








Occupational damage to nurses in Primary Health Care*

Danos ocupacionais de enfermeiros na Atenção Primária à Saúde

How to cite this article:

Medeiros CRS, Coropes VBAS, Silva KG, Shoji S, Souza NVDO, Souza MHN, et al. Occupational damage to nurses in Primary Health Care. Rev Rene. 2021;22:e60056. DOI: <https://doi.org/10.15253/2175-6783.20212260056>

-  Célia Regina da Silva Medeiros¹
 Viviane Brasil Amaral dos Santos Coropes¹
 Karla Gualberto Silva¹
 Shino Shoji²
 Norma Valéria Dantas de Oliveira Souza³
 Maria Helena do Nascimento Souza¹
 Sheila Nascimento Pereira de Farias¹

*Extracted from the Thesis entitled “O contexto de trabalho, custo humano e adoecimento do enfermeiro da Estratégia Saúde da Família”, Escola de Enfermagem Anna Nery, Universidade Federal do Rio de Janeiro, 2019.

¹Universidade Federal do Rio de Janeiro, Escola de Enfermagem Anna Nery.
Rio de Janeiro, RJ, Brazil.

²Hospital Universitário Clementino Fraga Filho.
Rio de Janeiro, RJ, Brazil.

³Universidade do Estado do Rio de Janeiro.
Rio de Janeiro, RJ, Brazil.

Corresponding author:

Viviane Brasil Amaral dos Santos Coropes
Rua Claudio Bardy, 48 – Taquara.
CEP: 22725-200. Rio de Janeiro, RJ, Brazil.
E-mail: vivibrasil83@yahoo.com.br

EDITOR IN CHIEF: Viviane Martins da Silva
ASSOCIATE EDITOR: Renan Alves Silva

ABSTRACT

Objective: analyze the prevalence and types of occupational injuries among nurses working in the Family Health Strategy. **Methods:** cross-sectional study with 116 Family Health Strategy nurses. The Work-Related Damage Assessment Scale was used. For the analysis, Pearson's chi-square test was performed, with a significance level of 0.05. **Results:** the prevalence of physical damage of 70.7% was associated with the risk of critical illness, the most serious symptoms of which were: sleep or appetite alterations, circulatory disorders, body aches (head, arm, back, legs). Social damage (21.6%) and psychological damage (11.2%) were classified as bearable risk. **Conclusion:** showed high prevalence of illness manifested by physical damage classified as critical risk: arm pain, changes in appetite and circulatory disorders and, classified as serious risk: headaches, leg pain, sleep changes, back and body pain.

Descriptors: Disease; Work; Occupational Health; Primary Health Care; Nursing.

RESUMO

Objetivo: analisar a prevalência e os tipos de danos ocupacionais entre enfermeiros atuantes na Estratégia Saúde da Família. **Métodos:** estudo transversal com 116 enfermeiros de Estratégia Saúde da Família. Utilizou-se a Escala de Avaliação dos Danos Relacionados ao Trabalho. Para a análise foi realizado teste de qui-quadrado de Pearson, com nível de significância de 0,05. **Resultados:** a prevalência de danos físicos de 70,7% foi associada ao risco de adoecimento crítico, cujos sintomas mais graves foram: alterações de sono ou de apetite, distúrbios circulatórios, dores no corpo (cabeça, braço, costas, pernas). Danos sociais (21,6%) e danos psicológicos (11,2%) foram classificados como risco suportável. **Conclusão:** evidenciou elevada prevalência de adoecimento manifestado por danos físicos classificados como risco crítico: dores no braço, alterações de apetite e distúrbios circulatórios e, classificados como risco grave: dores de cabeça, dores na perna, alterações de sono, dores nas costas e no corpo.

Descritores: Doença; Trabalho; Saúde do Trabalhador; Atenção Primária à Saúde; Enfermagem.

Introduction

The nurse performs activities in Primary Health Care since the clinical performance, including the performance of technical procedures and educational actions to management, planning and evaluating the assistance⁽¹⁾. In this perspective, it is understood that Family Health is considered the main strategy of reorganization of the model of assistance, since it seeks the best understanding and action in the health-disease process and the integral and continuous care, directed to the families of the areas assigned and characterized as a broad work that requires from professionals a construction by the group⁽²⁾. Thus, the nurses, in Primary Health Care, exercise the clinic through the creation of links with the population and the establishment of the same with the multidisciplinary team, providing an appropriate work environment⁽³⁾.

