Self-perceived health among 'quilombolas' in northern Minas Gerais, Brazil

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Abstract *Over a century has passed since slavery was abolished in Brazil, yet quilombola communities remain socially vulnerable, especially when it comes to health. The goal of this study was to understand self-perceived health (SPH) in quilombola communities in Northern Minas Gerais, and the factors associated with their negative-perceived their own health. A household survey of a representative sample of quilombola communities in the study region. Validated tools were used to gather data about SPH, socioeconomic conditions, demographics, lifestyle and self-referred morbidity. Following a bivariate analysis, we proceeded to conduct a hierarchical logistics regression analysis. The prevalence of negative SPH was 46.0%. The following variables were statistically associated with negative SPH: age and years of schooling as distal variables, and high blood pressure, diabetes, arthritis, depression and back problems as proximal variables. SPH is associated with demographic and socioeconomic dimensions, and in particular with self-referred morbidity. The concept of health among the quilombola communities included in this study seems to be intimately linked to the absence of disease, especially chronic disease.*

Key words *Health level, group with ancestors on the African content, epidemiological surveys, vulnerable communities, health (healthcare) inequality*

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Introduction

There remain major indications of inequality related to skin color in Brazil, with the Afro-descendant population being at an obvious disadvantage, especially when it comes to healthcare[1,2]. Among this population, those living in *quilombola* communities, most of whom are of African descent, are particularly vulnerable due to social inequality and the fact that these communities are predominantly rural[2]. The expanded concept of *quilombola* communities has, in itself, aspects linked to ethnic identity and territoriality that cannot be ignored[3]. Brazilian law defines such communities as ethnic-racial groups *with their own unique history and specific territorial relationships. It is presumed they are the descendants of Africans who resisted the yoke of history and fled.* The Palmares Foundation (*Fundação Cultural Palmares*) is responsible for registering and certifying such communities[4].

Unfortunately, recent investments in Primary Healthcare, such as expanding the Family Health Strategy teams, have not been able to significantly penetrate this population group. Little is known about the health and disease processes of *quilombola* communities, about their morbidity profile or even their perceptions about healthcare and their own health[5]. Some authors call attention to the need for more equitable healthcare for this population, based on records of precarious health conditions and limited access to healthcare services[1,2,6].

Self-perceived health (SPH), although subjective, is considered a quick, inexpensive and effective approach to gathering data on the health of population groups, it is valid and accepted in the scientific community[7,8], and a growing volume of articles on the theme have appeared in recent literature[9]. However, the health of those living in *quilombola* communities is not often discussed. Studies conducted in *quilombola* communities in southeast Bahia are a major contribution in this area[1,2,5]. In general, these studies highlight the difficulty *quilombolas* have to access healthcare services, and the fact that such services are under-utilized by this population segment[1]. They also point to the need for more inclusive activities to promote health[2]. Regarding SPH in particular, results allow one to infer that the health situation in these communities is precarious, given the number of bad/very bad responses to questions regarding self-perceived health[5].

Not only is this not well addressed in *quilombola* communities, but one must also point out that the epidemiological transition has caused changes in these communities as well, in particular an increase in chronic conditions. These are primarily characterized by limited initial symptoms and long periods of latency, and are already a leading cause of death in Brazil[10]. Because of their peculiarities and associated risk factors, chronic diseases can also interfere in self-perceived health[9].

It is also a consensus that social inequality, poor quality of life, limited schooling, no access to information and belonging to vulnerable groups are all conditions that interfere in the health-disease process, and could influence SPH[11,12]. The goal of this study was to understand self-perceived health (SPH) in *quilombola* communities in northern Minas Gerais, and the factors associated with their negative perception of their own health.

Methodology

This is a cross-sectional, population based analytical study conducted among *quilombola* communities in northern Minas Gerais. The region has 86 municipalities, 20 of which have such communities. We started out by listing all of the *quilombola* communities in northern Minas Gerais that are recognized by the Palmares Cultural Foundation. Based on these 33 communities, we designed a sample plan to allocate a representative sample of all of the communities.

The sample calculation considered a 50% prevalence of the events studied. This is a conservative value, selected to provide the largest number of elements in the sample. The acceptable margin of error was 5%, and the confidence level 95%. Thus, calculations showed that 378 people should be interviewed out of the estimated 22 thousand inhabitants in these *quilombola* communities. As the sample allocation process was based on conglomerates (communities), the calculated number was multiplied by 1.5 as a design correction (*deff),* and 30% added to take into account possible losses. The study group thus settled on 737 interviews. The inclusion criteria were age 18 or over, and fixed residence in any of the communities in northern Minas Gerais that are certified by the Palmares Cultural Foundation. Exclusion criteria were cognitive impair-

ment of the person randomly selected to answer questions, according to reports of the person's family.

