

CAPACITY FOR WORK AND CARDIOVASCULAR RISK AMONG PREFECTURAL WORKERS ON A UNIVERSITY CAMPUS*

Aline Loiola Moura¹, Maria do Carmo Lourenço Haddad², José Carlos Dalmas³, Vanda Elisa Andres Felli⁴, Paloma de Souza Cavalcante Pissinati⁵

¹Enfermeira. Mestre em Enfermagem. Secretaria Municipal de Saúde de Apucarana. Apucarana-PR-Brasil.

²Enfermeira. Doutora em Enfermagem. Docente da Universidade Estadual de Londrina. Londrina-PR-Brasil.

³Matemático. Doutor em Engenharia de Produção. Docente da Universidade Estadual de Londrina. Londrina-PR-Brasil.

⁴Enfermeira. Doutora em Enfermagem. Docente da Escola de Enfermagem da Universidade de São Paulo EEUSP. São Paulo-SP-Brasil.

⁵Enfermeira. Mestranda em Enfermagem da Universidade Estadual de Londrina. Londrina-PR-Brasil.

ABSTRACT: This study aimed to ascertain the relationship of the Work Ability Index with Cardiovascular Risk in workers of the prefecture on a university campus. It is descriptive, exploratory, transversal and quantitative research undertaken in 2012 through the analysis of medical records of 226 workers who underwent regular examinations. Cardiovascular risk was calculated using the Framingham Risk Score. It was observed that 85.0% of the workers were aged over 40 years old. Regarding work capacity, 42.5% presented inadequate capacity. It was identified that 31.2% of the workers had a risk score between medium (20.8%) and high (10.4%) for developing cardiovascular diseases within 10 years. It is concluded that in spite of there being no significant association ($p < 0.05$) between the workers with inadequate capacity for work and those who presented medium and high cardiovascular risk, there was a high number of workers with cardiovascular risk factors.

DESCRIPTORS: Risk factors; Worker's health; Evaluation of work capacity; Nursing.

CAPACIDADE PARA O TRABALHO E RISCO CARDIOVASCULAR EM TRABALHADORES DA PREFEITURA DE UM CAMPUS UNIVERSITÁRIO

RESUMO: Este estudo objetivou verificar a relação do Índice de Capacidade para o Trabalho com o Risco Cardiovascular em trabalhadores da prefeitura de um campus universitário. Trata-se de uma pesquisa descritiva, exploratória, transversal e quantitativa realizada em 2012 com análise de prontuário de 226 trabalhadores submetidos a exames periódicos. O risco cardiovascular foi calculado por meio do Escore de Risco de Framingham. Observou-se que 85,0% dos trabalhadores possuíam mais de 40 anos de idade. Quanto à capacidade para o trabalho, 42,5% apresentaram capacidade inadequada. Identificou-se que 31,2% dos trabalhadores apresentaram escore de risco entre médio (20,8%) a alto (10,4%) para desenvolvimento de doenças cardiovasculares em 10 anos. Conclui-se que apesar de não ter ocorrido associação significativa ($p < 0,05$) entre os trabalhadores com inadequada capacidade para o trabalho e aqueles que apresentaram risco cardiovascular médio e alto houve elevada quantidade de trabalhadores com fatores de risco cardiovasculares.

DESCRIPTORIOS: Fatores de risco; Saúde do trabalhador; Avaliação da capacidade de trabalho; Enfermagem.

CAPACIDAD PARA EL TRABAJO Y RIESGO CARDIOVASCULAR EN TRABAJADORES DE AYUNTAMIENTO DE UN CAMPUS UNIVERSITARIO

RESUMEN: Este estudio tuvo la finalidad de verificar la relación del Índice de Capacidad para el Trabajo con Riesgo Cardiovascular en trabajadores del ayuntamiento de un campus universitario. Es una investigación descriptiva, exploratoria, transversal y cuantitativa realizada en 2012 con análisis de prontuario de 226 trabajadores sometidos a exámenes periódicos. El riesgo cardiovascular fue calculado por medio del Score de Riesgo de Framingham. Se observó que 85,0% de los trabajadores tenían más de 40 años de edad. Cuanto a la capacidad para el trabajo, 42,5% presentaron capacidad inadecuada. Se identificó que 31,2% de los trabajadores presentaron score de riesgo entre medio (20,8%) y alto (10,4%) para desarrollo de enfermedades cardiovasculares en 10 años. Se concluye que a pesar de no haber ocurrido asociación significativa ($p < 0,05$) entre los trabajadores con inadecuada capacidad para el trabajo y aquellos que presentaron riesgo cardiovascular medio y alto, hubo elevada cantidad de trabajadores con factores de riesgo cardiovasculares.

