Lifestyle, morbidity and multimorbity in adult Quilombolas

Ingred Laíla da Silva Almeida[1], Saul Ricardo dos Santos[1],
Bruno Morbeck de Queiroz[2], Ricardo Franklin de Freitas Mussi[3]

[1]Universidade do Estado da Bahia (UNEB) – Guanambi (BA), Brasil.
[2]Faculdade de Tecnologia e Ciências (FTC) – Vitória da Conquista (BA), Brasil.
[3]Programa de Pós-Graduação em Ensino, Linguagem e Sociedade, UNEB – Caetité (BA), Brasil.

ABSTRACT

Introduction: The negative lifestyle has been associated with adverse health conditions, predisposing to the increase of morbidity and mortality in various populations. **Objective:** To evaluate the association of lifestyle with morbidities and multimorbidity in adult quilombolas, residents of slave descendant communities (quilombos). **Methods:** Cross-sectional study with a representative sample of adult living in quilombos located in a geographical region of Bahia State, in Brazil. Data were obtained by applying a standardized form for sociodemographic characteristics and morbidities. Lifestyle was evaluated using the questionnaire *Perfil de Estilo de Vida Individual* (PEVI), encompassing the domains: nutrition, physical activity, preventive behavior, social relationships and stress control. Poisson regression was used to estimate prevalence ratios, with statistical significance for p<0.05. **Results:** Negative PEVI score were identified in 18.5% of the quilombolas. High blood pressure, central obesity and multimorbity affected 53.5%, 56.2% and 50.2% of the population, respectively. Men had more positive PEVI score, however the nutrition domain was more negative. Physical activity and stress control domains from women were more negative. Central obesity was associated to the domain of physical activity. Dyslipidemias and multimorbidity were associated with the domain of preventive behavior. **Conclusion:** About one fifth of the quilombolas presented negative PEVI and high prevalence of morbidity and multimorbidity. The different associations between PEVI and its domains (physical activity, preventive behavior and stress control) reveal that the adoption of positive health habits infers in the presence of morbidities.

Keywords: African Continental Ancestry Group; morbidity; lifestyle.

INTRODUCTION

The high prevalence of diseases represents a threat to well-being in different populations. Chronic non-communicable diseases (CNCD) are characterized by indefinite periods of latency and prolonged evolution[1], while multimorbidity is characterized by the presence of two or more chronic conditions in the same individual, which may or may not have relationships with each other and represent a large burden of disease to be faced[2].

In turn, the lifestyle (LS) and the way of conducting it, includes different questions and dimensions that are self-determined or assimilated socially or culturally, influenced by ethnic-racial issues and with impacts on health[3].

Studies focusing on the health of the remaining quilombola population, made up of descendants of enslaved blacks, freed and/or free[4], are scarce. The association between worse health conditions and a situation of social vulnerability results in restrictions on access to goods and services for the remaining quilombolas5, who can contribute negatively to the LS. Investigations pointed to issues of negative LS in quilombolas[6,7]. However, no other studies were identified that verified its different dimensions simultaneously.

Considering the insufficient availability of information regarding LS and its association with NCDs and multimorbidities and, because of this, they make it difficult to project proposals for health promotion in this community profile, this research aims to assess the association of lifestyle with morbidities and multimorbidities in/among quilombola adults.

METHODS

The geographical microregion of Guanambi, Bahia, Brazil, with 18 municipalities, a territorial area of 22,668,688 square kilometers[8] and 42 contemporary quilombos certified in 2016, distributed in 10 municipalities[9], comprised the empirical field investigated. To estimate the population, approximately 80 families in each community were considered[10], in addition, the expectation of two adults (>18 years) for each family was adopted, determining a population of 6720 residents.