Probabilistic sampling took place in two steps. Initially, communities were randomly allocated. Because of the variation in how space is occupied in these communities (rural), a point of reference was selected in each community and homes visited from that point in a spiral pattern. The number of homes selected in each community was proportional to its size, and in each one a single adult was randomly selected (by drawing) to participate in the study, including absent family members who were approached later on.

Data was collected in the second half of 2013, in the home of the interviewee. All of the interviews were conducted by university trained healthcare professionals who had been previously trained and calibrated.

The data gathering tool is based on other validated tools, in particular the Ministry of Health's VIGITEL questionnaire ("Chronic disease protection and risk factor telephone vigilance survey"), adapted only for the dependent variable, categorized into four response options. Thus many of the variables assessed were actually measured by the interviewee him or herself[13]. Sociodemographic data was also collected (gender, age, self-declared skin color, years of schooling, marital status, water supply status, use of electricity, sewage, household income and household waste destination). Subjective health conditions were assessed via self-perceived health status, defined in this study as a dependent variable.

We also calculated Body Mass Index (BMI) after measuring participant weight and height, classifying them into underweight (BMI ≤ 18.49 kg/m^2; normal weight (BMI between 18.5 and 24.99 kg/m^2, overweight (BMI between 25.0 and 29.99 kg/m^2, and obese (BMI ≥ 30.0 Kg/m^2. Following this classification, excess weight was taken as the sum of individuals who were overweight or obese. Weight was measured using a 200 kg capacity anthropometric scale that is calibrated from time to time, accurate do the nearest 100 g. All measurements followed traditionally recommended procedures and were made in duplicate.

Interviewees were also questioned about alcohol and tobacco use, and about physical activity. The tool used includes the questions in the validated International Physical Activity Questionnaire (IPAQ) to determine the frequency and intensity of physical activity. Individuals practicing at least 150 minutes of physical activity a week were considered active[14].

All of the data collected was tabulated and analyzed with the help of SPSS (Software Statistical Package for the Social Sciences) v. 17.0. Statistical analyses are based on the dependent variable "Self-perceived Health Status", measured using the following questions: *How do you view your health?,* where respondents could select from among the following options: Very good, good, fair and poor. For statistical analyses we chose to group the responses for the dependent variable as follows: Positive perception (very good and good) and negative perception (fair and bad). This classification attempts to use a different approach from other studies conducted in the country, with four responses to choose from, rather than five, two of them necessarily positive and two necessarily negative, thus avoiding an intermediate situation that could lead to mistaken analyses. The authors feel that the terms "fair" and "reasonable", used in major national studies using different data collection tools, should not be considered as positive self-perceived health[15,16].

Bivariate analyses were conducted as a first step. The variables associated up to 20% (p < 0.20) were included in the multiple analysis (logistics regression), with analytical hierarchy according to the scheme in Figure 1. The model used is based on the studies of Höfelmann and Blank[17], and Guimarães et al.[18]. Multiple analyses were initially conducted within each block of independent variables using binary logistics regression and the stepwise forward approach. The final model was then designed by introducing the final variables in each block, starting with the one theoretically considered the most distal, working towards the variable considered the most proximal to SPH. In this step, the magnitude of the association between the dependent variable and the independent variables was estimated using odds ratio (OR), with a 95% confidence interval (95% CI). The final model was adjusted using the Hosmer and Lemeshow test, keeping the associated variables to the level of 5% (p < 0.05).

This study was approved by the Research Ethics Committee of the State University in Montes Claros. Community participation was supported by local and state leaders. All participants were informed of the study goals and agreed to participate by signing a term of free and informed consent (a thumbprint was used in lieu of signature for those unable to sign). Access to the
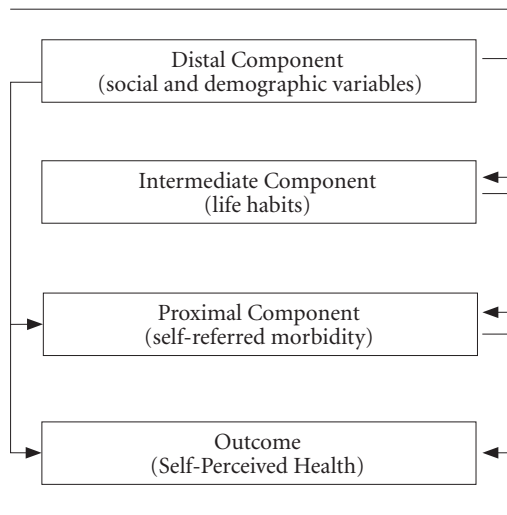
Figure 1. Hierarchical conceptual structure (blocks) about self-perceived health.

communities was mediated by the state representative of *quilombola* communities, which allowed communities to collaborate in data collection. Participation was universal and none of the communities refused to participate.