DESCRIPTORIOS: Factores de riesgo; Salud del trabajador; Evaluación de la capacidad de trabajo; Enfermería.

*Article extracted from the Dissertation titled: Capacity for work and risk for cardiovascular diseases among prefectural workers on a public university campus. State University of Londrina, 2013.

Corresponding author:

Paloma de Souza Cavalcante Pissinati
Universidade Estadual de Londrina
Av. Robert Koch, 60 - 86038-440 - Londrina-PR-Brasil
E-mail: cavalcanteps7@gmail.com

Received: 26/09/2014

Finalized: 04/12/2014

INTRODUCTION

The increase of the older adult population in the job market has intensified concern with health and work safety, above all in relation to the individuals' functional aging. Capacity for work has become an important indicator, for broadly evaluating the conditions of physical health, psychosocial well-being, individual competence, and work conditions and organization⁽¹⁾.

The capacity for work encompasses the level of aptitude which the worker has in order to undertake her daily work activities, in accordance with the work requirements and physical and mental conditions, as well as the state of health⁽²⁾. The Finnish model proposed for the maintenance of this capacity presupposes the need for integrating different areas of action, which covers improvements in the working conditions, improvements in the organization and in the psycho-social environment of the work, promotion of health and of the individual resources, and development of professional competence⁽¹⁾.

In the beginning of the 1980s, Finnish researchers developed the Work Ability Index (WAI), with the objective of allowing the worker to self-evaluate her capacity for work⁽³⁾. This index is constituted by a protocol for evaluating health and ability to work and, as a result, can contribute to the construction of occupational health programs⁽⁴⁾.

In Brazil, studies on ability for work and functional aging began following the translation of the WAI questionnaire in the 1990s. In recent years, these have become a focus for researchers in the area of health, seeking to understand the repercussions of the issues of demographic transition and alterations in the means of production of work for workers' health⁽⁵⁾.

The Brazilian version of the WAI was validated and considered satisfactory and reliable for evaluating ability to work after a study with workers of the departments of energy transmission of a company in the electrical sector in the region of Campinas, in the State of São Paulo⁽⁶⁾. The instrument's principal advantages are its ability to be filled out rapidly and its low cost, as well as the possibility of using it at the individual and collective level, so as to identify any reduction in work capacity at an early stage and to support preventive actions⁽¹⁾.

It is emphasized that it is relevant to prioritize health and ability to work during all the worker's active phases. Among the strategies used are measures involving the nurse and interdisciplinary team in implementing programs for maintenance of health and prevention of diseases, whether related or not to the work.

Research⁽⁷⁾ in a prefecture of a university campus, the institution where the present study was undertaken, identified the workers' socio-demographic and occupational profile, and demonstrated striking aging in this population. Besides this, a significant proportion of these professionals worked in positions which could compromise their ability to work and trigger functional aging.

In evaluating the ability for work, it was ascertained that the study population mentioned above was, predominantly, male, and it was observed that 41.0% of the population had ability to work which was moderate and low, that is to say, inadequate. The work of many, furthermore, involved lifting weights and spending long periods standing, with exposure to noise, which – associated with mental stress – can, over the years, contribute to compromising the workers' health⁽⁷⁾.

Health represents the fact which exercises the greatest force on the ability to work, in particular, regarding functional capacity and the presence of illnesses⁽¹⁾. Among the pathologies which can affect the worker, the cardiovascular diseases stand out due to being responsible for the highest number of deaths in the world population and, currently, constitute a serious public health problem, with implications for the health and living conditions of the world population⁽⁸⁾.

With the increase in life expectancy, one can observe greater occurrence of chronic-degenerative diseases, above all, of the cardiovascular diseases⁽⁹⁾. Moreover, these pathologies require attention – above all, because the premature mortality of adults and the partial or complete disabilities have repercussions not only for the quality of life and social network of the individuals affected, but also for the health system⁽¹⁰⁾.

It follows that quantifying the cardiovascular risk in a population is essential in addressing this public health problem⁽⁹⁾. The cardiovascular diseases can be triggered by genetic variables, environmental variables and life habits, which

are termed risk factors.