It should be noted that the World Health Organization and the International Labor Organization have established recommendations on occupational health, aiming at the protection and well-being of workers, as well as the adaptation of the working environment in a healthy environment for the good development of the labor process⁽²⁻⁴⁾.

Professionals, when developing work activities, can suffer damages caused by working conditions, which, unfortunately, often go unnoticed by those involved in the work process and work organization. As a consequence, workers sometimes get sick and/or die at work⁽⁵⁾.

In this context, the concern with health promotion of health workers emerges, which should be a central axis in labor organizations. However, often what happens is to intervene only when the worker falls ill, even though there are preventive actions, but prevention is little or nothing developed in the reality of work. Moreover, situations in which the causal link with the agent causing or enhancing the illness of the workers due to working conditions is established are incipient⁽⁵⁾.

It is important to consider the importance of

studying the prevalence and main causes of illness among nurses in the Family Health Strategy that operate the model of care advocated by the National Policy of Basic Care in the Single Health System. In this sense, this research is justified by the approach of the Nursing Worker's Health within the Family Health Strategy.

In this sense, it is important to emphasize that this research is relevant because it can provide subsidies for decision making and strategy development by Primary Health Care managers in order to minimize the adverse effects of work on nursing professionals, as well as to encourage new research focused on prevention and health promotion.

From this angle, the following research question was established: what is the prevalence and main causes of illness among nurses working in the Family Health Strategy? In order to answer this research question, the objective of analyzing the prevalence and types of occupational injuries among nurses working in the Family Health Strategy was established.

Methods

This is a cross-sectional study carried out in the Family Health Strategies, in the city of Rio de Janeiro/RJ, Brazil. For the study, the basic health units of the planning area 1.0 and 2.2 of the city of Rio de Janeiro were selected, which had teams of the Family Health Strategy structured.

The data collection took place from January to April 2018. In this time cut, the main researcher established contact with the managers responsible for the Family Health Strategy teams in order to schedule a meeting in which details of the study would be explained. In addition, the nurses were invited to a meeting to discuss the research and request permission to collect data.

Continuing the data collection process, possible participants were contacted in order to explain the purposes, ethical aspects and means by which the data would be collected. Those who agreed to collabo-

rate with the study were provided with an envelope containing the collection instruments, which should be filled out at the appropriate time, with the return of the principal researcher scheduled to collect the material on the date set by the participants. They were also given the alternative of filling in the instruments immediately, which was accepted by a small proportion of the nurses.

The envelopes included questionnaires for the characterization of the sociodemographic profile for the Work-Related Damage Assessment Scale. In addition to these collection instruments, there were two ways of the Informed Consent Term, one way for the participant of the study and the other way for the researcher.

The participants of the study were the nurses active in the Family Health Strategy both in care and management. The inclusion criteria were: being a professional nurse, active in the areas of Family Health Strategy for at least six months. There were 13 professionals excluded who were on medical leave, away from work due to the qualification process or vacation. Thus, the study sample consisted of 116 nurses.

The damage from work and the respective risk of getting sick was evaluated by the Work Related Damage Assessment Scale (WRDAS), with its respective score. For each group of damages, whether physical, psychological and/or social, there is a risk classification of illness relative to this scale. This is a scale contained in the Work and Risk of Illness Inventory (WRII), which is composed of four independent scales and, WRDAS is the fourth scale⁽⁶⁾.

For a better understanding of the scale, it is necessary to consider that the Work-Related Damage Assessment Scale is composed of three domains: physical, psychological and social damages⁽⁶⁾. The results of the study were classified into four levels for the risk of getting sick: above 4.1 = most negative evaluation, presence of occupational diseases; between 3.1 and 4.0 = moderate evaluation for frequent, severe; between 2.0 and 3.0 = moderate evaluation, critical; below 1.9 - more positive evaluation, bearable. Its interpre-

tation occurs due to questions and factors.

In this sense, in the classification of the risk of getting sick, the significance level of 0.05 was used and occurred according to the damages related to work⁽⁷⁾. In the association between the risk of illness and work-related damages, the Odds Ratio (OR) estimate was also evaluated, with the respective 95% confidence interval (CI 95%).

For the study, two software were used: Epi-info[®], version 6.04 and Predictive Analytics Software (PASW Statistic[®]), version 21.0 for Windows. Therefore, the analysis occurred through univariate and bivariate statistics, calculation of absolute and relative frequencies, means, and standard deviation (SD) and Pearson's chi-square test.

