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Research Article

Risk factors for chronic diseases in community health workers in a municipality in the countryside of Minas Gerais, Brazil

Fatores de risco para doenças crônicas em agentes comunitários de saúde de um município do interior de Minas Gerais, Brasil

Factores de riesgo para enfermedades crónicas en trabajadores de salud comunitarios en un municipio del interior de Minas Gerais – Brasil

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Abstract

Introduction: chronic non-communicable diseases (CNCDs) and their injuries are estimated to be responsible for approximately 70% of deaths worldwide. The lack of prevention and good management of these pathologies leads to the need for medical assistance with increasing costs, due to the permanent technological incorporation. With regard to the occupational health, the increase in prevalence of cases of CNCDs can result in absenteeism, disability and impact on the quality of the work offered. **Objective:** to evaluate the presence of risk factors for CNCDs in community health workers (CHW). **Methods:** This is a cross-sectional study developed with CHWs from a municipality in the state of Minas Gerais. **Results:** 139 CHWs of both sexes, belonging to the 36 family health units of the municipality, were interviewed by means of a questionnaire with closed and pre-categorized questions on demographic and socioeconomic data, food consumption and health characteristics. Waist circumference (WC), weight and height were measured, and BMI, conicity index and waist-to-height ratio were calculated. A prevalence of married females and white workers was pointed. Overweight was present in 56.1% of respondents. In addition, 51.8% of CHWs were classified as sedentary, and 14.4% reported being smokers. The high risk of developing cardiovascular diseases was stated in 27.27% of male CHWs and 57.81% of female CHWs. Consumption of at least one ultra-processed food was reported by 53.9% of respondents, and a positive association between the consumption of these foods—including sandwiches, pizzas and chips—and the nutritional status of the CHWs was pointed. **Conclusions:** The results show a high prevalence of risk factors for CNCDs among CHWs. Considering the impact of CNCDs on health and quality of work, surveillance and prevention of risk factors, also aimed at workers' health, are present in the health programming of municipalities.

Keywords: Chronic diseases. Occupational health. Primary health care. Community health workers.

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Resumo

Introdução: Estima-se que as doenças crônicas não transmissíveis (DCNT) e seus agravos sejam responsáveis por aproximadamente 70% das mortes no mundo. A falta de prevenção e de gerenciamento adequado dessas patologias acaba demandando assistência médica de custos crescentes, em função da permanente incorporação tecnológica. No que diz respeito à saúde do trabalhador, o aumento da prevalência dos casos de DCNT pode resultar em absenteísmo e invalidez e repercutir na qualidade do trabalho ofertado. **Objetivo:** Avaliar a presença dos fatores de risco para DCNT em agentes comunitários de saúde (ACS). **Métodos:** Trata-se de estudo transversal desenvolvido em município do estado de Minas Gerais. Foram entrevistados 139 ACS, que responderam a um questionário com perguntas fechadas e pré-categorizadas. Foram aferidos a circunferência da cintura, o peso e a estatura, e foram calculados o índice de massa corporal (IMC), o índice de conicidade e a relação cintura/estatura. **Resultados:** O excesso de peso esteve presente em 56,1% dos entrevistados, dos quais 30,2% eram obesos. Ademais, 51,8% dos ACS foram classificados como sedentários, e 14,4% relataram ser fumantes. O risco elevado de desenvolver doença cardiovascular foi observado em 27,27% dos ACS do sexo masculino e em 57,81% dos do sexo feminino. O consumo de pelo menos um alimento ultraprocessado foi relatado por 53,9% dos ACS, e observou-se associação positiva entre o consumo desses alimentos com o estado nutricional (p=0,032). **Conclusões:** Os resultados mostram significativa prevalência de fatores de risco de DCNT entre os ACS. Considerando-se o impacto dessas doenças para a saúde e a qualidade do trabalho, é fundamental que a vigilância e a prevenção dos fatores de risco estejam presentes na programação de saúde dos municípios.

