# Original Article

# Factors associated with indicators of health needs of adult men

## Fatores associados aos indicadores de necessidades em saúde de homens adultos

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## Abstract

**Objective:** To identify associated factors as indicators of health needs of adult men.

**Methods:** Cross-sectional study, type of population-based household survey, conducted with 421 men aged between 20 and 59 years selected at random and systematic way. The research instrument was structured in a form based on the variables of study. For the analysis, we used multiple logistic regression models.

**Results:** Unemployed men, aged between 30 and 39 years and with lower levels of education reported a greater proportion of self-perceived health as fair/poor, being economic class, an important variable, adjusted for the multiple model. Retired men or on sick leave, aged between 40 and 49 years old and white, had higher frequency of morbidity.

**Conclusion:** The age group and occupational status were associated with self-perceived health and morbidity, the latter being also associated with skin color.

## Resumo

**Objetivo:** Identificar fatores associados aos indicadores das necessidades em saúde de homens adultos.

**Métodos:** Estudo transversal, tipo inquérito domiciliar de base populacional, realizado junto a 421 homens com idade entre 20 e 59 anos selecionados de forma aleatória e sistemática. O instrumento de pesquisa foi um formulário estruturado com base nas variáveis de estudo. Para a análise utilizaram-se Modelos de Regressão Logística Múltipla.

**Resultados:** Homens desempregados, com idade entre 30 e 39 anos e com menores níveis de escolaridade referiram, em maior proporção, a autopercepção de saúde regular/ruim, sendo a classe econômica, uma variável importante, pois ajustou o modelo múltiplo. Homens aposentados ou em licença médica, com idade entre 40 e 49 anos e de cor branca, apresentaram maior freqüência de morbidade.

**Conclusão:** A faixa etária e o status ocupacional estiveram associados à autopercepção da saúde e à morbidade referida, sendo esta última também associada à cor da pele.

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## Introduction

Health needs can be analyzed from different perspectives. firstly, in an abstract nature, referring to the social and historical dimensions of each individual with regard to health needs; and secondly, other concrete and operative, dedicated to health care, in which the needs of the population drive policies and programs.[1] Consistent with this second conception, it is worth highlighting the Andersen Behavioral Model of health needs, from two basic health indicators: the state of health of the individual (presence/absence of morbidity) and the perception of their own health as nearest determining demand for care and use of services.[2]

This model, besides being the pioneer, has been the most used, aiming mainly to the understanding of the use of health services due to the needs approach.[3] However, a systematic review of research conducted between 1998 and 2011 reveals that there are still few studies that focused on indicators of health needs.[4] Thus, it is proposed here, the use of a piece of the above model, focusing the analysis of indicators among adult men.

Thus, it is important to distinguish between male and female needs, different possibilities coexist because of illness and health perceptions.[1] Despite the unfavorable morbi-mortality profile to health condition, men still largely report less often than women having morbidity and poor health, even given the need for care, which compromise the health care of this population.[5] We identified, however, a gap in knowledge, considering that studies have not investigated factors associated with indicators of health needs in the male population.

Although men recognize that they have health needs, they hesitate to seek care due to their own behavior or profile of services and health professionals.[6] Furthermore, in a study conducted with health professionals, the authors reported that teams struggle to identify men health needs and to plan their actions. They also emphasize that the use of epidemiological data does not appear among the strategies addressed to identify the needs of this population.[6]

Based on these assumptions, the objective of this epidemiological study was to identify associated factors to indicators of health needs in adult men.

## Methods

This is a cross-sectional study, population-based and a household survey type, conducted with 421 men aged between 20 and 59 years, living in the city of Maringá, located in southern Brazil. For the sample size calculation, we used the base population count of men aged between 20 and 59 years, in 2010, which was 103 819 individuals,[7] and the following parameters and estimates: 50% for the prevalence of the response variables among adult men, the associated estimation error of 5% and a 95% confidence interval to detect associations between the independent variables and the outcome. 10% (38 individuals) of the the calculated minimum sample (383 individuals) was added, considering the possibility of errors in the completion of the data collection instruments.