For the sample calculation, correction for a finite population was used, using the prevalence for an unknown outcome, therefore 50%. 95% confidence was still assumed, five percent as a sampling error, 1.5 times correction to correct the conglomerate effect (represented by the randomly selected quilombola community). 30% were also added considering the possibility of refusals and another 20% for possible losses and adjustment of confusion[11]. In this sense, a sample of 818 subjects was determined.

The communities were drawn at random, with replacement for refusals. In the end, 14 quilombos participated, there were three refusals, after visiting and talking with representatives of residents' associations. Upon confirmation of the interest of the selected community, all adults residing during the collection period were considered eligible.

The collections were carried out through previous scheduling of dates with the respective residents' associations. To prevent daily activities from promoting absences, the collection days were concentrated on weekends and holidays. The questionnaires were applied through face-to-face interviews, developed by a team of health professionals and/or academics, after training for the function.

The refusals were defined by the non-acceptance of invitations to participate in the activities on the days of the collections. A total of 850 quilombolas attended the research activities and accepted to participate through the subscription or, given the provision of the fingerprint, in the Free and Informed Consent Term and made up the effective sample of the investigation. The refusal rate was 17.07%.

The exclusion criteria for the interviews were expressed by the presence of cognitive impairment or inability to communicate independently of the adult. In the case of anthropometric measures, exclusions were defined when the participant was bedridden, if they had limb amputations, were in a cast, pregnant women and/or nursing mothers for less than six months. The absence of measure(s) and/or response(s) characterized the losses.

LS was assessed using the Individual Lifestyle Profile (PEVI), an instrument validated for Brazilian adults[12], composed of the following dimensions: nutrition, physical activity, preventive behavior, relationships, stress control. Each dimension contains three questions that allow four answers (no, sometimes, almost always, always) with a progressive score from zero to three. The general score was categorized as 'negative' (0-22 points) and positive (23-45 points), as well as in the domains (negative for 0-4 points; positive for 5-9 points).

Initially, the occurrence of chronic disease (yes/no) was considered when the answer was positive if "Has a doctor or nurse ever told you that you have (hypertension, diabetes, arthritis/rheumatism/arthrosis and dyslipidemias)" according to an instrument validated for the remaining quilombola population[13].

Waist circumference was measured with the aid of a metal measuring tape for measurement in humans (Sanny, model sn-4010, 2 meters long, 0.6 cm wide and 0.1 mm resolution). The protocols of the International Society for the Advancement of Kinanthropometry (ISAK)[14] were adopted, with a duplicate when the initial measures were equal and a third measure when the first two showed differences, using the median for analysis. These measurements took place in a closed environment, at the same time and by a single ISAK-certified evaluator.

Blood pressure (BP) was obtained with a semiautomatic sphygmomanometer (Omron HEM-742INT) validated[15]. The measurements were performed in triplicate, after at least 10 minutes of rest. The subjects were seated, with their feet flat on the floor, their left arm supported at heart level, with the palm open and facing upwards. For the definition of the PA measure, the arithmetic mean between the values.

Blood cholesterol and blood glucose were determined from blood samples extracted after an eight-hour fast, by intravenous puncture in the median antecubital vein, using a

vacuum system, properly separated and identified, as indicated by the Brazilian Society of Clinical Pathology and Laboratory Medicine. Initially, blood samples were stored in a cool box, with refrigeration, and later they were transported to the accredited laboratory, where the blood was processed and analyzed by the automated colorimetric enzymatic method (Cobas Mira Plus, Roche®).

The reference values for the collected variables and adopted classification were: High cholesterol (presence of ≥240 mg/dL and/or self-report of dyslipidemia), fasting hyperglycemia (≥100 mg/dL or self-report of diagnosis and diabetes), blood pressure high (systolic pressure ≥140 mmHg and/or diastolic pressure ≥90 mmHg, or self-report of diagnosis of high blood pressure). Central obesity was defined as >90 cm for men and >80 cm for women, according to cutoff points for Latin American adults[16].

