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Nursing diagnosis sedentary lifestyle in individuals with hypertension: an analysis of accuracy*

DIAGNÓSTICO DE ENFERMAGEM ESTILO DE VIDA SEDENTÁRIO EM INDIVÍDUOS COM HIPERTENSÃO ARTERIAL: UMA ANÁLISE DE ACURÁCIA

DIAGNÓSTICO DE ENFERMERÍA SEDENTARISMO EN LOS INDIVIDUOS CON HIPERTENSIÓN: UN ANÁLISIS DE LA PRECISIÓN

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ABSTRACT

Objective: Assessing the accuracy of the defining characteristics (DC) of the nursing diagnosis Sedentary Lifestyle (SL) in people with hypertension. **Method:** A cross-sectional study carried out in a referral center in the outpatient care of people with hypertension and diabetes, with a sample of 285 individuals. The form used in the study was designed from operational definitions constructed for each DC of the diagnosis. Four nurses with training to carry out diagnostic inferences did the clinical assessment for the presence of SL. **Results:** The prevalence of SL was 55.8%. Regarding measures of accuracy, the main DC for SL was *chooses a daily routine lacking physical exercise*, with sensitivity of 100% and specificity of 84.13%. Two DC stood out in the logistic regression, namely: *reports preference for activities low in physical activity* and *poor performance in instrumental activities of daily living (IADL)*. **Conclusion:** The results allowed identifying the best clinical indicators for SL in hypertensive adults.

DESCRIPTORS

Sedentary lifestyle
Hypertension
Nursing diagnosis

RESUMO

Objetivo: Analisar a acurácia das características definidoras (CD) do diagnóstico de enfermagem Estilo de Vida Sedentário (EVS) em pessoas com hipertensão arterial. **Método:** Estudo transversal desenvolvido em um centro de referência no atendimento ambulatorial de pessoas com hipertensão arterial e diabetes, cuja amostra foi de 285 indivíduos. Utilizou-se um formulário elaborado a partir de definições operacionais construídas para cada CD do diagnóstico. O julgamento clínico quanto à presença do EVS foi realizado por quatro enfermeiros treinados para realizar a inferência diagnóstica. **Resultados:** A prevalência do EVS foi de 55,8%. Considerando as medidas de acurácia *escolhe rotina diária sem exercício físico* foi a principal CD para o EVS, com sensibilidade de 100% e especificidade de 84,13%. A análise da regressão logística destacou duas CD: *verbaliza preferência por atividade com pouco exercício físico* e *baixo desempenho nas atividades instrumentais da vida diária*. **Conclusão:** Os resultados permitiram identificar os melhores indicadores clínicos para o EVS em adultos hipertensos.

DESCRITORES

Estilo de vida sedentário
Hipertensão
Diagnóstico de enfermagem

RESUMEN

Objetivo: Analizar la precisión de las características definidoras (CD) del diagnóstico de enfermería Estilo de Vida Sedentario (EVS) en personas con hipertensión arterial. **Método:** Estudio transversal desarrollado en un centro de referencia en la atención ambulatoria de personas con hipertensión arterial y diabetes, cuya muestra fue de 285 indivíduos. Se utilizó un formulario elaborado en base a definiciones operacionales construidas para cada CD del diagnóstico. El juicio clínico en cuanto a la presencia del EVS fue realizado por cuatro enfermeros entrenados para llevar a cabo la inferencia diagnóstica. **Resultados:** La prevalencia del EVS fue del 55,8%. Considerando las medidas de precisión, *elige rutina diaria sin ejercicio físico* fue la principal CD para el EVS, con sensibilidad del 100% y especificidad del 84,13%. El análisis de la regresión logística destacó dos CD: *verbaliza preferencia por actividad con poco ejercicio físico* y *bajo desempeño en las actividades instrumentales de la vida diaria*. **Conclusión:** Los resultados permitieron identificar los mejores indicadores clínicos para el EVS en adultos hipertensos.

DESCRIPTORES

Estilo de vida sedentário
Hipertensión
Diagnóstico de enfermería.

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INTRODUCTION

The knowledge of good clinical indicators allows a more accurate nursing diagnosis, and effectively promotes the practical application of the work process. The accuracy of a variable is its ability to really represent what it should represent, reflecting the degree to which the findings can lead to the correct conclusions[1]. In the field of research on nursing diagnoses, there is accuracy when the diagnosis corresponds to the real or true state of the patient[2].