These factors are classified as modifiable, when related to the individual's lifestyle, such as smoking, drinking, and others⁽¹⁰⁾; non-modifiable factors include sex, age and heredity. This study, considering the representativeness of the factors, will address sex, age, dyslipidemia, smoking, arterial hypertension and diabetes mellitus.

The cardiovascular diseases can influence ability to work and have been the object of Brazilian and international studies^(1-7,11), demonstrating researchers' interest in identifying situations which compromise health in the work environment, and in seeking strategies for preventing and controlling the same.

Thus, this study is relevant as it investigates the relationship between the ability to work and the risk of cardiovascular diseases in university workers.

Considering the above-mentioned information, the present study aimed to ascertain the relationship of the Work Ability Index with cardiovascular risk in prefectural workers on a university campus.

METHODOLOGY

This is a descriptive, exploratory, transversal study with a quantitative approach. The study was undertaken in the prefecture of the university campus of a state university in the north of Paraná. The study population was made up of 226 medical records of workers who worked in the prefecture of the university campus, who had undergone the regular examination in 2010. The inclusion criteria was workers who participated in the study in the same year in which the Work Ability Index was evaluated.

The data were collected in the medical records archived in the Specialized Service in Safety Engineering and Occupational Medicine (SESMT) of the institution where the study was undertaken.

The study used an instrument made up of data referent to the worker, such as age, function exercise, results of laboratory tests undertaken in 2010, clinical diagnoses, therapy, and referrals to specialities.

In order to identify the risks for developing cardiovascular diseases, the Framingham Risk Score (FRS) was administered. This calculates the

probability of developing a coronary event within 10 years⁽¹²⁾.

To this end, the FRS uses the following parameters: sex, age, total cholesterol, HDL cholesterol, smoking, diagnosis of arterial hypertension (AH) and diabetes mellitus (DM). Based on the score, the risk scores for cardiovascular diseases were classified as: low (<10%), medium ($\geq 10\%$ to 20%) and high risk ($>20\%$)⁽²⁾. According to the Brazilian Society of Cardiology⁽¹³⁾, those with diabetes mellitus are characterized as at high risk for cardiovascular diseases, regardless of the scoring of the score.

The collection of data from the medical records took place between November 2011 and March 2012, with 100% of medical records collected being obtained. Following analysis of the medical records and the administration of the FRS, the data were correlated with the Work Ability Index (WAI) which had been identified in a study undertaken in 2010 with the workers who made up this study's population⁽⁷⁾.

The data collected were typed up and stored in a database in the format of the Statistical Package for the Social Sciences (SPSS) version 20, and were later analyzed using the univariate and bivariate analytical statistical technique, with application of the Chi-squared test ($p < 0.05$).

The study complied with the ethical requirements of the Brazilian National Health Council's Resolution 196/1996(14), which governs studies involving human beings, and obtained the approval of the Research Ethics Committee of a Public State University, as shown in Certificate of Presentation for Ethical Appreciation (CAAE) N. 0233026800011, on 26th September 2011.

RESULTS

From the 226 medical records analyzed, it was observed that 13.3% of the workers were female and 86.7%, male. Regarding age range, it was observed that age varied from 21 to 70 years old, the mean age being 48.9 years old, with standard variation of 10.0 years, which means that the group had a medium homogeneity in relation to age.

Considering the socio-demographic characteristics, Table 1 presents the study population by sex, marital situation, age and educational level.

Table 2 presents the professional characterization of the workers, related to function/work, shift, time of work in institution, whether they undertake paid employment elsewhere, whether they undertake extended/unusual hours, and the presence of workers who are in a situation of switching to more appropriate work activities, exercising activities which are compatible with their physical and psychological

Table 1 - Socio-demographic characteristics of workers of the prefecture of a public university campus. Londrina-PR, 2012

Socio-demographic characteristics	N=226	%
Sex		
Male	196	86,7
Female	30	13,3
Age		
< Or equal 40 years old	34	15
>40 Years old	192	85
Educational level		
Junior high – incomplete	26	11,6
Junior high	40	17,6
Senior high	131	57,9
Higher education	29	12,9
Total	226	100

limitations as recognized by expert medical report.

Table 3 presents the relationship between the Framingham Risk Score and the Work Ability Index.

It stands out that, in the present study, there was no significant association ($p=0.965$) between cardiovascular risk and ability for the work. However, the results indicate a high number of workers with inadequate ability for the work and risk for the development of cardiovascular diseases.