The evaluation of morbidities and multimorbidities considered the diagnostic self-reference and/or the results of the direct evaluation of the variables for screening/diagnosing obesity, blood pressure, cholesterol and glycemia. For the classification of multimorbidity, the presence of two or more morbidities in the same individual was considered[2].

Sociodemographic variables: sex (female, male); age (full years); race/color (black, others); marital status (with a partner, without a partner); education (literate, illiterate); employment situation (without remuneration, with remuneration); family income (>minimum wage, <minimum wage, for a salary of R$880.00 in force in 2016).

Descriptive statistics procedures were adopted to characterize the sample. The association with prevalences related to PEVI and the other variables were estimated for the reasons of prevalence, based on Poisson regression. The comparison between PEVI and sex was performed using Pearson's Chi-square test. Significant associations were considered, variables that presented the level of significance adopted in the study of maximum 5% and the confidence interval of 95%.

The present analysis used data derived from a larger population-based epidemiological research, called "Epidemiological Profile of Quilombolas from Bahia", authorized by the Ethics Committee in Research with Human Beings of the University of the State of Bahia (CEP/UNEB), under opinion 1,386. 019/2016, developed between February and November 2016.

RESULTS

The sample of 850 subjects was composed of 520 women and 330 men. The ages ranged from 18 to 60 years, with a higher frequency in the 18 to 30 age group (24.7%), mainly among women (28.3%). The absolute majority declared themselves black, 88.5% of women and 83.5% of men. In the same sense, 76.5% were

maritally living with a partner and 70.0% reported family income of up to one minimum wage (Table 1).

High blood pressure and central obesity were the most frequent morbidities, affecting 53.5% and 56.2% of adults, respectively. Multimorbidity was present in 50.2% of the participants. The prevalence of central obesity was significantly more prevalent among women (Table 1).

The PEVI indicated that 18.5% of quilombolas had negative LS. The dimensions related to physical activity and food were the most negative, affecting 57.0% and 48.0% of respondents, respectively. Men showed PEVI significantly (p<0.05) more positive than women. However, considering the dimensions separately,

Table 1: Description of sociodemographic characteristics and morbidities in quilombola adults. Guanambi, Bahia, Brazil, 2016.

	n	%	n	%	n	%
Age						
18-30	63	19.1	147	28.3	210	24.7
31-40	49	14.9	107	20.6	156	18.4
41-50	63	19.1	96	18.5	159	18.7
51-60	81	24.6	88	16.9	158	18.6
≥60	73	22.2	82	15.8	166	19.6
Race/color						
Black	268	83.5	448	88.5	716	86.6
Others	53	16.5	58	11.5	111	13.4
Marital status						
With partner	257	80.3	377	74.5	633	76.8
Without partner	63	19.7	129	25.5	192	23.2
Family income						
≥1 salary	205	73.2	374	82.6	579	79.0
2–3 salaries	73	26.1	77	17.0	150	20.5
<3 salaries	2.0	0.7	2.0	0.4	4.0	0.5
Can read/write						
Yes	219	68.4	376	74.2	595	71.9
No	101	31.6	131	25.8	232	28.1
Paid work						
Yes	212	66.3	317	62.5	529	64.0
No	108	33.8	190	37.5	298	36.0
High blood pressure						
Yes	190	58.6	257	50.2	447	53.5
No	134	41.4	255	49.8	389	46.5
Hyperglycemia						
Yes	78	23.0	107	20.7	185	21.8
No	252	76.4	411	79.3	663	78.2
Dyslipidemias						
Yes	52	16.4	96	19.3	148	18.6
No	260	82.0	389	78.1	649	81.4
Arthritis/rheumatism/arthrosis						
Yes	30	9.4	77	15.2	107	13.0
No	290	90.6	428	84.8	718	87.0
Central obesity						
Yes	112	34.6	357	69.9	469	56.2
No	212	65.4	154	30.1	366	43.8
Multimorbidity						
Yes	139	44.4	266	54.0	405	50.2
No	174	55.6	227	46.0	401	49.8

men showed more negative eating habits (53.8%), while women stood out negatively in physical activity (61.7%) and stress control (25.4%) (Table 2).