For the selection of subjects, we used the technique of systematic random sampling, from the division of Maringá in 20 weighting areas that takes into account the socio-occupational similarities of individuals residing in the territory and which is adopted by Metropolis Observatory - Core Region Metropolitan of Maringa. With the number of men aged 20 to 59 years in the Weighting Areas, we conducted the proportional calculation, which we obtained the subsample to be collected in each weighting area. So, the streets visited were randomized, in which we respected the default interval for the selection of individuals: the fourth house on the right side of the street. The interviews took place at the homes of men, mostly during weekday mornings and afternoons between the months of January and July 2013.

For data collection, we used a structured instrument. The variables of interest were: self-perceived health and morbidity. The independent variables were socioeconomic and demographic: age, race, marital status, children, religion,

education (in levels), work, family income (in minimum wages), occupational status, health insurance and economic classes categorized by the Economic Classification Criterion of Brazil developed by Brazilian Association of Research Companies.[8]

The data were compiled in Microsoft Excel 2010 software, with subsequent analysis in IBM SPSS 20 software. For data analysis, we performed univariate analysis using chi-square test and multivariate analysis using multiple logistic regression models not conditioned. We used the method Forwards, whereby the variables with p-value <0.20 in the univariate analysis were tested in logistic analysis as increasing order of p-value in order to identify variables that remain associated with or could adjust the model. The measure of association used was the odds ratio (OR) with 95% confidence interval and significance level set at p-value <0.05 for the tests.

The development of the study met national and international standards of ethics in research involving human subjects.

# Resultados

A total of 421 individuals participated in the study, they had a mean age of 40.9 years, they were mainly white men (58%), with a partner (67.9%), with children (71.3%), adherents to religions (89, 8%), had completed high school (36.8%), included in the labor market (80.3%), with incomes between 2.1 and 4 times the minimum wage (34%), employers/independents (40.9% ), with no health insurance (52.7%) and belonging to economy class B (53%). We found a prevalence of 23% and 42.8% for fair/poor self-perceived health and morbidity, respectively.

In univariate analysis of fair/poor self-perceived health, we found an association (or p values <0.20) with the following variables, in order of significance: age (p <0.001), education (p <0.001), occupational status (p <0.001), economic class (p <0.001), work (p = 0.002), family income (p = 0.005), ethnicity (p = 0.054), health

insurance (p = 0.065) and religion (p = 0.118). However, only the variables age, occupational status and education remained in the multivariate model because men, aged between 30 and 39 years (p=0.012, OR=2.94) and unemployed (p=0.025, OR=3.17) reported more often fair/poor self-perceived health, whereas those with high school education had significantly lower odds ratio than those with lower levels of education for this outcome (Table 1).

Table 1. Socioeconomic and demographic variables with self-perceived health

| Socioeconomic and demographic variables | Self-perception of health (fair/poor) | | |
|---|---|---|---|
| | n(%) | OR (95%IC) | p-value* |
| Age group | | | |
| 20 to 29 | 10(11.0) | 1 | - |
| 30 to 39 | 27(28.4) | 2.94(1.26; 6.86) | 0.012 |
| 40 to 49 | 20(16.9) | 1.26(0.52; 3.09) | 0.606 |
| 50 to 59 | 40(34.2) | 2.29(0.95; 5.53) | 0.064 |
| Occupational status | | | |
| Independent/employer | 39(22.7) | 1 | - |
| Employee | 26(16.6) | 0.76(0.43; 1.36) | 0.370 |
| Retired/on sick leave | 21(44.7) | 1.95(0.9; 4.15) | 0.084 |
| Unemployed | 9(45.0) | 3.17(1.15; 8.72) | 0.025 |
| Student/Intern | 2(8.0) | 0.51(0.10; 2.57) | 0.419 |
| Education | | | |
| Until 4ª série | 22(44.0) | 1 | - |
| Elementary School | 31(31.0) | 0.66(0.31; 1.39) | 0.279 |
| High School | 23(14.8) | 0.38(0.16; 0.87) | 0.023 |
| College | 21(18.6) | 0.63(0.24; 1.65) | 0.346 |
| Economic Class | | | |
| Class A | 4(12.9) | 1 | - |
| Class B | 37(16.6) | 1.52(0.46; 5.05) | 0.494 |
| Class C/D | 55(33.1) | 2.60(0.71; 9.49) | 0.149 |