Results

A total of 756 homes were visited and one individual selected in each one. The communities were receptive and there were no sample losses. Most of the interviewees were women aged 18 to 40, and either married or in a stable union (equivalent to a common-law marriage). These and other characteristics of the interviewees are listed in Table 1.

The SPH analysis shows that 41 respondents (5.4%) considered their health to be "Very God", 367 (48.5%) "Good", 254 (33.6%) "Fair" and 94 respondents (12.4%) considered their health to be "Poor". Thus 348 respondents (46.0%) of the sample had a negative self-perception of their own health ("Fair" or "Poor").

Table 2 shows the association between the sociodemographic variables and SPH using bivariate analysis. In this step, the variables age, years of schooling, water supply, physical activity and tobacco use were associated to the level of 20%.

At least one health problem was mentioned by 446 (59%) of the interviewees. The more important ones were hypertension (n = 234; 31.0%),

Table 1. Sociodemographic characteristics and life habits among quilombolas in northern Minas Gerais, 2013.

Variables	(n)	(%)
Sociodemographic		
Gender		
Male	271	35.8
Female	485	64.2
Age (years)		
< 40	434	57.4
40-59	268	35.4
≥ 60	54	7.1
Years of schooling (last grade completed)		
None	119	15.7
1 – 4	336	44.4
5 – 8	145	19.2
≥ 9	156	20.6
Marital Status		
Single	160	21.2
Married/Stable Union	497	65.7
Widowed	49	6.5
Divorced/Separated	50	6.6
Self-stated Skin Colour (Race)		
White (Caucasian)	11	1.5
Black (Afro-descendant)	637	84.3
Yellow (Oriental)	9	1.2
Brown (Mullatto)	99	13.1
Household Income (minimum salaries*)		
≤ 1	495	65.5
2 - 3	239	31.6
> 3	22	2.9
Household Waste Destination		
Collected by Sanitation Service	27	3.6
Collected in Dumpster	152	20.1
Burnt	435	57.5
Buried	28	3.7
Discarded in empty lot/other	114	15.1
Sanitary Waste		
Sewage Network	5	0.7
Septic Tank	519	68.7
Crude Septic Tank	119	15.7
Ditch	52	6.9
River. lake. other	61	8.1
Electricity		
None	14	1.8
Dedicated meter	656	86.8
Shared meter	72	9.5
No meter	14	1.9
Water supply		
Town Water or equivalent	91	12.0
Well or spring on property	164	21.7
Well or spring not on property	304	40.2
Tank truck	76	10.1
Stored rainwater	32	4.2
Rivers. dams. lakes. other	89	11.7

it continues

Tabela 1. continuação

Variables	(n)	(%)
Life Habits		
Physical Activity		
Active	273	36.1
Sedentary	483	63.9
Tobacco use		
Smoker	182	24.1
Non-smoker	574	75.9
Alcohol use		
Drinks	239	31.6
Does not drink	517	68.4

* Minimum Salary = R$ 678,00.

back problems (n = 204; 27.0%), depression (n = 103; 13.6%), high cholesterol (n = 78; 10.7%) and diabetes (n = 50; 6.6%). A detailed analysis of BMI showed the following breakdown: 41 people (5.4%) were underweight, 353 (46.7%) were of normal weight, 233 (30.8%) were overweight and 129 (17.1%) were obese. A total of 362 (47.9%) were either overweight or obese.

Table 3 shows the bivariate association between self-referred health problems and self-perceived health status in the study group. The only variable not associated with the outcome of this analysis was being overweight.

Following a hierarchical analysis, the following variables were associated with negative SPH: distal variables age and years of schooling, and proximal variables hypertension, diabetes, arthritis, depression and back problems (Table 4).

Discussion

SPH is a multi-dimensional phenomenon that provides data about people's physical and mental health, and has been associated with mortality, morbidity and the use of healthcare services[8]. People's perceptions are very close to reality, thus self-perception is considered an effective measure to assess health. Because it is so simple to use, this approach is used in numerous health surveys[15,16].

This study found a high prevalence of negative SPH among the *quilombola* populations in northern Minas Gerais. The prevalence of negative SPH found among the study population is similar to that found in populations made up exclusively of the elderly[9,19]. The literature states uncontestably that self-perceived health is worse among the elderly[7,20]. Considering that the sample in this study had fewer than 10% elderly people in it, it is natural to conclude that the communities in this study have a more critical and negative self-perception of their health status compared to the general population.