At this point, the defining characteristics of a nursing diagnosis are understood as a group of signs and symptoms that function as indicators of the presence of a nursing diagnosis. They are clinical evidences that need to be studied in practice[3].

The nursing diagnosis Sedentary lifestyle (SL) was included in the NANDA-International in 2004. This diagnosis defined as *a habit of life characterized by a low level of physical activity*, belongs to the domain 1 – Promotion of health, class 1 – Perception of health, and has the following defining characteristics: *demonstrates physical deconditioning*; *chooses a daily routine lacking physical exercise*; *reports preference for activities low in physical activity*[3].

A revision of the afore mentioned diagnosis was carried out in 2011, in order to validate it within the population of hypertensive individuals. The present review suggested three other defining characteristics, namely: *does not perform physical activities in leisure time*; *overweight* and *poor performance in instrumental activities of daily living (IADL)*, and a division of the characteristic *demonstrates physical deconditioning* in *decreased cardiorespiratory capacity*; *decreased muscle strength* and *decreased flexibility of the joints*[4].

However, there are few studies involving the sedentary lifestyle as a nursing diagnosis. Moreover, this habit of life is an indicator of health risk and considered a worldwide concern. A sedentary lifestyle is today a threat to health because it constitutes a risk factor for the onset or maintenance of very common chronic diseases, including hypertension[5].

The benefits of physical activity are considerable, especially the reduction of cholesterol levels, calorie burning, strengthening of muscles and bones, improved lung capacity and flexibility of joints. Exercising also acts as a prophylactic means and treatment of various diseases and non-communicable diseases such as diabetes mellitus, hypertension and obesity[6].

The importance of this study is based on the need for research to determine the diagnostic accuracy of SL in specific populations such as individuals with hypertension. The choice of the most appropriate interventions depends on this accuracy, and consequently, the quality of nursing care.

In this context, based on the review of the SL diagnosis carried out in 2011, and understanding the sedentary lifestyle as a risk factor for the lack of blood pressure control, the following research question arose: which clinical indicators allow identifying the presence or absence of the nursing diagnosis SL in people with hypertension? The aim of this study is to analyze the accuracy of the defining characteristics of SL in people with hypertension.

METHOD

This is a cross-sectional study, carried out in a referral center in the outpatient care of people with hypertension and diabetes, located in the state of Ceará. The sample consisted of 285 individuals of both genders, with hypertension, registered and monitored in the mentioned center and aged between 19 and 59 years. Individuals with medical contraindications to perform any practices of physical activity were excluded from the sample.

In order to estimate the sample, was used the formula recommended for accuracy studies, of single test, and the following parameters: confidence level of 95%, minimum sensitivity of 80%; desired width of one-half of the 95% confidence interval of 6%, and the proportion of individuals with sedentary lifestyle of 60%, identified in a previous study, leading to a total of 285 individuals[7].

Study participants were selected by consecutive sampling and evaluated in a single moment, when they came to the service center for a consultation or to get medication. Data collection was carried out by a nurse and four undergraduate students, who underwent a prior training that lasted eight hours, included the handling of materials (fleximeter, stadiometer and scales) and the filling out of the data collection form. For data collection was applied the form developed from operational definitions constructed for each defining characteristic of SL, based on previously validated scales and instruments[8-13].

The clinical judgment regarding the presence of the nursing diagnosis SL was conducted by four nurses selected among the members of a research group on nursing diagnoses, interventions and outcomes. These nurses should also have a degree in nursing as minimal requirement. They were invited to participate in a training course for two days, totaling 16 hours, on aspects related to the process of reasoning, inference and diagnostic accuracy. Subsequently, they underwent an assessment of the ability to correctly classify subjects with or without the nursing diagnosis, as described in the specialized literature[14-15].

After the evaluation and selection of the experts able to carry out the diagnostic inference, they received the data compiled in an Excel spreadsheet with 285 cases containing the defining characteristics that were present or absent in each case.

Through the diagnosis inferences made by specialists were calculated the sensitivity, specificity, and positive and negative predictive values, likelihood ratios, diagnostic odds ratio and the area under the ROC curve for each defining characteristic of SL.

The sensitivity (Se) is the probability of correctly identifying the presence of a clinical indicator in patients with a nursing diagnosis. The specificity (Sp) is the probability of correctly identifying the absence of a clinical indicator in patients without a nursing diagnosis. The predictive value indicates what is the probability of a diagnostic in the presence of a certain defining feature (PV+), as well as the probability of absence of diagnosis in the absence of a certain defining characteristic (PV-)[15].