*Multiple Logistic Regression, with model adjusted by the variable "economic class"

Regarding the reported morbidity, we identified in the univariate analysis, the following variables were associated (or with p<0.20): age (p<0.001), occupational status (p<0.001), education (p=0.004), work (p=0.004), economic class (p=0.016), children (0.034) and ethnicity (0.053). The multiple model showed that only the variables "age" and "occupational status" remained associated, and the variable "ethnicity" turned to be associated significantly. Thus, men in the age groups 40-49 years (p=0.007, OR=2.45) and 50-59 years (p<0.001, OR=4.40), retired or on sick leave (p=0.006 OR=3.01) and

white (p=0.016, OR=1.69) reported morbidity more frequently than other men (Table 2).

**Table 2.** Socioeconomic and demographic variables with reported morbidity

| Socioeconomic and demographic variables | Morbidity | | |
|---|---|---|---|
| | n(%) | OR (95%IC) | p-value* |
| Age group | | | |
| 20 to 29 | 24(26.4) | 1 | - |
| 30 to 39 | 26(27.4) | 1.13(0.57; 2.25) | 0.726 |
| 40 to 49 | 53(44.9) | 2.45(1.28; 4.68) | 0.007 |
| 50 to 59 | 77(65.8) | 4.40(2.22; 8.71) | <0.001 |
| Occupational Status | | | |
| Independent/employee | 72(41.9) | 1 | - |
| Employer | 55(35.0) | 0.88(0.55; 1.41) | 0.592 |
| Retired/on sick leave | 36(76.6) | 3.01(1.36; 6.65) | 0.006 |
| Uneployed | 10(50.0) | 1.62(0.60; 4.34) | 0.333 |
| Student/Intern | 7(28.0) | 1.04(0.37; 2.87) | 0.937 |
| Ethnicity | | | |
| White | 114(46.7) | 1.69(1.10; 2.87) | 0.016 |
| Not white | 66(37.3) | | |

*Multiple Logistic Regression

# Discussion

Among the limitations of this study, we emphasize the fact that the data collection was conducted during periods of the day, which represent great difficulty to find men in their homes, which may have afforded greater proportion of independent employed men, unemployed men, retirees and men on sick leave. Still refers to the limitation the cross-sectional design, which does not allow the establishment of causal relationships or predisposes to reverse interpretations of causality. However, it is emphasized that this study identified important associations of socioeconomic and demographic factors with indicators of health needs among adult men, which direct perspectives of work actions for nurses.

In this sense, the results of this study present substantial epidemiological information for the organization of services in the health care of men, because they point to factors to be considered in the approach to male health needs. Furthermore, it emphasizes the importance of nursing professionals to consider the male self-perception and the presence of morbidity, as well as associated factors, concerning, however, the singularies of gender in the perception of these indicators by men.

The prevalence of fair/poor self-perceived health found (23%) is similar to the study conducted with adults in southern Brazil (22.3%), which compared with the adolescents and the elderly,[9] but diverged from the prevalence in northern Brazil.[10] Most of the studies also address the elderly population and generally have prevalence higher than 30%.[9,10] It is noteworthy the gap relating to the investigation of factors associated with the same indicator of health needs, especially in the adult population, and even more among men.

It should be noted that self-perceived health is an easily collected variable, and exposure to diseases (diagnosed or not by a health professional). The impact that these generate in the physical, mental and social well-being of individuals, being important in the analysis of individual and population health by health professionals. [11] Understanding the health subjectively creates relationships with other factors involving the individual's life (such as access to information), in addition to the physical condition, which reinforces its importance as an indicator of health needs.

The association of this variable with advancing age has been observed in the literature, mainly due to the increase in chronic diseases and complications, most prevalent among the elderly. However, the present study identified a significantly higher proportion of fair/poor perception of their health for men aged between 30 and 39 years. It is inferred that this finding shows the importance of further investigation on the health of the adult male and on aspects that influence it, in this phase of life, and more specifically that lead men to refer to a negative perception of health.