Table 2 – The professional categories of workers of the prefecture of a public university campus. Londrina-PR, 2012

Professional characteristics	N=226	%
Work		
Operational assistant	197	87,4
Technician	21	9,1
Degree-level professional	08	3,5
Time of work in the institution		
< 10 Years	39	17,3
>Or = 10 years	187	82,7
Has another job		
Yes	12	5,3
No	214	94,7
Undertakes overtime		
Yes	176	77,9
No	50	22,1
Has the person been moved to a more appropriate job		
Yes	11	5
No	215	95
Total	226	100

Table 3 – The relationship between cardiovascular risk and Work Ability Index for the workers of the prefecture of a public university campus. Londrina-PR, 2012

Framingham Risk Score	Work Ability Index				p-value
	Adequate		Inadequate		
	N	%	N	%	
Low Risk	88	67,7	66	68,8	0,965
Medium Risk	27	20,8	20	20,8	
Higher Risk	15	11,5	10	10,4	
Total	130	100	96	100	

DISCUSSION

The predominance of the male population is similar to a study on the reliability of the WAI among workers in the south of Brazil, in which 83% of the participants were male⁽³⁾. One study⁽²⁾ demonstrates that men manifest better capacity for the work when compared with women.

In contrast, when the risk for developing cardiovascular diseases is ascertained, men present a 71% greater probability of presenting three or more cardiovascular risk factors than do women. This result is owed to living habits, such as smoking and the habitual consumption of fat, among others⁽¹⁵⁾.

In relation to age range, 85% were aged over 40 years old, a result similar to that found among the hygiene and cleaning workers of a teaching hospital⁽¹⁶⁾. The fact that the workers were over 40 years old may represent a greater propensity to the cardiovascular risk factors⁽¹⁷⁾ and a reduction of their ability for the work⁽¹⁸⁾.

In analyzing the population's level of education, it was ascertained that the majority, 57.9%, had completed senior high school. A similar result was found in a study on factors associated with ability for work involving metallurgical workers, a fact which qualifies the worker and supports his self-care, so as to improve or maintain his functional capacity⁽³⁾.

In relation to the workers' area of work, it was observed that 87.4% worked as operational assistants. A significant number of workers in positions which can involve activities considered heavy indicates a probable early reduction of ability for the work.

It is noteworthy that the lower the level of the position occupied, the lower is the estimated monthly income, thus influencing the worker's quality of life and health, which requires adequate food, good living conditions, access to health services, and regular physical activity, among others⁽¹⁹⁾.

However, it stands out that 42.5% of the total of the population presented inadequate WAI. Taking into account that this population is predominantly aged over 40 years old, this result may be associated with aging, which triggers various illnesses which promote the deterioration of physical and mental ability, and, consequently,

reduce ability for work⁽²⁰⁾.

In calculating the risk for cardiovascular diseases, 31.2% presented medium and high risk for a cardiovascular event within 10 years. These data are higher than those found in a study undertaken with professionals from the health area, in which the medium and high risk predominated at 11.6%⁽²¹⁾. This is an alarming result, in observing the significant percentage of inadequate WAI in this study.

In analyzing the relationship between the workers' cardiovascular risk and WAI, it was verified that there was not a significant statistical correlation ($p < 0.05$) between those who presented inadequate ability for the work and those who presented medium and high cardiovascular risk. In spite of this, the investigation between the relationship of ability for work and cardiovascular risk is necessary, as evidenced in one study⁽²²⁾ undertaken with rural workers, in which 1.9% of the participants who presented low and moderate WAI mentioned having cardiovascular diseases.

In the light of the repercussions of the cardiovascular diseases for the worker's health⁽⁸⁻¹⁰⁾, emphasis is placed on the importance of the work of the nursing team, and, above all, of the nurse as a professional trained to promote health education at all levels of care⁽²³⁾ and to promote the maintenance of the ability for the work, monitoring the state of health so as to adapt the work activities undertaken by the worker.

FINAL CONSIDERATIONS

The study's results evidenced compromising of the ability for work within the population studied, given that 42.5% presented inadequate WAI. The medium and high risk for the development of cardiovascular diseases was present similarly among workers with adequate and inadequate WAI: there was no statistically significant relationship between these variables.