Similarly, the likelihood ratio (LR) is the probability of the presence or absence of a defining characteristic in patients with SL divided by the same probability of patients without this diagnosis, which can also be classified as positive or negative[16].

Finally, the diagnostic odds ratio (DOR) indicates the increased chance of an individual being diagnosed when the defining characteristic is present. It is calculated using the following formula: DOR = LR + / LR -. The area under the ROC curve is used to compare various clinical indicators and to sum the accuracy of various clinical indicators. It is calculated using the following formula: ROC = (Se + Sp) / 2 (for good clinical indicators, it is expected that the value is close to 1)[17]. All analyzes were done with the support of the R software version 2.15.1, considering a significance level of 5% ($p < 0.05$).

The study was approved by the ethics committee of the institution responsible for it, under number 115,477. All participants signed the term of consent to formalize the participation in the study, and their anonymity was preserved.

RESULTS

Among the 285 interviewed patients, 55.4% were female and lived with a partner (62.8%). The age and education variables indicated that half of the sample was aged up to 53 years (median), and had up to 10 years of study. It was observed that half of the individuals in the study had per capita family income of up to 500 reais (median), which is lower than the value of the minimum wage paid in the country during the data collection period.

Regarding clinical data, the majority of respondents simultaneously had diabetes mellitus and half of these has known about the disease diagnosis for at least twelve years. Also, half of participants has known about the hypertension diagnosis for at least ten years.

The frequency of diagnosis of the sedentary lifestyle was 159 (55.8%). The most frequent defining characteristics were *decreased flexibility of joints* (93.7%), followed by *overweight* (85.3%), d*oes not perform physical activity in leisure time* and *reports preference for activities low in physical activity*, considering that the last two had the same percentage (83.9%), as shown in table 1.

Table 1 –Distribution of the presence of the defining characteristics and of the nursing diagnosis Sedentary lifestyle in people with hypertension – Fortaleza, CE, 2013

Variables	n	%	CI 95%
1. Sedentary lifestyle	159	55.8	50.04 – 61.56
2. Defining characteristics			
Decreased flexibility of joints	267	93.7	92.27 – 95.13
Overweight	243	85.3	81.19 – 89.41
Does not perform physical activities in leisure time	239	83.9	79.63 – 88.17
Reports preference for activities low in physical activity	239	83.9	79.63 – 88.17
Chooses a daily routine lacking physical exercise	179	62.8	57.19 – 68.41
Decreased cardiorespiratory capacity	123	43.2	37.46 – 48.94
Poor performance in instrumental activities of daily living	113	39.6	33.93 – 45.27
Decreased muscle strength	21	7.4	4.37 – 10.43

The calculation of measures of accuracy of the defining characteristics showed that *chooses a daily routine lacking physical exercise* was the main feature for the Sedentary lifestyle, with a sensitivity of 100% and a high specificity value (84.13%). Other important data were the high area under the ROC curve (0.9206) and the negative predictive value of 100%. Besides this, the features that demonstrated high sensitivity were *does not perform physical activity in leisure time and reports preference for activities low in physical activity*, which also showed a high negative predictive value. Regarding the more specific defining characteristics, the highlights were *chooses a daily routine lacking physical exercise, decreased cardiorespiratory capacity and poor performance in instrumental activities of daily living*, as shown in table 2.

Table 2– Sensitivity (Se), Specificity (Sp), Predictive value (PV), Likelihood ratio (LR), Diagnostic Odds Ratio (DOR) and Receiving Operating Characteristic curve (ROC) of the defining characteristics (DC) of the Sedentary lifestyle in hypertensive people – Fortaleza, CE, 2013

Defining characteristics	Se	Sp	PV+	PV-	LR+ (CI 95%)	LR- (CI 95%)	DOR (CI 95%)	ROC
Poor performance in instrumental activities of daily living	45.28	67.46	63.72	49.42	1.39[1.04 - 1.86]	0.81[0.67 - 0.98]	1.71[1.03 - 2.88]	0.5637
Decreased cardiorespiratory capacity	52.83	69.05	68.29	53.70	1.71[1.28 - 2.28]	0.68[0.56 - 0.84]	2.49[1.49 - 4.21]	0.6094
Chooses a daily routine lacking physical exercise	100.00	84.13	88.83	100.00	6.30[4.21 - 9.42]	0.00[0.00 -NaN]	Inf[94.86 - Inf]	0.9206
Does not practice physical activities in leisure time	97.48	33.33	64.85	91.30	1.46[1.28 - 1.67]	0.08[0.03 - 0.20]	19.19[6.63 -76.19]	0.6541
Reports preference for activities low in physical activity	97.48	33.33	64.85	91.30	1.46[1.28 - 1.67]	0.08[0.03 - 0.20]	19.19[6.63 - 76.19]	0.6541