When analyzing the associations of PEVI and its domains with CNCD and multimorbidities, a significant association (p<0.05) was found between central obesity and the domain of physical activity, as well as between dyslipidemia and multimorbidity with Preventive Behavior (Table 3). In this sense, presenting negative LS in Physical Activity is related to an 8% lower probability for central obesity). Positive preventive behavior is associated with a higher prevalence of arthritis/rheumatism and dyslipidemia and less multimorbidities (PR=0.97).

Table 2: Frequency of general lifestyle scores and domains by sex in Quilombolas. Guanambi, Bahia, Brazil, 2016.

	Male		Female		p
	N	%	N	%	
Lifestyle					
Positive	273	85.8	397	78.8	0.011
Negative	45	14.2	107	21.2	
Food intake					
Positive	147	46.2	279	55.6	0.009
Negative	171	53.8	223	44.4	
Physical activity					
Positive	158	50.5	191	38.3	0.001
Negative	155	49.5	308	61.7	
Preventive behavior					
Positive	221	70.2	370	74.7	0.152
Negative	94	29.8	125	25.3	
Relationship					
Positive	296	94.6	452	92.2	0.204
Negative	17	5.4	38	7.8	
Stress control					
Positive	262	82.4	375	74.6	0.009
Negative	56	17.6	128	25.4	

DISCUSSION

It is possible that this is the first study with results of analysis of the PEVI and its dimensions in quilombo residents. The results found in the quilombola communities in the region are worrying in view of the already reported difficulty in accessing health care, in addition to the reports of acts of racism committed by professionals in the area[17], and the precarious availability of infrastructure[4] regularly provided to black populations. In the same sense, poor conservation of access to communities, absence or lack of supply of energy and water is recurrent. Furthermore, health care is often restricted to the presence of a community agent responsible only for basic services (guidelines and blood pressure control and medical appointments).

The simultaneous assessment of the five lifestyle domains has been little explored in previous studies. However, a survey carried out in quilombola communities from Bahia state reported high prevalence of insufficient physical activity and inadequate nutritional status[18]. In the same perspective, in the present study, the behaviors related to eating habits and the adoption of recommended levels of physical activity were the ones with the greatest impairment when compared to the other domains evaluated.

In this analysis, women presented a more negative general PEVI than men. This result contrasts with other studies, with men showing more negative behaviors, becoming the main targets of severe and chronic health conditions and even death due to lack of care[19].

Such a more negative representation among women can be related to aspects of life that include the environment of residence, possibilities of leisure, food, work and remuneration. Factors that include discrimination in work relationships and overload with female domestic responsibilities must also be considered[20]. In this

Table 3: Prevalence ratio for general lifestyle and food and physical activity domains and chronic metabolic diseases in quilombola adults. Guanambi, Bahia, Brazil, 2016.

	General	Food intake	Physical activity	Preventive behavior	Relationships	Stress control
	RP (CI95%)	RP (CI95%)	RP (CI95%)	RP (CI95%)	RP (CI95%)	RP (CI95%)
Hypertension	1.28 (0.92–1.76)	0.97 (0.91–1.04)	1.05 (0.99–1.13)	1.03 (0.97–1.10)	1.03 (0.99–1.07)	1.03 (0.98–1.09)
Diabetes	0.95 (0.64–1.39)	0.97 (0.89–1.05)	0.99 (0.91–1.07)	1.02 (0.95–1.11)	0.99 (0.95–1.03)	0.97 (0.90–1.04)
Dyslipidemias	1.34 (0.85–2.13)	0.98 (0.89–1.06)	1.00 (0.98–1.09)	1.14 (1.05–1.24)	1.01 (0.96–1.05)	0.99 (0.91–1.07)
Central obesity	0.86 (0.62–1.19)	1.01 (0.94–1.08)	0.92 (0.86–0.99)	1.03 (0.97–1.10)	1.01 (0.97–1.05)	0.97 (0.91–1.03)
Arthritis or Rheumatism	1.38 (0.80–2.32)	0.97 (0.88–1.08)	1.02 (0.92–1.13)	1.10 (1.00 - 1.20)	1.01 (0.96–1.06)	0.99 (0.91–1.09)
Multimorbidities	0.94 (0.83–1.08)	1.01 (0.98–1.04)	0.99 (0.90–1.10)	0.97 (0.94–0.99)	0.99 (0.98–1.01)	1.00 (0.98–1.02)