However, the high number of workers with inadequate ability for the work, and risk for developing a cardiovascular event within 10 years calculated as between medium and high, reinforces the importance of undertaking further longitudinal studies, monitoring the workers so as to ascertain the behavior of the variables in question.

The results presented suggest the relevance of developing occupational health programs, coordinated by nurses, so as to preserve, restore, and improve ability for the work. This is a necessary strategy, given that the cardiovascular diseases constitute causes of withdrawing from work, invalidity, and even the premature deaths of workers.

REFERENCES

1. Martinez MC, Latorre MRDO, Fischer FM. Capacidade para o trabalho: revisão de literatura. *Cienc. saude colet.* [Internet] 2010;15(Suppl 1). [acesso em 20 nov 2014]. Disponível: <http://dx.doi.org/10.1590/S1413-81232010000700067>
2. Tuomi K, Ilmarinen J, Jahkola A, Katajarinne L, Tulkki A. Índice de capacidade para o trabalho. São Carlos: Edufscar, 2005.
3. Renosto A, Biz P, Hennington EA, Pattussi MP. Confiabilidade teste-reteste do índice de capacidade para o trabalho em trabalhadores metalúrgicos do sul do Brasil. *Rev. Bras. Epidemiol.* [Internet] 2009;12(2). [acesso em 20 nov 2014]. Disponível: <http://dx.doi.org/10.1590/S1415-790X2009000200011>
4. Moreira PSV, Silvino ZR, Cortez EA. Aplicação do índice de capacidade para o trabalho na enfermagem: estudo descritivo. *Online Braz J Nurs.* [Internet] 2013;12(Suppl) [acesso em 20 nov 2014]. Disponível: <http://www.objnursing.uff.br/index.php/nursing/article/viewFile/4223/2514>
5. Marinho TB, Costa LB, Costa LCA, Alcantara PGF, Santos RLS. Reflexões sobre a capacidade para o trabalho dos professores das escolas municipais de João Pessoa. XXI Encontro nacional de engenharia de produção. [Internet] 2011. [acesso em 20 nov 2014]. Disponível: http://www.abepro.org.br/biblioteca/enegep2011_tn_wic_138_874_19012.pdf
6. Martinez MC, Latorre MRDO, Fischer FM. Validade e confiabilidade da versão brasileira do índice de capacidade para o trabalho. *Rev. Saúde Públ.* [Internet] 2009;43(3). [acesso em 14 abr 2014]. Disponível: <http://dx.doi.org/10.1590/S0034-89102009005000017>
7. Moura AL, Reis LM, Vannuchi MTO, Haddad MCL, Domansky RC. Capacidade para o trabalho de funcionários da prefeitura de um campus universitário público. *REE.* [Internet] 2013;15(1) [acesso em 14 abr 2014]. Disponível: <http://dx.doi.org/10.5216/ree.v15i1.13574>
8. Christofaro DGD, Andrade SM, Fernandes RA, Ohara D, Dias DF, Junior IFF, et. al. Prevalência de fatores de risco para doenças cardiovasculares entre escolares em Londrina-PR: diferenças entre classes econômicas. *Rev. Bras. Epidemiol.* [Internet] 2011;14(1). [acesso em 20 nov 2014]. Disponível: <http://dx.doi.org/10.1590/S1415-790X2011000100003>
9. Martins LN, Souza LS, Silva CF, Machado RS, Silva CEF, Vilagra MM, et. al. Prevalência dos fatores de risco cardiovascular em adultos admitidos na unidade de dor torácica de Vassouras, RJ. *Rev. Bras. Cardiol.* [Internet] 2011;24(5). [acesso em 20 nov 2014]. Disponível: http://sociedades.cardiol.br/socerj/revista/2011_05/2a_2011_v24_n05_04prevalencia.pdf
10. Pereira JC, Barreto SM, Passos VMA. Perfil de risco cardiovascular e autoavaliação da saúde no Brasil: estudo de base populacional. *Rev. panam. salud publica.* [Internet] 2009;25 (6). [acesso em 14 abr 2014]. Disponível: <http://dx.doi.org/10.1590/S1020-49892009000600004>
11. Bonsdorff MB, Seitsamo J, Ilmarinen J, Nygard CH, Bonsdorff ME, Rantanen T. Work ability as a determinant of old age disability severity: evidence from the 28-year finish longitudinal study on municipal employees. *Aging Clin Exp Res.* [Internet] 2011;24(4). [acesso em 21 nov 2014]. Disponível: https://jyx.jyu.fi/dspace/bitstream/handle/123456789/40589/AGING_2012_v24_354s.pdf?sequence=1
12. Galvão NI, Vilela RFJT, Orlandi BMM, Ferraz RF, Costa FAA, Fagundes DJ. Determinação do risco cardiovascular em população de check-up espontâneo através do Escore de Framingham. *Rev. Bras. Cardiol.* [Internet] 2013;26(5) [acesso em 21 nov 2014]. Disponível: <http://www.rbconline.org.br/artigo/determinacao-do-risco-cardiovascular-em-populacao-de-check-up-espontaneo-atraves-do-escore-de-framingham/>
13. Sociedade Brasileira de Cardiologia. I diretriz brasileira de prevenção cardiovascular. *Arquivos brasileiros cardiol.* [Internet] 2013;101(6) [acesso em 21 nov 2014]. Disponível: http://publicacoes.cardiol.br/consenso/2013/Diretriz_Prevencao_Cardiovascular.pdf
14. Ministério da Saúde (BR). Conselho Nacional de Saúde. Diretrizes e normas regulamentadoras de pesquisa envolvendo seres humanos. Resolução n. 196, de 10 de outubro de 1996. Brasília [Internet]. 1996. Brasil. [acesso em 2014 mar 26]. Disponível: <http://conselho.saude.gov.br/docs/Reso196.doc>
15. Muniz LC, Schneider BC, Silva ICM, Matijasevich A, Santos IS. Fatores de risco comportamentais acumulados para doenças cardiovasculares no sul do Brasil. *Rev. Saúde Públ.* [Internet] 2012;46(3) [acesso em 21 nov 2014]. Disponível: <http://dx.doi.org/10.1590/S0034-89102012005000021>
16. Silva LG, Haddad MCL, Domansky RC, Vituri DW. Capacidade para o trabalho entre trabalhadores de