The logistic regression analysis highlighted two defining characteristics with statistical significance for predicting the diagnosis Sedentary lifestyle: *reports preference for activities low in physical activity* and *poor performance in instrumental activities of daily living*. The logistic model showed statistical significance according to the Omnibus test (p <0.001), enabling the identification of the diagnosis in question from these two variables. No significant differences were identified between the observed and expected frequencies, based on the final model (p = 0.402) demonstrating to be a good fit. The coefficients for each variable included in the model showed statistical significance according to Wald (p <0.05). The coefficient of determination indicated that the power to identify people who have the diagnosis is 30.2%, based on the model created (Table 3).

Table 3 – Logistic regression for defining characteristics predictive of the diagnosis Sedentary lifestyle identified in people with hypertension - Fortaleza,CE, 2013

Nursing diagnosis / predictors	Wald (Sig)	OMN (Sig)	HL (Sig)	R^2	-2 Log
Reports preference for activities low in physical activity	32.864 (< 0.001)	72.854 (< 0.001)	1.824 (0.402)	0.302	318.410
Low performance in instrumental activities of daily living	17.181 (< 0.001)				
Constant	28.843 (< 0.001)				

Wald- Wald test; OMN- Omnibus test; HL- Hosmer and Lemeshow test; R^2- Nagelkerke's R-squared; -2 Log likelihood- Logarithm of likelihood ratio.

Figure 1 shows a comparison of the rate of true and false positives for the defining characteristics studied. It is possible to note that the defining characteristic *chooses a daily routine lacking physical exercise* showed better performance compared with the other (highest true positive rate and low false positive rate). The features *does not perform physical activity in leisure time* and *reports preference for activities low in physical activity* showed better performance for identifying the absence of diagnosis.

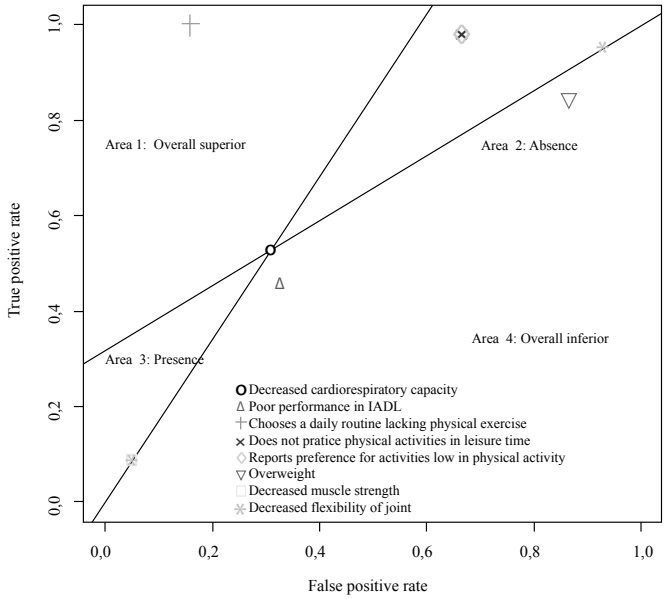

Figure 1 – Comparison of the accuracy of the defining characteristic for the diagnosis of Sedentary lifestyle in hypertensive people – Fortaleza, CE, 2013.

DISCUSSION

The nursing diagnosis Sedentary lifestyle points to a condition that must be identified early by the nurse, because physical activity is a cornerstone of non-pharmacological treatment of hypertension and helps to prevent health problems[18].

The frequency of diagnosis Sedentary lifestyle found in the study was similar to the results described in other studies with hypertensive people[19-20]. This result alerts to the fact that although half of the individuals has had knowledge of the diagnosis of hypertension for at least ten years and is in follow-up as an outpatient, they are still exposed to the risk factor of physical inactivity.

The sociodemographic profile found, with higher prevalence of the female gender, low education, low socioeconomic status and high proportion of people over 50 years, was also similar to the results from other studies[21-24].

Regarding the defining characteristics, three will not be addressed because no statistical significance was found in the related analyzes, namely: *overweight*,

decreased muscle strength and *decreased flexibility of joints*.