This research was accomplished, obeying the Resolution n^o 466/12, of the National Health Council, being approved by the Committee of Ethics in Research of the Anna Nery Nursing School, São Francisco de Assis Health Care Institute, under opinion n^o 2,237,820/2017. It was also approved by the co-participating institution, Rio de Janeiro Municipal Health Secretariat, under opinion n^o 2,270,492/2017.

Results

The study included 116 nurses of the Family Health Strategy, of whom 56.0% were female, and 51.3% were 25 to 30 years old. Regarding the marital situation, the largest stratum was single nurses (55.2%) and had no children (64.7%). Besides, for family income variables, there was a predominance of income above six minimum wages (81.0%). Other, as for the school level, great part had post-graduation (50.9%). Besides, referring to the specialization in family health, it was verified that the majority (71.6%) didn't have this course. However, practically all nurses responded that they had been trained to work on the Family Health Strategy (95.7%), and (76.4%) had a training period of between one and three months.

However, practically all nurses responded that they had been trained to work on the Family Health

Strategy (95.7%), and (76.4%) had a training period of between one and three month. The symptoms that presented critical classification were: arm pain, change in appetite and circulatory disorders. And, were classified as serious physical damage the symptoms: headache, leg pain, changes in sleep, back pain and body pain.

Regarding the Social Damages, 78.4% of the nurses evaluated as bearable damages and 15.5% evaluated this damage as critical. In the same direction, regarding Psychological Damage, 88.8% of nurses evaluated as bearable damage, while 6% evaluated this type of damage as critical. As a result, 8.6% of the nurses were found to have a physical injury-related illness and 0.9% to have a social and psychological injury-related illness (Table 1).

Table 1 – Dimensions of the Work-Related Damage Assessment Scale, according to the risk classification referred to by nurses. Rio de Janeiro, RJ, Brazil, 2018. n=116

Work-related damages	Risk classification			Presence of occupational disease
	Bearable	Critical	Severe	
	n (%)	n (%)	n (%)	
Physical	34 (29.3)	47 (40.5)	25 (21.6)	10 (8.6)
Social	91 (78.4)	18 (15.5)	6 (5.2)	1 (0.9)
Psychological	103 (88.8)	7 (6.0)	5 (4.3)	1 (0.9)

In the dimension of Physical Damage, it was also observed that 21.6% of participants classified this damage as serious (Table 1). And, according to the Damage Assessment Scale, among the variables considered serious risks for the sickening of nurses, the following were highlighted: leg pain, mean = 3.74, SD = 1.86 and headaches, mean = 3.68, SD = 1.82.

In view of the findings, it was found that the dimension of Physical Damage presented most of the variables classified as critical and serious risk, while the dimensions of social and psychological damage presented values at all levels of classification ranging from bearable to satisfactory. Thus, in relation to the illness, the results showed that the physical damages

were considered more relevant for the illness of the nurses, followed by social damages and psychological damages.

In general, the variables referring to Physical Damage presented higher means (2.43), being classified as critical risk, while the variables referring to Social Damage (1.08) and Psychological Damage (0.77) presented more satisfactory evaluation, being classified as bearable risk (Table 2).

Table 2 – Classification of risk and dimensions related to the types of damage on the Work-Related Damage Assessment Scale. Rio de Janeiro, RJ, Brazil, 2018

Type damage	Average	Standard deviation	Risk classification
Physical	2.43	1.057	Critical
Social	1.08	1.088	Bearable
Psychological	0.77	0.943	Bearable

According to the results presented in Table 3, it was possible to observe the significant association between the presence of physical damage and the risk of illness among nurses ($\chi^2 = 70.7$; $p \leq 0.001$, OR=12.31). In the chance ratio analysis, it was observed that nurses who reported work-related physical damage were 12.3 (CI: 7.2-20.9) times more likely to fall ill, when compared to workers who presented social or psychological damage (Table 3).

Table 3 – Association between the risk of illness and work-related damages. Rio de Janeiro, RJ, Brazil, 2018

Work-related damages	Getting ill	Not getting ill	p	Odds ratio	*CI (95%)
	n (%)	n (%)			
Physical	82 (70.7)	34 (29.3)	<0.001	12.31	7.2-20.9
Social and Psychological	38 (16.4)	194 (83.6)		1.0	

*CI = Confidence interval

Discussion

Among the limitations of the study, the type of cross-sectional study adopted stands out, which does not allow the establishment of the cause and effect relationship. Another limitation is the fact that partici-

pants belong to only two planning areas, which makes it impossible to ensure the generalization of results for all nurses of the Family Health Strategy of the city of Rio de Janeiro.