CI95%: 95% confidence interval

sense, women become more vulnerable to illness due to socioeconomic inequalities and biological issues.

In the domain of physical activity, it was shown that quilombola women in the investigated micro-region are less physically active than men. In the same sense, an analysis in a community in the upper sertão of Bahia[21] reported that women are less active in their free time. In the same sense, the most negative behavior in women in relation to physical activity was also presented by research in rural communities in Minas Gerais, which identified men significantly more active in leisure, work and commuting[22]. It is noteworthy that the low level of physical activity is regularly associated with the presence of NCDs, a condition that occupies space in the profile of morbidity and mortality in the most varied populations, being responsible for nine times more premature death than communicable diseases[23].

Vulnerability to food insecurity in quilombolas has been reported in other studies6. Regarding the domain of food in the present investigation, the male sex presented a more negative lifestyle than the women. A study with quilombolas from Minas Gerais also identified more negative eating behavior among men[24]. The Brazilian National Health Survey (Pesquisa Nacional de Saúde, PNS)[25] presented similar data, emphasizing that the prevalence of women who consumed five servings of fruits and vegetables daily is significantly higher when compared to the male group, linearly associated with increasing age and level of education. These findings confirm that the most negative eating behaviors are more frequent in men.

As in the present investigation, worrying prevalence of metabolic morbidities in quilombola communities have been reported. However, the prevalence of hyperglycemia in the present analysis is higher than the 13.6% present in quilombos in Minas Gerais[24] and 8.6% in quilombolas in a municipality in the southwest of Bahia[26]. However, the presence of dyslipidemia found in quilombolas in the Guanambi region is less than the 20.0% in quilombos in Minas Gerais[24].

High blood pressure was the most prevalent morbidity in the investigated population, regardless of gender. Caldeiras and Oliveira[24] also pointed out a similarity in the frequency of this disease among quilombola adults of both sexes, however, the prevalence of 31.7% of men and 30.5% of women are lower than those identified in this analysis of the Bahian region. In the same sense, a population analysis of quilombolas in a city in Bahia[26], also identified a high blood pressure index (48.6%) lower than that of this study. According to PNS[25], the Brazilian population had 21.4% of adults with high blood pressure, most recurrent in women.

The important differences in data on population diseases in Brazil and the findings in research involving quilombolas may be related to methodological characteristics (by reporting the medical diagnosis and/or by measuring blood glucose, lipid and blood pressure) to determine the possibility of these illnesses. However, they can also be influenced by the quilombola population and sociodemographic profile in which quilombola communities are located.

More than half of the quilombola population in the Guanambi region has central obesity, especially present among women. These findings are significantly greater than the 25.9% found in a quilombola community in Bahia[27]. However, less than the 55.7% indicated in the quilombola population of a municipality in the southwest of Bahia[26]. However, the analysis by Soares and Barreto[26] also identified the women most exposed to this type of obesity.

Central obesity expresses an important health problem generated, even if partially, by the nutritional transition plus demographic and epidemiological changes. In addition, its more recurrent presence in the female population would also result from the accumulation of natural fat in the abdominal region due to metabolic and hormonal changes common to women throughout life[26].