Palavras-chave: Doenças crônicas. Saúde do trabalhador. Atenção primária à saúde. Agentes comunitários de saúde.

Resumen

Introducción: Se estima que las enfermedades crónicas no transmisibles (ENT) y sus lesiones son responsables de aproximadamente el 70% de las muertes en todo el mundo. La falta de prevención y buen manejo de estas patologías acaba exigiendo asistencia médica con costos crecientes, debido a la permanente incorporación tecnológica. Con respecto a la salud de los trabajadores, el aumento en la prevalencia de casos de ENT puede resultar en ausentismo, discapacidad e impacto en la calidad del trabajo ofrecido. **Objetivo:** Evaluar la presencia de factores de riesgo de enfermedades crónicas no transmisibles (ENT) en los agentes comunitarios de salud comunitarios (ACS). **Métodos:** Este es un estudio transversal desarrollado en un municipio del estado de Minas Gerais. Se entrevistaron 139 ACS, quienes respondieron un cuestionario con preguntas cerradas y pre-categorizadas. Se midieron la circunferencia de la cintura, el peso, la altura y se calcularon el IMC, el índice de inclinación y la relación cintura / altura. **Resultados:** El exceso de peso estuvo presente en el 56,1% de los encuestados. Además, el 51,8% de los ACS se clasificó como sedentario, y el 14,4% informó ser fumador. El alto riesgo de desarrollar enfermedad cardiovascular se observó en el 27,27% de los ACS masculinos y en el 57,81% de los ACS femeninos. El 53,9% del ACS informó el consumo de al menos un alimento ultraprocesado, y se observó una asociación positiva entre el consumo de estos alimentos y el estado nutricional. **Conclusiones:** Los resultados muestran una alta prevalencia de factores de riesgo de ENT entre ACS. Considerando el impacto de estas enfermedades en la salud y la calidad del trabajo, es esencial que la vigilancia y prevención de los factores de riesgo estén presentes en la programación de salud de los municipios.

Palabras-clave: Enfermedad crónica. Salud laboral. Atención primaria de salud. Agentes comunitarios de salud.

INTRODUCTION

Primary Health Care (PHC) has been the target of interest and priority of public policies in recent decades in Brazil and worldwide. Health system reform proposals usually assign to primary care the role of gateway and coordination of the set of actions and services of all other levels of the health system, which makes it the go-to place to resolve most health problems in a given population through the care provided to patients, families and communities over time.[1]

The profession of community health workers (CHW) was legally recognized in 2002 by Law 10,507, although the National Program of Community Health Agents (PACS) was created in early 1990s. There are currently more than 250,000 CHWs in Brazil, and they are the strengthening and connection between primary care and the community, also performing recordkeeping functions for families assigned to the areas of the Family Health teams, home visits, and developing educational actions, disease prevention, health promotion and health surveillance.[2-4]

There is growing interest in research related to work processes and their impacts on workers' health. It is known that workloads can act on the individual's body and demand adaptation processes that can result in physical and psychological damage.[5] Studies have evaluated the burden related to the work of CHWs, who routinely walk long distances, sometimes under unfavorable weather conditions, act in risky areas, visit unhealthy places and witness situations of violence and vulnerability in the families they monitor. These working conditions can increase the risk of accidents and illnesses, directly impacting the work performed by the professional and their health.[6,7]

There are few studies dedicated to assessing the health profile and risk factors for chronic non-communicable diseases (CNCDs) among CHWs. The current epidemiological, social and demographic reality is known to have negatively influenced the health of the population, increasing the risk of overweight and CNCD.[8] Therefore, it is important to identify the level of physical and mental stress of a CHW so one can develop actions aimed at improving the quality of life and working conditions that have been causing suffering and harm to the health of these workers.