The measures of accuracy highlighted the defining characteristics of *chooses a daily routine lacking physical exercise* and *reports preference for activities low in physical activity* as the best clinical indicators for the identification of the diagnosis Sedentary lifestyle, showing high sensitivity, which was also observed in a study carried out previously[7].

The defining characteristics *chooses a daily routine lacking physical exercise*, *does not perform physical activity in leisure time* and *reports preference for activities low in physical activity* have a relationship among each other. This relationship was confirmed in a study that used data from a nation-wide survey and measured the self-assessment of health status, having physical activity as one of the analyzed variables[25].

The features that stood out in the logistic regression analysis characterize a state of limitation of functional capacity, which is defined as satisfactorily performing the instrumental activities of daily living[26]. Such limitations have some influence on the performance of physical activity, acting as a risk condition to sedentary lifestyle, which explains the correlation between the defining characteristics found in the sample and the presence of the diagnosis Sedentary lifestyle.

Given the above, it is noteworthy that exercise prescription for individuals with limitations in functional capacity, such as those evaluated in this study, should include different components of physical fitness, such as cardiorespiratory fitness, strength, muscular endurance, body composition and flexibility[27].

The defining characteristics *decreased cardiorespiratory fitness*, *decreased muscle strength* and *decreased flexibility of the joints* as a group, represent the characteristic *demonstrates physical deconditioning*. It is known that the occurrence of these defining characteristics is potentiated with advancing age, so that by the age of 60 years there is a 50% reduction of cardiorespiratory capacity compared to a young individual[27]. Thus, although this study has not covered the elderly, the median found demonstrates a broad participation of people aged around 50 years in the sample.

Given the presented and discussed data, it is noticed that most of the defining characteristics suggested in the study that reviewed the nursing diagnosis Sedentary lifestyle[4] proved to be suitable clinical indicators for identifying this diagnosis in individuals with hypertension. It is believed that these findings may contribute that nurses, especially those working in primary care, can precociously and safely identify the diagnosis of Sedentary lifestyle, and from then, establish a treatment plan with effective interventions for behavior change.

The limitation of this study is based on the fact that it was carried out with a specific sample of hypertensive adults in outpatient treatment. Hence, the results found should not be extended to the general population, as there is need for further research with the same nursing diagnosis, but covering different profiles of the population.

Furthermore, studies using a reference standard that incorporates the diagnostic test, which is the subject of the investigation, are subject to incorporation bias. This can make the test appear more powerful to differentiate individuals with or without the diagnosis[28]. It is emphasized that this bias is inherent in the diagnostic reasoning in nursing, since many human responses cannot be directly measured by devices. Thus, the choices of defining characteristics remain the pillar for identifying the nursing diagnoses.

CONCLUSION

The study enabled identifying the prevalence of the nursing diagnosis Sedentary lifestyle in hypertensive patients and the accuracy of the defining characteristics of this diagnosis. It also subsidized the evaluation of using new defining characteristics for the identification of the afore mentioned diagnosis, and found that such new defining characteristics are relevant for identifying the Sedentary lifestyle in hypertensive people.

In addition, the study provided information about which clinical indicators are the most accurate for identifying the Sedentary lifestyle in hypertensive adults. Thus, it is expected that this information can contribute to an efficient and systematic nursing practice with focus on health promotion.

REFERENCES

1. Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB. Delineando a pesquisa clínica: uma abordagem epidemiológica. Porto Alegre: Artmed; 2008.

2. Lunney M. Accuracy of nursing diagnoses: concept development. Nurs Diagn. 1990; 1(1):12-17.

3. NANDA International. Nursing diagnoses: definitions and classification: 2012-2014. Oxford: Wiley-Blackwell; 2012.

4. Guedes NG, Lopes MVO, Cavalcante TF, Moreira RP, Araujo TL. Review of nursing diagnosis sedentary lifestyle in individuals with hypertension: conceptual analysis. Rev Esc Enferm USP. 2013;47(3):734-41.

5. Brandão AA, Amoedo C, Nobre F. Hipertensão. Rio de Janeiro: Elsevier; 2012.

6. Mendes M, Melo V, Mares V, Silva C, Moreira P, Santos Júnior W, et al. Perception and practice of regular physical activity among primary healthcare service users. Rev APS. 2013;16(2):151-7.

7. Guedes NG, Lopes MVO, Moreira RP, Cavalcante TF, Araújo TL. Prevalence of sedentary lifestyle in Individuals with high blood pressure. Int J Nurs Terminol Classif. 2010;21(2):50-6.