In quilombolas in the region investigated, positive physical activity was associated with a lower chance of occurrence of central obesity. Meanwhile, positive preventive behavior was associated with a higher probability for dyslipidemia and lesser multimorbidity.

Social modernization is one of the main factors responsible for the reduction of the levels of physical activity, interfering negatively in the energy balance and providing the growth of obesity[28]. Thus, the emergence of motorized transport and equipment that reduce physical effort, both at work and at home, reflects a positive bias in comfort and a negative one in some health indicators, decreasing the Basal Metabolic Rate (BMR) and increasing the possibility for the overweight.

The association between dyslipidemia and the domain of positive preventive behavior may be related to the adoption of preventive practices after the diagnosis of the disease. However, as already mentioned, this disease has a long latency period[1]. So, this association may be related to the reverse chance, which can occur when the exposure changes, in the presence of a certain disease.

The disease multiplicity index in the quilombola population checked cases of individuals with a frequency of four or more NCDs. This prevalence between the presence of two or more chronic diseases, in quilombola adults of both sexes, may be related to the socioeconomic factors of the population. The social context of deprivations of health services and socioeconomic benefits increases the prevalence of multimorbidity[29].

This complex clinical picture represents a challenge to health services, which, for the most part, provide isolated treatments for morbidities and difficulties regarding the protocols and guidelines for meeting the associated demands[29]. In the same

sense, those affected by simultaneous illnesses must face specific and costly treatments, in addition to negative physical, cognitive and functional complications for quality of life and morbidity due to the disease[30].

Adopting positive preventive behavior was a protective factor against multimorbidities. A positive long-term PEVI significantly reduces the risk factors associated with the design of NCDs[30], such as inadequate diet, little practice of physical activity, smoking and excessive consumption of alcoholic beverages[2].

The analysis has some limitations. Self-declaration about LS and morbidities may suffer bias in the participant's understanding and memory, however previously validated instruments were used[12,13]. The PEVI was established to track personal issues, when used to understand the community epidemiological profile, it may not represent the information widely. Another issue that must be considered is the limited number of variables for determining multimorbidity[2], which can underreport its population distribution.

The study procedures represent positivity regarding their reliability. The selected and synthesized instruments favored a more accurate and comprehensive understanding of the participants' health conditions, inferring a wealth of data. Based on the study developed and the limitations found with respect to a significantly large population, it is extremely important to increase a new questionnaire dedicated to the study of population LS for groups.

Final considerations

Differences were found between the representation of the PEVI domains, chronic diseases and sexes. Men exhibited more negative behavior in the domain of food, while among women the most negative domain was in physical activity. The most prevalent chronic morbidities in the studied population are: high blood pressure and central obesity.

Of the five PEVI domains, two showed a relationship between NCDs and multimorbidities. It is worth mentioning the small number of articles referring to multimorbidities in the Brazilian population in general, but especially in the quilombola population, since it is still considered a new theme in the epidemiological field in the country. Thus, the information presented here is not exhausted in this study, but it develops the basic function for future research in quilombola communities.

REFERENCES

1. Veras R. Envelhecimento populacional contemporâneo: demandas, desafios e inovações. Rev Saúde Pública. 2009;43(3):548-54. http://dx.doi.org/10.1590/S0034-89102009005000025

2. Nunes BP, Chiavegatto Filho ADP, Pati S, Teixeira DSC, Flores TR, Camargo-Figuera FA, et al. Contextual and individual inequalities of multimorbidity in Brazilian adults: a cross-sectional national-based study. BMJ Open. 2017;7(6):e015885. http://dx.doi.org/10.1136/bmjopen-2017-015885

3. Malta DC, Andrade SSCA, Stopa SR, Pereira CA, Szwarcwald CL, Silva Júnior JB, et al. Estilos de vida da população brasileira: resultados da Pesquisa Nacional de Saúde, 2013. Epidemiol Serv Saúde. 2015;24(2):217-26. http://dx.doi.org/10.5123/S1679-49742015000200004