The survey of risk factors CHWs present with and that can lead to the emergence of CNCDs, such as physical inactivity, obesity, poor food quality and smoking, is also an important point for investigation so that one can act on the quality of life and work of these professionals. In this setting, the aim of this study was to assess the presence of risk factors for CNCD in this population.

METHODS

Study design and sample

This is a cross-sectional study carried out with CHWs in the municipality of Poços de Caldas, state of Minas Gerais. The estimated population of the municipality is 168,641 inhabitants.[8] As to primary care, the municipality has 35 Family Health teams, and, per estimates, 72.13% of the population is covered by the Family Health Strategy (FHS). In December 2020, there were 185 CHWs covering 64.04% of the population.[9]

The methodological design initially proposed for this study intended to interview all CHWs in the municipality. However, the final sample consisted of 139 CHWs of both sexes, from all 35 Family Health teams, corresponding to 75.13% of their full team. CHWs who were on vacation, on leave, or who refused to participate in the study were excluded from the sample.

Data collection

The participants answered a questionnaire with closed and pre-categorized questions on demographic and socioeconomic features, health, physical activity level and food consumption. Instruments validated by the scientific literature were used. The questionnaires used were previously tested with ten participants for the purposes of evaluation, review, and improvement. Data was collected from March to August 2018.

The interviews and anthropometric measurements were carried out in loco at the FHS by a properly trained team. In order to ensure the quality of data obtained, a field guideline was also created to guide interviewers during this stage, providing information on how to apply the questionnaire and perform anthropometric measurements.

Research variables

Socioeconomic and health profile

In order to gather information about socioeconomic profile, family composition, demographic and health profile, the following variables were analyzed: respondent's age; biological sex; skin color (white, black, brown, yellow); marital status (married, stable, single, divorced); educational level (complete elementary school, incomplete high school, complete high school, incomplete higher education, complete higher education); self-perceived status (very good, good, regular, bad, very bad, don't know); smoking (never smoked; former smoker; smokes up to five cigarettes/day; smokes from five to ten cigarettes/day; smokes from ten to 20 cigarettes/day; smokes more than 20 cigarettes/day).

Anthropometric assessment

Weight was measured using a Filizola® mechanical scale with capacity for 150 kg and 100 g accuracy, on which the participant stood upright, wearing light clothing, barefoot and in the center. Calibration of the scale was made before measurements. Height was measured using a stadiometer attached to the scale itself, with the participant standing up, barefoot, with the body erect and looking straight ahead. With the variables of weight and height, body mass index (BMI) and weight (kg)/height²(m) were calculated, and the BMI classification was based on the cutoff points recommended by the World Health Organization (WHO).[9,10]

Waist circumference (WC) was measured with the participant in an upright position, at the midpoint between the end of the last rib and the iliac crest. An inelastic anthropometric tape was used, measuring 150 cm in length and accurate to one decimal. The participant was asked to breathe normally at the time of measurement. The WHO cutoff points for WC were adopted,[11] considering WC >80 and 94 cm as a risk factor for the development of cardiovascular diseases and WC >88 and 102 cm as a high-risk factor for the development of cardiovascular diseases, for women and men, respectively.

The conicity index was calculated with cutoff points of 1.26 for men and 1.18 for women.[12] The waist-to-height ratio (WHtR) was also calculated, with 0.52 and 0.53 as cutoff points for men and women, respectively.[13]

Food

Food intake was estimated using a questionnaire adapted from the Food and Nutritional Surveillance System (SISVAN).[14] Participants were asked about food consumption on the day before the interview. We chose to use a questionnaire adapted from SISVAN, as this is the instrument used by PHC services to assess food consumption. The questionnaire addressed the consumption of fresh or minimally processed foods, the consumption of processed foods and ultra-processed foods (UPF). The habit of watching television while having meals was also evaluated.