As a relevant contribution of this study, it is important to emphasize that it will serve as a stimulus for future research and provide subsidies for the adoption of measures and interventions aimed at providing better health conditions to these workers. In addition, this study mentions the importance of developing public labor policies aimed at promoting health and preventing illness arising from the world of work. It is worth considering that the proposal to analyze the main causes of illness among nurses working in the Family Health Strategy will provide data that can improve the work process with a view to reducing the workload among these professionals.

In relation to the results obtained, it is inferred that the bearable/satisfactory classification does not denote a sickening situation, although there is the possibility that the nurses are using efficient strategies to deal with this work context, not causing serious complications to their health, which does not mean that with time, aggravations caused by work conditions may arise^(1,3,7).

Unlike another study, which defines isolation and difficulties in family and social relationships as Social Damage⁽⁸⁾, These damages were classified as bearable, and those who stood out most were the difficulties in work relations and impatience with people.

Regarding the Psychological Damages in the present study, all the variables were classified as bearable/satisfactory, however, the ones that stood out the most were bad mood and irritation regarding everything. The need for attention to this finding is highlighted, as it alerts to the possibility of chronic behavior, which can cause psychological disorders at work⁽⁹⁾. Linked to this context, it is worth considering the routine, that is, the work process established in the Family Health Strategy, which contributes to the health-disease process of nurses⁽¹⁰⁾.

The data presented corroborates the study that aimed to investigate the physical, cognitive and social human cost in the work environment and its correlation with health damages, showing that the physical damages received moderate/critical evaluation, and the others were evaluated as positive/supportable⁽¹¹⁾. In addition, work-related health damage was considered bearable in most of the results of this study.

Corroborating the literature at the university hospital level, the critical physical damages and psychological and social damages were evidenced as bearable in nursing workers working at surgical clinic units⁽⁷⁾.

In this sense, among the most common causes that potentialize the workers mental illness, are depression, anxiety, daily stress and the abusive consumption of psychoactive substances⁽⁹⁾. However, one cannot fail to consider the individual characteristics for establishing a good relationship between work and mental health. Moreover, it is relevant to evaluate socioeconomic issues and the environment in which the professional finds himself, so that there is a physical and psychic well-being⁽¹¹⁾.

Essentially, the expectation of meeting the organizational demands of work can promote mental suffering to the worker, in addition to the emergence of specific syndromes such as Burnout⁽¹²⁾. It can be inferred that these impacts on the worker's health can trigger negative feelings at work, leading them to work stress, which, in turn, has repercussions on the health imbalance and the process of falling ill through work⁽¹³⁾.

In this bias, the relationship process between individuals through interpersonal appreciation and exchange helps in the protection of subjectivity and, consequently, the health of professionals⁽¹⁴⁾. Thus, as a possible strategy for the change in the health of workers, ergonomic risks in Primary Health Care should be mapped in order to detect sectors with the greatest threat to workers.

It is important to emphasize that the develop-

ment of a work environment aimed at promoting workers' health triggers job satisfaction. It is also important to consider that satisfied workers carry out their activities in the work process with greater care, contributing to the establishment of humanization of relations between workers and the population⁽¹⁵⁾. Therefore, it is urgent to offer information to the managers, subsidizing them in the planning of strategies that favor the promotion of health, safety and worker satisfaction⁽⁸⁾.

Conclusion

This study showed a high prevalence of illness among nurses working in the Family Health Strategy, manifested mainly by physical damages classified as critical risk, and among the causes of illness in this category analyzed, were pointed out arm pain, appetite alterations and circulatory disturbances; and, classified as serious risk were pointed out headache, leg pain, sleep alterations, back and body pain. The dimensions related to social and psychological damages were classified as bearable risk, which did not cause a sickening situation for the Nurses in the Family Health Strategy.

Colaborations

Medeiros CRS, Souza MHN and Farias SNP collaborated in the conception and design, analysis and interpretation of the data. Coropes VBAS, Silva KG, Shoji S and Souza NVDO contributed in the writing of the article, relevant critical review of the intellectual content and final approval of the version to be published.