4. Silva JAN. Condições sanitárias e de saúde em Caiana dos Crioulos, uma comunidade quilombola do estado da Paraíba. Saúde Soc. 2007;16(2):111-24. http://dx.doi.org/10.1590/S0104-12902007000200011

5. 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):1829-42. http://dx.doi.org/10.1590/0102-311X00151412

6. Almeida JA, Santos AS, Nascimento MAO, Oliveira JVC, Silva DG, Mendes-Netto RS. Fatores associados ao risco de insegurança alimentar e nutricional em famílias de assentamentos rurais. Ciênc Saúde Coletiva. 2017;22(2):479-88. http://dx.doi.org/10.1590/1413-81232017222.27102015

7. Bezerra VM, Andrade ACS, César CC, Caiaffa WT. Domínios de atividade física em comunidades quilombolas do sudoeste da Bahia, Brasil: estudo de base populacional. Cad Saúde Pública. 2015;31(6):1213-24. http://dx.doi.org/10.1590/0102-311X00056414

8. Superintendência de Estudos Econômicos e Sociais da Bahia (SEI). Economia e social. [Internet] Disponível em: http://www.sei.ba.gov.br/. Acesso em: 01 fev 2016.

9. Brasil. Fundação Cultural dos Palmares (FCP). Quilombola. [Internet] Disponível em: http://www.palmares.gov.br. Acesso em: 27 set 2018.

10. Brasil. Secretaria de Políticas de Promoção da Igualdade Racial da Presidência da República (SEPPIR). Programa Brasil Quilombola. Comunidades quilombolas brasileiras: regularização fundiária e políticas públicas. Brasília: 2007.

11. Luiz RR, Magnanini MMF. A lógica da determinação do tamanho da amostra em investigações epidemiológicas. Cad Saúde Coletiva. 2000;8(2):9-28.

12. Both J, Borgatto A, Nascimento JV, Sonoo CN, Lemos CAF, Nahas MV. Validação da escala perfil do estilo de vida individual. Rev Bras Ativ Fís Saúde. 2008;13(1):5-14. https://doi.org/10.12820/rbafs.v.13n1p5-14

13. Bezerra VM, Medeiros DS, Gomes KO, Souzas R, Giatti L, Steffens AP, et al. Inquérito de Saúde em Comunidades Quilombolas de Vitória da Conquista, Bahia, Brasil (Projeto COMQUISTA): aspectos metodológicos e análise descritiva. Ciênc Saúde Coletiva. 2014; 19(6):1835-47. http://dx.doi.org/10.1590/1413-81232014196.01992013

14. Stewart TOA, Marfell-Jones LCM, Stewart A, Marfell-Jones M. International standards for anthropometric assessment. New Zealand: ISAK, 2011.

15. Christofaro DG, Fernandes RA, Gerage AM, Alves MJ, Polito MD, Oliveira AR. Validation of the Omron HEM 742 blood pressure monitoring device in adolescents. Arq Bras Cardiol. 2009;92(1):10-5. http://dx.doi.org/10.1590/s0066-782x2009000100003

16. López-Jaramillo P, Sánchez RA, Díaz M, Cobos L, Bryce A, Parra-Carrillo JZ, et al. Consenso latino-americano de hipertensão em pacientes com diabetes tipo 2 e síndrome metabólica. Arq Bras Endocrinol Metab 2014;58(3):205-25.
http://dx.doi.org/10.1590/0004-2730000003019

17. Boccolini CS, Boccolini PMM, Damacena GN, Ferreira APS, Szwarcwald CL. Fatores associados à discriminação percebida nos serviços de saúde do Brasil: resultados da Pesquisa Nacional de Saúde, 2013. Ciênc Saúde Coletiva. 2016;21(2):371-8.
http://dx.doi.org/10.1590/1413-81232015212.19412015