Physical activity level

The level of physical activity was estimated based on the International Physical Activity Questionnaire (IPAQ).[15] Only the leisure module of the IPAQ was used. Individuals who reported doing physical activity for at least 150 minutes per week, or 75 minutes of vigorous physical activity per week,

were classified as active. Individuals with more than 10 minutes of weekly physical activity but less than 150 minutes of moderate activity or 75 minutes of vigorous physical activity were classified as insufficiently active. And those who practiced less than 10 minutes of physical activity per week were classified as inactive/sedentary.

Data analysis

Data were analyzed in the R i386 program, version 3.4.4. Exploratory analysis was performed by calculating simple and relative frequencies, and a 95% confidence interval (95%CI) of the selected variables was estimated. For continuous variables, mean, standard deviation (SD), minimum and maximum values were calculated. The distribution normality was verified using the Kolmogorov-Smirnov test. Pearson's chi-square test was applied with a significance level of 5% ($p<0.05$) to assess associations between variables.

Ethical aspects

This work is part of the research project entitled "Lifestyles of Community Health Workers in a Municipality in the Countryside of Minas Gerais (MG)", approved by the Research Ethics Committee of Universidade Federal de Lavras under opinion number 2.442.225. All participants were informed about the research objectives, and those who agreed with it signed the Informed Consent Form in duplicate.

RESULTS

Of the 139 CHWs interviewed, 92.1% were females, 58.2% were married, and the mean age was 37.2 years (SD 7.6 years). Regarding educational level, 30.9% of them had not completed high school, but were already exercising their functions when Law 13595/2018 was enacted, which changes the minimum education level for the role of CHWs. With regard to color, 55.4% declared themselves as white (Table 1). The evaluation of the CHWs' health characteristics and lifestyle habits showed that most participants positively assess their current health status; 27.3% consider it as "very good" and 51.1% as "good". More than half of the CHWs were classified as sedentary. In addition, 55.8% of them reported watching television while having their meals. Regarding smoking, 14.4% were smokers and 1.4% reported smoking more than 20 cigarettes per day (Table 2). An assessment of nutritional status showed that 43.9% were eutrophic, 25.8% were classified as overweight and 30.2% as obese. The mean BMI of the studied population was 28.1 kg/m² (Table 3). Among women, 21.8% were at risk of developing cardiovascular diseases, with WC values greater than 80 cm, and 57.8% were at high risk, with WC above 88 cm. Among male CHWs, 18.2% were at risk and 27.2% were at high risk. Abdominal adiposity indicators were found to be high among most CHWs. A high conicity index was found in 75.3% of the CHWs, and 61.8% had a waist-to-height ratio above the established cutoff point.

Regarding the consumption of healthy foods the day before the interview, 74.6% of respondents reported having consumed beans, while consumption of fruits, leafy vegetables and vegetables was reported by 73.1%, 57.2% and 64.4%, respectively (Table 4). The consumption of at least one UPF (sweetened drinks; hamburgers and/or sausages) on the day before the interview was reported by 53.9% of CHWs. A positive association between the consumption of UPF and foods such as sandwiches, pizza and French fries with the nutritional status of CHWs was found (Table 5).

Table 1. Sociodemographic characteristics of community health workers. Poços de Caldas (MG), 2018.

Variables	n	%	95%CI	
			LL	UL
Age (years)				
up to 30	29	21.0	17.9	24.0
31-40	59	42.7	39.0	46.4
41-50	38	27.5	24.2	30.8
51-60	11	7.9	5.9	10.0
60 and over	01	0.7	0.0	1.3
Sex				
Male	11	7.9	5.8	9.9
Female	128	92.0	90.0	94.1
Marital status				
Single	35	25.1	21.9	28.4
Stable union	10	7.1	5.2	9.1
Married	81	58.2	54.5	61.9
Divorced	12	8.6	6.5	10.7
Skin color				
White	77	55.4	51.6	59.1
Black	18	12.9	10.4	15.4
Brown	40	28.7	25.3	32.1
Yellow	4	2.8	1.6	4.1
Educational level				
Complete Elementary school	3	2.1	1.0	3.2
Incomplete high school	8	5.7	4.0	7.5
Complete high school	82	58.9	55.3	62.6
Incomplete higher education	22	15.8	13.1	18.5
Complete higher education	24	17.2	14.4	20.0

CI: confidence interval; LL: lower limit; UL: upper limit.