References

1. Ferreira SRS, Périgo LAD, Dias VRFG. The complexity of the work of nurses in Primary Health Care. *Rev Bras Enferm.* 2018; 71(Supl 1):704-9. doi: <https://doi.org/10.1590/0034-7167-2017-0471>
2. Alonso CMC, Béguin PD, Duarte FJCM. Work of community health agents in the Family Health Strategy: meta-synthesis. *Rev Saúde Pública.* 2018; 52:14. doi: <https://dx.doi.org/10.11606/s1518-8787.2018052000395>
3. Cordeiro TMS, Araújo TM. Prevalência da capacidade para o trabalho inadequada entre trabalhadores de enfermagem da atenção básica à saúde. *Rev Bras Med Trab.* 2017; 15(2):150-7. doi: <https://dx.doi.org/10.5327/Z1679443520177004>
4. Lima KM, Canela KGS, Teles RBA, Melo DEB, Belfort LRM, Martins VHS. Management in occupational health: importance of accident investigation and work incidents in health services. *Rev Bras Med Trab.* 2017; 15(3):276-83. doi: <http://dx.doi.org/10.5327/Z1679443520173016>
5. Caçador BS, Brito MJM, Moreira DA, Rezende LC, Vilela GS. Being a nurse in the family health strategy programme: challenges and possibilities. *Rev Mim Enferm.* 2015; 19(3):612-26. doi: <http://www.dx.doi.org/10.5935/1415-2762.20150047>
6. Mendes AM, Ferreira MC. Inventário sobre o trabalho e riscos de adoecimento – ITRA: instrumento auxiliar de diagnóstico de indicadores críticos no trabalho. In: Mendes AM, organizador. *Psicodinâmica do trabalho: teoria, método e pesquisas.* São Paulo: Casa do Psicólogo; 2007. p. 111-26.
7. Silva RM, Zeitoun RCG, Beck CLC, Martino MMF, Prestes FC. The effects of work on the health of nurses who work in clinical surgery departments at university hospitals. *Rev Latino-Am Enfermagem.* 2016; 24:e2743. doi: <https://dx.doi.org/10.1590/1518-8345.0763.2743>
8. Spylar P, Ozer A. Evaluation of the prevalence of musculoskeletal disorders in nurses: a systematic review. *Med Sci Int Med J.* 2018; 7(3):479-85. doi: <https://dx.doi.org/10.5455/med-science.2017.06.8747>
9. Fernandes MA, Soares LMD, Silva JS. Work-related mental disorders among nursing professionals: a Brazilian integrative review. *Rev Bras Med Trab.* 2018; 16(2):218-24. doi: <http://dx.doi.org/10.5327/Z1679443520180228>
10. Costa ED, Nascimento LCS. A prevalência de transtornos mentais nos trabalhadores da APS no município de Curitiba/PR. *R Saúde Públ Paraná.* 2019; 2(1):80-92. doi: <https://doi.org/10.32811/25954482-2019v2n1p80>

11. Pivoto FL, Lunardi F, Wilson D, Lunardi VL, Silva PA. Organization of work and the production of subjectivity of the nurse related to the nursing process. *Esc Anna Nery*. 2017; 21(1):e20170014. doi: <https://doi.org/10.5935/1414-8145.20170014>
12. Shoji S, Souza NVDO, Farias SNP, Vieira MLC, Progianti JM. Proposals for improving working conditions at an outpatient clinic: the nursing standpoint. *Esc Anna Nery*. 2016; 20(2):303-9. doi: <https://doi.org/10.5935/1414-8145.20160041>
13. Souza NVDO, Gonçalves FGA, Pires AS, David HMSL. Neoliberalist influences on nursing hospital work process and organization. *Rev Bras Enferm*. 2017; 70(5):912-9. doi: <https://doi.org/10.1590/0034-7167-2016-0092>
14. Silva AA, Terra MG, Leite MT, Freitas FF, Ely GZ, Xavier MS. Nursing and self-care in the world of psychiatric care. *Rev Pesqui Fundam Care Online*. 2015; 7(1):2011-20. doi: <https://doi.org/10.9789/2175-5361.2015.v7i1.2011-2020>
15. Thofehrn MB, Montesinos MJL, Jacondino MB, Fernandes HN, Gallo CMC, Figueira AB. Work process of nurses in health production in a University Hospital in Murcia/Spain. *Ciênc Cuid Saúde*. 2015; 14(1):924-32. doi: <http://doi.org/10.4025/cienc-cuidsaude.v14i1.22094>



This is an Open Access article distributed under the terms of the Creative Commons