find self-care difficult.

Self-medication is an old, universal problem of large proportions. Although it is very difficult to eliminate such a practice, it is necessary to provide guidance to the population in general about the use of medications in order to discourage unbridled consumption.

The potentially dangerous effects of self-medication might be underestimated by nursing workers. This subject should be addressed in schools and in strategies focused on improving the health of workers.

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REFERENCES

1. Paulo LC, Zanine AC. Automedicação no Brasil. Rev Assoc Med Bras 1988;34:69-75.

2. Ministério da Saúde (BR). Glossário do Ministério da Saúde: Projeto Terminologia em Saúde. Brasília (DF): Ministério da Saúde; 2004.

3. Tomasi E, Sant'anna GC, Oppelt AM, Petrini RM, Pereira IV, Sassi BT. Condições de trabalho e automedicação em profissionais da rede básica de saúde da zona urbana de Pelotas, RS. Rev Bras Epidemiol 2007;10(1):66-74.

4. Rozenfeld S. Prevalência, fatores associados de mal uso de medicamentos entre idosos: uma revisão. Cad Saúde Pública RJ 2003;19(3):717-24.

5. Loyola Filho AI, Uchoa E, Guerra HL, Firmo JOA, Lima-Costa MF. Prevalência e fatores associados à automedicação: resultados do Projeto Bambui. Rev Saúde Pública 2002; 36(1):55-62.

6. Figueiras A, Caamaño F, Gestal-Otero, Sociodemographic factors related to self-medication in Spain. Eur J Epidemiol 2000; 16:19-26.

7. Pin JG. O profissional de enfermagem e a dependência química por psicofármacos: uma questão de saúde do trabalhador. [Dissertação]. Rio de Janeiro (RJ): Escola de Enfermagem Anna Nery/UFRJ; 1999.

8. Martins ERC. As substâncias psicoativas e o trabalho de enfermagem. [Tese]. Rio de Janeiro (RJ): Escola de Enfermagem Anna Nery/UFRJ; 2006.

9. Sá MB, Barros JAC, Oliveira Sá MPB. Automedicação em idosos na cidade de Salgueiro – PE. Rev Bras Epidemiol 2007 março;10(1):75-85.

10. Loyola AI Filho, Uchoa E, Firmo JOA, Lima-Costa MF. Estudo de base populacional sobre o consumo de méd. entre idosos: Projeto Bambui. Cad Saúde Pública 2005 março-abril; 21(2):545-53.

11. Coelho JM Filho, Marcopito LF, Castelo A. Perfil de utilização da medicamentos por idosos em área urbana do nordeste do Brasil. Rev Saúde Pública 2004;38(4):557-64.

12. Paredes NP, Miasso AI, Tirapelli CR. Consumption of benzodiazepines without prescription among first-year nursing

students at the University of Guayaquil, school of nursing, Ecuador. Rev Latino-am Enfermagem 2008; 16:634-9.

13. Molina AS, Miasso AI. Benzodiazepine use among employees of a private company. Rev Latino-am Enfermagem 2008; 16:517-2.

14. World Health Organization Collaborating Centre for Drug Statistics Methodology [homepage on the Internet]. ATC Index 2007 e 2008. [updated 2008; cited 2008 Jan 12]. Avaliable from: http://www.whocc.no/atcddd/.

15. Vilarino JF, Soares IC, Silveira CM, Rodel APP, Bortoli R, Lemos RR. Perfil da automedicação em Município do Sul do Brasil. Rev Saúde Pública RS 1998;32(1):43-9.

16. Leite PC, Silva A, Merighi MAB. A mulher trabalhadora de enfermagem e os distúrbios osteomusculares relacionados ao trabalho. Rev Esc Enferm USP jun 2007;41(2):287-91.

17. Murofuse NT, Marziale MHP. Doenças do sistema osteomuscular em trabalhadores de enfermagem. Rev Latino-am Enfermagem 2005;13(3):364-73.

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