Table 2. Health characteristics and lifestyle habits of community health workers. Poços de Caldas (MG), 2018.

Variables	n	%	95%CI	
			LL	UL
How one considers their health status				
Very good	38	27.3	24.0	30.6
Good	71	51.0	47.3	54.8
Regular	24	17.2	14.4	20.0
Bad/very bad Bad/does not know	6	4.3	2.8	5.8
Smoking				
Never smoked	90	64.7	61.1	68.3
Former smoker	29	20.8	17.8	23.9

Continue...

Table 2. Continuation.

Variables	n	%	95%CI	
			LL	UL
Up to 5 cigarettes per day	8	5.7	4.0	7.5
5-10 cigarettes per day	4	2.8	1.6	4.1
10-20 cigarettes per day	6	4.3	2.8	5.8
More than 20 cigarettes per day	2	1.4	0.5	2.3
Level of physical activity				
Sedentary	72	51.8	48.0	55.5
Insufficiently active	19	13.6	11.1	16.2
Active	48	34.5	30.9	38.0
Watches TV during meals				
Yes	77	55.8	52.0	59.5
No	61	44.2	40.4	47.9

CI: confidence interval; LL: lower limit; UL: upper limit.

Table 3. Anthropometric indicators of community health workers. Poços de Caldas (MG), 2018.

Anthropometric indicator	Mean/SD	min–max
BMI (kg/m²)	28.16/4.9	20.2–42.6
Waist circumference (cm)	91.44/12.03	67.4–128.8
Conicity index	1.40/0.085	0.93–1.45
Waist-to-height ratio	0.58/0.062	0.47–0.77

SD: standard deviation; Min–max value: minimum value–maximum value; BMI: body mass index.

Table 4. Food consumption by community health workers the day before interview. Poços de Caldas (MG), 2018.

Variables	n	%	95%CI	
			LL	UL
Beans				
Yes	103	74.64	71.36	77.91
No	35	25.36	22.09	28.64
Fruits				
Yes	101	73.19	69.85	76.52
No	37	26.81	23.48	30.15
Crude vegetables (leaves)				
Yes	79	57.25	53.52	60.97
No	59	42.75	39.03	46.48
Vegetables				
Yes	89	64.49	60.89	68.09
No	49	35.51	31.91	39.11

Continue...

Table 4. Continuation.

Variables	n	%	95%CI	
			LL	UL
Hamburger or sausages				
Yes	25	18.12	15.22	21.01
No	113	81.88	78.99	84.78
Fries, pizza, sandwiches				
Yes	30	21.74	18.63	24.84
No	108	78.26	75.16	81.37
Sugar-sweetened beverage				
Yes	57	41.30	37.60	45.01
No	81	58.70	54.99	62.40

CI: confidence interval; LL: lower limit; UL: upper limit.

Table 5. Association between nutritional status and food consumption of community health workers. Poços de Caldas (MG), 2018.

Nutritional status									
Variable	Normal		Overweight		Obese		Total		p
	n	%	n	%	n	%	n	%	
Ultra processed foods (sweetened drinks and/or hamburgers/salads)									
Yes	18	21.2	35	41.2	32	37.6	85	61.6	0.032
No	17	32.1	27	50.9	9	17.0	53	38.4	
Fries, pizza, sandwiches									
Yes	5	16.7	10	33.3	15	50.0	30	21.7	0.022
No	30	27.8	52	48.1	26	24.1	108	78.3	
Fruits									
Yes	27	26.7	45	44.55	29	28.7	101	73.1	0.811
No	8	21.6	17	45.9	12	32.4	37	26.8	
Crude vegetables (leaves)									
Yes	27	30.3	34	38.2	28	31.4	89	64.5	0.073
No	8	16.3	28	57.1	13	26.5	49	35.5	
Vegetables									
Yes	22	27.8	34	43.0	23	29.1	79	57.2	0.733
No	13	22.0	28	47.5	18	30.5	59	42.8	
Beans									
Yes	27	26.7	45	44.5	29	28.7	101	73.2	0.142
No	8	21.6	17	45.9	12	32.4	37	26.8	

Chi-square test. The value of $p<0.05$ was considered.