higiene e limpeza de um hospital universitário público. REE. [Internet] 2010;12(1). [acesso em 14 abr 2014]. Disponível: <http://www.revistas.ufg.br/index.php/fen/article/view/5788/6602>

17. Farias RG, Santos SMA. Influência dos determinantes do envelhecimento ativo entre idosos mais idosos. Texto & contexto enferm. [Internet] 2012;21(1). [acesso em 14 abr 2014]. Disponível:<http://dx.doi.org/10.1590/S0104-07072012000100019>
18. Kreling NH. O envelhecimento do trabalhador impõe novos desafios às políticas públicas. Ind. Econ. FEE. [Internet] 2010;38(1) [acesso em 14 abr 2014]. Disponível: <http://revistas.fee.tche.br/index.php/indicadores/article/view/2414/2849>
19. Cunha JB, Blank VLG, Boing AF. Tendência temporal de afastamento do trabalho em servidores públicos (1995-2005). Rev. Bras. Epidemiol. [Internet] 2009;12(2). [acesso em 14 abr 2014]. Disponível: <http://dx.doi.org/10.1590/S1415-790X2009000200012>
20. Vita A, Palma R, Maganhani CB, Simeão SFAP, Conti MHS, Trize DM, et. al. Nível de capacidade para o trabalho e fatores associados em profissionais de atividades sedentárias. Salusvita. [Internet] 2012;31(3). [acesso em 20 nov 2014]. Disponível em: http://www.usc.br/biblioteca/salusvita/salusvita_v31_n3_2012_art_07.pdf
21. Cavagioni L, Pierin AMG. Cardiovascular risk among health professionals working in pré-hospital care services. Rev. Esc. Enferm. USP. [Internet] 2012;46(2) [acesso em 20 nov 2014]. Disponível: <http://dx.doi.org/10.1590/S0080-62342012000200018>
22. Ferreira ESS, Duran ECM, Daniel JGM, Toledo VP. Ability of working among rural workers of sugar and alcohol mill. Rev enferm UFPE. [Internet] 2014;8(2) [acesso em 20 nov 2014]. Disponível: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/3438/pdf_4539
23. Souza SM, Bernardino E, Vicelli RMM, Kalinowski CE. Perfil de pacientes submetidos ao cateterismo cardíaco: subsídios para prevenção de fatores de risco cardiovascular. Cogitare enferm. [Internet] 2014;19(2) [acesso em 26 set 2014]. Disponível: <http://ojs.c3sl.ufpr.br/ojs2/index.php/cogitare/article/view/36984/22754>