8. InteliHealth. Interactive Tolls. Exercise Quiz [Internet]. 2009 [cited 2014 Jan 20]. Available from: http://www.intelihealth.com/interactive-quiz/exercise-quiz

9. Martins MO, Petroski EL. Mensuração da percepção de barreiras para a prática de atividades físicas: uma proposta de instrumento. Revista Rev Bras Cineantropom Desempenho Hum. 2000;2(1):58-65.

10. Sallis JF, Grossman RM, Pinski RB, Patterson TL, Nader PR. The development of scales to measure social support for diet and exercise behaviors. Prev Med. 1987; 16(6):825-36.

11. Sallis JF. Memo to users of self-efficacy surveys for diet and exercise behaviors [Internet]. 1996 [cited 2014 Feb 15]. Available from: http://www.drjamessallis.sdsu.edu/self-efficacy-coverandexercise.pdf

12. Lawton M P, Brody EM. Assessment o folder people: self-maintaining and instrumental activities of daily living. Gerontologist. 1969;9(3):179-86.

13. Tudela LL, Ferrer AR. Adaptación transcultural de una medida de la calidad de vida relacionada con a salud: la versión española de las viñetas COOP/WONCA. Aten Primaria. 2002;24(2):75-82.

14. Hradesky JL. Productivity & quality improvement: a practical guide to implementing statistical process control. New York: McGraw-Hill; 1988.

15. Lopes MVO, Silva VM, Araujo TL. Methods for establishing the accuracy of clinical indicators in predicting nursing diagnoses. Int J Nurs Know. 2012;23(3): 134-9.

16. Rouquayrol MZ, Gurgel M. Epidemiologia & saúde. Rio de Janeiro: Medbook; 2013.

17. Zhou X, Obuchowski NA, McClish DK. Statistical methods in diagnostic medicine. New York: Wiley; 2011.

18. Oliveira TL, Miranda LP, Fernandes OS, Caldeira AP. Effectiveness of education in health in the non-medication treatment of arterial hypertension. Acta Paul Enferm [Internet]. 2013 [cited 2014 Feb 15];26(2):179-84. Available from: http://www.scielo.br/pdf/ape/v26n2/en_v26n2a12.pdf

19. Santos JC, Moreira TMM. Risk factors and complications in patients with hypertension/diabetes in a regional health district of northeast Brazil. Rev Esc Enferm USP. 2012;46(5):1125-32.

20. Calegari DP, Goldmeier S, Moraes MA, Souza EN. Nursing diagnosis in hypertensive patients followed in multidisciplinary ambulatory. Rev Enferm UFSM. 2012;2(3): 610-18.

21. Silva CS, Paes NA, Figueiredo TMRM, Cardoso MAA, Silva ATMC, Araujo JSS. Blood pressure control and adherence/attachment in hypertensive users of primary healthcare. Rev Esc Enferm USP. 2013;47(3):584-90.

22. Gomes KO, Reis EA, Guimarães MDC, Cherchiglia ML. Utilização de serviços de saúde por população quilombola do Sudoeste da Bahia, Brasil. Cad Saúde Pública. 2013; 29(9):1829-1842.

23. Brasil. Ministério da Saúde; Secretaria de Vigilância em Saúde. VIGITEL Brasil 2011: Vigilância de Fatores de Risco E Proteção para Doenças Crônicas por Inquérito Telefônico. Brasília; 2012.

24. Pereira VOM, Acurcio FA, Guerra Junior AA, Silva GD, Cherchiglia ML. Perfil de utilização de medicamentos por indivíduos com hipertensão arterial e diabetes mellitus em municípios da Rede Farmácia de Minas. Cad Saúde Pública. 2012;28(8):1546-58.

25. Pavão ALB, Werneck GL, Campos M R. Autoavaliação do estado de saúde e a associação com fatores sociodemográficos, hábitos de vida e morbidade na população: um inquérito nacional. Cad Saúde Pública. 2013;29(4):723-34.

26. França ISX, Medeiros FAL, Sousa FS, Baptista RS, Coura AS, Souto RQ. Condições referidas de saúde e grau de incapacidade funcional em idosos. Rev RENE. 2011; 12(2):333-41.

27. Dias MSL, Moreno R. Estimulação cognitiva por meio de atividades físicas em idosas: examinando uma proposta de intervenção. Rev Bras Geriatr Gerontol. 2012;15(2): 325-34.

28. Guyatt G, Rennie D, Meade MO, Cook DJ. Diretrizes para utilização da literatura médica: manual para prática da medicina baseada em evidências. Porto Alegre: Artmed; 2011..

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