DISCUSSION

The results of this article point to the prevalence of overweight in more than half of CHWs interviewed, with obesity being present in 30.2% of the sample. With regard to risk factors for CNCDs, 51.8% do not perform physical activity, 14.4% are smokers and 53.9% reported consuming UPF on the day before the interview.

As for sociodemographic profile, the national study that assessed the profile of CHWs in Brazil in 2015 had already shown a prevalence of 83.2% of females in this professional category. The larger number of women in various health-related professions is already well known, and, specifically for CHWs, some authors relate this process of feminization to the resistance of the community to the male sex. This is because CHWs must have access granted to households, and the population would be more likely to reveal their particularities to women than to men.[16,17]

Regarding the perception of health conditions, most CHWs interviewed evaluated their current health status positively. National data found that 71.9% of CHWs considered they were in good health.[18]

Regarding the high prevalence of sedentary lifestyle, Colombo and Derquin,[19] in a study that assessed the nutritional status and level of physical activity in these professionals, reported that 73% were sedentary and 51.5% had some degree of overweight or obesity. The data from our study are similar to the findings of a nationally based research with CHWs, which observed that 52.9% usually perform physical activity in their free time.[18] Although sedentary lifestyle is a relevant risk factor for CNCDs, it can be modified and should be encouraged by public policies aimed at promoting physical activity.[20]

With regard to lifestyle, more than half of the CHWs interviewed reported watching television while having meals. A study conducted by Maia et al.[21] indicated that the habit of watching television relates to a greater consumption of unhealthy foods compared to food considered healthy. This condition was observed in both sexes, regardless of the individual's age and educational level.

As for smoking, 14.4% of the CHWs declared themselves as smokers. This percentage is higher than the national average, which is 9.8%, with 12.3% among men and 7.7% among women,[22] and also higher than the average of CHWs who declare themselves smokers in Brazil (6.6%).[18] A study conducted by Andrade[23] with 400 CHWs in Juiz de Fora/MG reported the use of tobacco in 10.3% of them. According to data from the Surveillance of Risk Factors for non-communicable chronic diseases — Vigitel[22], Brazil has been showing a drop in the number of smokers over the decades, as a result of various actions in the National Policy for Tobacco Control. Smoking and passive exposure to tobacco are significant risk factors for the development of CNCDs, remaining as the leading causes of preventable deaths worldwide.[24,25]

Regarding nutritional status, our results showed a high prevalence of overweight and obesity among the health agents evaluated. These findings corroborate Barbosa and Lacerda's,[26] who also assessed the nutritional status of CHWs and found a prevalence of 37.4% of overweight and 33.7% of obesity among them. Colombo and Derquim,[19] in a study also carried out with CHWs, reported a prevalence of 51.5% of excess weight among research participants.

In recent decades, there has been a significant increase in the number of people with overweight, which may be related to numerous factors, including low levels of physical activity and inadequate eating habits. It is of utmost importance to emphasize that overweight and obesity are among the main risk factors for the development of CNCD,[22] which can impact both the quality of life and the work of CHWs.

With regard to the central distribution of body fat, the vast majority of health agents evaluated had WC values above the cutoff points established as adequate. Female CHWs had a higher percentage of high risk and, above all, very high risk of developing cardiovascular diseases when compared to male CHWs. Similar results were found by Barbosa and Lacerda,[26] who reported 20.9% of the CHWs at high risk and 44.1% at very high risk for cardiovascular disease. Furthermore, the authors showed a relationship between biological sex and WC, and that female CHWs had higher values compared to males.