18. Santos LRCS, Assunção AA, Lima EP. Dor nas costas em adultos residentes em territórios quilombolas, Bahia. Rev Saúde Pública. 2014;48(5):750-7.
http://dx.doi.org/10.1590/S0034-8910.2014048005317

19. Gomes R, Nascimento EF, Araújo FC. Por que os homens buscam menos os serviços de saúde do que as mulheres? As explicações de homens com baixa escolaridade e homens com ensino superior. Cad Saúde Pública. 2007;23(3):565-74.
http://dx.doi.org/10.1590/S0102-311X2007000300015

20. Pedrosa M. Atenção integral à saúde da mulher: desafios para implementação na prática assistencial. Rev Bras Med Família Comun. 2005;1(3):72-80.
https://doi.org/10.5712/rbmfc1(3)12

21. Mussi RFF, Mussi LMPT, Bahia CS, Amorim AM. Atividades físicas praticadas no tempo livre em comunidade quilombola do alto sertão baiano. Licere. 2015;18(1):157-87.

22. Bicalho PG, Hallal PC, Gazzinelli A, Knuth AG, Velásquez-Meléndez G. Atividade física e fatores associados em adultos de área rural em Minas Gerais, Brasil. Rev Saúde Pública. 2010;44(5):884-93.
http://dx.doi.org/10.1590/S0034-89102010005000023

23. Mariath AB, Grillo LP, Silva RO, Schmitz P, Campos IC, Medina JRP, et al. Obesidade e fatores de risco para o desenvolvimento de doenças crônicas não transmissíveis entre usuários de unidade de alimentação e nutrição. Cad Saúde Pública. 2007;23(4):897-905.
http://dx.doi.org/10.1590/S0102-311X2007000400017

24. Oliveira SKM, Caldeira AP. Fatores de risco para doenças crônicas não transmissíveis em quilombolas do norte de Minas Gerais. Cad Saúde Coletiva. 2015;24(4):420-7.
http://dx.doi.org/10.1590/1414-462x201600040093

25. Instituto Brasileiro de Geografia e Estatística (IBGE). Pesquisa Nacional de Saúde 2013: percepção do estado de saúde, estilos de vida e doenças crônicas. Rio de Janeiro: IBGE, 2014.

26. Soares DA, Barreto SM. Sobrepeso e obesidade abdominal em adultos quilombolas, Bahia, Brasil. Cad Saúde Pública. 2014;30(2):341-54.
http://dx.doi.org/10.1590/0102-311X00004613

27. Mussi RFFM, Amorim AM, Almeida CB, Petroski EL. Obesidade Central e Fatores Associados em Quilombolas do Alto Sertão Baiano, Brasil. Anais do Cuba Salud 2018. Havana: Ministerio de Salud Pública de Cuba, [Internet] Disponível em: http://www.convencionsalud2017.sld.cu/index.php/connvencionsalud/2018/paper/viewFile/1428/2519. Acesso em: 01 fev 2016.

28. Pereira LO, Francischi RP, Lancha Jr AH. Obesidade: hábitos nutricionais, sedentarismo e resistência à insulina. Arq Bras Endocrinol Metab. 2003;47(2):111-27.
http://dx.doi.org/10.1590/S0004-27302003000200003

29. Batista SR. A complexidade da multimorbidade. J Manag Prim Health Care. 2014;5(1):125-6.
https://doi.org/10.14295/jmphc.v5i1.205

30. Duncan BB, Chor D, Aquino EML, Bensenor IM, Mill JG, Schmidt MI, et al. Doenças crônicas não transmissíveis no Brasil: prioridade para enfrentamento e investigação. Rev Saúde Pública. 2012;46(supl.1):126-34.
http://dx.doi.org/10.1590/S0034-89102012000700017