The occupational status proved important in regard to fair/poor self-perception and this finding is consistent with other studies, in that inactive individuals in relation to the work, especially the unemployed, also are more likely to live in unfavorable health conditions and seek health services.[12] The occupational status may be a determinant of health inequalities, especially when

considering the possibilities of social protection (with/without work bond/social security contributions).[13]

Regarding the economic class, it does not show association, we observed in other studies that this variable is important in regard to self-perceived health.[9,10] The literature reveals that education and socioeconomic status converge in the formation of certain social and cultural contexts, implying health beliefs, perceptions and motivation to act, determining behaviors and lifestyles.[13] Therefore, it is worth mentioning the need for health professionals to know these characteristics of men in order to contextualize their actions, because the appropriate professional support can also be determinant of self-perceived health.[14]

Regarding the reported morbidity, the identified prevalence is in the interval range by a national study, which is 33.9% to 62.0% among individuals aged 25 to 64 years. In studies considering Morbidity as only hypertension and diabetes mellitus were noted prevalence similar to 30% adults.[15,16] The male population has important deficiencies of self-care, which increases the rates of morbidity and mortality and requires the commitment of health professionals in the inclusion of men in programs and services, particularly in primary care.[17]

In a study conducted in a small city inland of Paraná State was evident that men report less their health problems than women, which is linked to the way men perceive and conceive health.[18] Thus, besides considering the possible underestimation of data on morbidity among men, health professionals should know the peculiarities and individualities as the recognition of morbidity, according to gender, in order to provide access, especially men, to health actions.

Among adult men, we found that those with more than 40 years when compared to younger patients reported more often having diseases. This finding is according to other studies that found increasing trend of diseases with advancing age, mainly due to biological issues, time of exposure to risk factors and aging.[19] It is note-worthy that, although the reference to morbidity was higher among older men, the same was not true in relation to self-perceived health, which suggests the existence of other variables that imply about the way men perceive their health as they age.

Thus, we emphasize the importance of occupational status with regard to the association with morbidity. In men on sick leave, this association can be established in two ways: first, in that the work conditions, the non-recognition of their role and the dissatisfaction with this favor the development of disease; and, second, that the existing morbidity or worsening, undertakes the work and determines the distance.[18] Both situations deserve attention from policies and health services, so that health professionals can identify occupational hazards and act on them, contributing to the maintenance of adequate health conditions for men to develop their activities, especially as they attribute important sociocultural value to the work.[20]

With respect to ethnicity, lack of studies investigating health inequalities, specifically from the reported skin color as being associated to morbidity is observed. However, the finding of this study - that is, the highest proportion of individuals reporting morbidity was white - differs from other studies that have shown significant associations between black skin and causes of morbidity and mortality, mainly external causes.[21,22] Although there is influence of self-perceived health over reports of presence of morbidity, we cannot justify the association of skin color with morbidity from this variable, because the association between this perception and the skin color was not identified in present study and in another study conducted in southern Brazil.[9]

In general, this study contribute to the organization of health services by identifying those factors associated with indicators of health needs. Similarly, a study investigated adults in the use of medical and hospital services in Canada and the United States showed that indicators of health needs (self-perceived health and morbidity) are factors directly related to the demand for health care.[13]

It is noteworthy that self-perceived health, may still be related to adherence to preventive, promotion or treatment practices, while the morbidity as assessed need, can determine the type of practice to be implemented in monitoring health adult men. However, these aspects are still indicators that, as a rule, are not taken as targets of health services in everyday practice toward men. In this sense, the identification of factors associated with these indicators, as findings of this study may contribute to the direction of attention to adult male and contextualize the actions taken by health teams, aligning them to the characteristics that influence the socialization of men's needs.

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## Collaborations

Arruda GO; Corrêa ACP and Marcon SS contributed in the design and development of research, analysis and interpretation of data, drafting the article, critical revision of the important intellectual content and final approval of the version to be published.

## Conclusion

The age and occupational status were found to be associated factors, both with regard to fair/poor self-perceived health and morbidity among adult men, and the education level and ethnicity were associated with self-perceived health and presence of morbidity, respectively. Although not statistically significant, the economic class was an important factor in setting the proposed model for self-perceived health

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