As to indicators of abdominal adiposity, most CHWs presented high values of conicity index and WHtR. The accumulation of fat in the core region is linked to metabolic changes and increased risk of morbidity and mortality as a result of atherosclerosis and its complications, such as coronary artery disease.[27] A study by Barroso et al.[28] showed a significant relationship between the conicity index and WHtR above the adequate values and the presence of diabetes and arterial hypertension. The literature emphasizes that abdominal obesity is strongly associated with important disorders such as type II diabetes and cardiovascular diseases. Sedentary lifestyle and smoking were also shown to be some of the factors related to this type of obesity.[29]

With regard to eating habits, the consumption of foods considered healthy, such as rice, beans, fruits and vegetables, on the day before the interview was reported by most of the agents. Barbosa and Lacerda[26] observed regular consumption of vegetables and cereals by CHWs with and without excess weight. On the other hand, the authors reported non-regular consumption of fruits and vegetables in both groups, with the non-regular consumption of fruits being significantly higher in the group of overweight CHWs compared to eutrophic ones.

In Brazil, 59.7% of the adult population reports regular consumption of beans; however, according to data from the Household Budget Survey, there is a reduction of 12.8% in the consumption of this legume in the country.[22,30] The regular consumption of fruits and vegetables was mentioned by only 22.9% of adults.[22] The Food Guide for the Brazilian Population[31] recommends that food be based predominantly on fresh or minimally processed foods, such as rice, beans, fruits and vegetables. In addition, the WHO recommends a daily intake of at least 400 g of fruits and vegetables per day, which is equivalent to five daily servings of these foods.[32]

The increase in the production and consumption of UPF is known to be one of the leading causes of obesity and CNCDs nowadays.[33] A study carried out by the Pan American Health Organization and the WHO, in Latin America, reported a positive, strong association between the increase in sales of UPF and the prevalence of obesity in the adult population of 12 countries.[34]

The type of instrument used to assess food consumption is highlighted as one of the limitations of this, once it can be influenced by memory bias and does not allow a quantitative assessment of the size of the portions ingested and the nutrient profile. The small sample size and the cross-sectional design of the study make it difficult to concretely assess the cause-and-effect relationship between the analyzed variables.

Recommendations for public policies

Our results show the importance of carrying out interventions that can promote improvements in the CHWs' lifestyle, especially when it comes to sedentary lifestyle, smoking, inadequate nutrition and overweight, thus helping in the fight Against CNCDs.[35] Programs for Workers' health promotion measures should be developed both for the management of risks and diseases and for the promotion of healthy habits and changes in the workers' lifestyle.[36]

CONCLUSIONS

The findings of this study point to the high prevalence of risk factors for the development of CNCDs in CHWs. With regard to workers' health, the increase in the prevalence of chronic diseases can result in absenteeism and disability and affect the quality of work.

As PHC professionals, community health workers have the development of activities related to health promotion and adequate, healthy eating among their routine activities. However, for reasons that deserve greater attention and investigation by the management, these habits seem not to be so present in the professionals' lifestyle.

It is important that surveillance and prevention of risk factors for CNCDs, in the context of health work, be a priority in the health planning of municipalities.

It is hoped that the results of this study enable the improvement of health indicators in the studied population and can support the organization of policies for health promotion, disease prevention and quality of life for CHWs.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

MSB: Project management, Writing – first draft, Methodology, Supervision. JCSC: Conceptualization, Writing – first draft, Research. RSB: Formal Analysis, Methodology, Software, Validation. MHS: Writing – revision and editing, Methodology, Supervision, Validation. ACS: Conceptualization, Writing – first draft, Research. MHAT: Project administration, Writing – revision and editing, Supervision, Validation.

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