There are very few studies that deal with SPH among *quilombola* communities. The authors of surveys conducted in southwest Bahia found SPH to be "bad" or "very bad" in 12.4% of the population. However, if "fair" is included as negative self-perceived health, the percent climbs to 55%, which is very close to the percentages found in this study[1,5].

It is important to point out that there is a dearth of domestic studies assessing the health of the Afro-descendants in general. This is even more the case among *quilombola* communities[21]. More recent studies have addressed some aspects of *quilombola* health, highlighting their use of medication[22], the prevalence of hypertension[2] and the use of healthcare services[1]. Thus the following discussion on the factors associated with negative SPH will use as a reference studies of other populations, given the lack of specific studies for *quilombolas* or even Afro-descendants.

The following variables were shown to be associated, following a hierarchical analysis in this study: age, years of schooling, hypertension, diabetes, arthritis/arthroses, depression and back problems. Regarding age, the data coincides with the findings of other studies, confirming that advancing age is related to an increase in negative self-perceived health[7,9,23,24], including among *quilombolas*[2]. A study conducted in southern Brazil looking at different age groups found an increasing percentage of "fair" or "poor" self-perceived health among adolescents, adults and the elderly[7]. Surely, some of the characteristics of the aging process can contribute to negative health perception[20,25]. As people age, their production capacity decreases and a greater number of diseases appear. This is of particular concern among vulnerable populations such as *quilombolas*, who also suffer from geographic isolation and racial inequality[21].

Years of schooling is another variable that remained in the final model. Here it is important to point out that illiteracy is more common among the study population than in the rest of the state of Minas Gerais[26]. Looking at years of schooling, we found that those who had never gone to school had a worse self-perception of their

Table 2. Bivariate analysis of SPH. sociodemographics and life habits among quilombolas in northern Minas Gerais. 2013.

Variable	Self-perceived health				p- value	Gross OR
	Negative		Positive			
	n	%	n	%		
Sociodemographic					0.969	1.01 (0.75 - 1.36)
Gender						
Male	125	35.9	146	35.8		
Female	223	64.1	262	64.2	0.000	1.84 (1.37 - 2.46)
Age (years)						
≥ 40	176	50.6	146	35.8		
< 40	172	49.4	262	64.2	0.002	1.85 (1.24 - 2.75)
Years of schooling						
Illiterate	70	20.1	49	12.0		
Literate	278	79.9	359	88.0	0.339	0.86 (0.64 - 1.17)
Marital Status						
No partner	113	32.5	146	35.8		
Has partner	235	67.5	262	64.2	0.456	0.89 (0.66 - 1.20)
Household Income[*]						
< 1 minimum salary	223	64.1	272	66.7		
≥ 1 minimum salary	125	35.9	136	33.3	0.811	1.04 (0.74 - 146)
Household Waste						
Not Collected	267	76.7	310	76.0		
Collected	81	23.3	98	24.0	0.660	1.45 (0.97 - 2.17)
Sanitary Waste						
Other	61	17.5	52	12.7		
Sewage Network/Septic Tank	287	82.5	356	87.3	0.995	0.99 (0.65 - 1.52)
Electricity						
Other sources	46	15.4	54	13.24		
Dedicated meter	302	84.6	354	86.76	0.187	1.35 (0.86 - 2.11)
Water supply						
Other sources	312	89.6	353	86.5		
Sewage Network	36	10.4	55	13.5		
Life Habits					0.117	1.27 (0.94 - 1.71)
Physical Activity						
Sedentary	136	39.1	137	29.2		
Active	212	60.9	272	70.8	0.115	1.31 (0.94 – 1.83)
Tobacco use						
Smoker	93	26.7	89	21.8		
Non-smoker	255	73.3	319	78.2	0.345	0.862 (0.63 -1.17)
Alcohol use						
Drinks	104	29.9	135	33.1		
Does not drink	244	70.1	273	66.9		

[*] Minimum Salary = R$ 678,00.

own health. The association between low levels of education and a worse self-perceived health was also found by other researchers investigating other population groups[7,15,16,19]. However, a study of *quilombola* communities in southwest Bahia showed a negative SPH associated with individuals with more years of schooling. The authors found that there was a lower chance that peo-

ple with 4 to 7 years of schooling would report their health as good/very good. In this case, the authors speculate that the situation may be due to the increased expectation these people have of their own health, as the amount of education they receive increases[5].

Chronic diseases were assessed in the proximal component of the hierarchical analysis in

Table 3. Bivariate analysis of SPH and Chronic Diseases among quilombolas in northern Minas Gerais. 2013

Variable	Self-Perceived Health				p- value	Gross OR
	Negative		Positive			
	n	%	n	%		
Hypertension					< 0.001	2.31 (1.68 - 3.16)
Yes	141	40.5	93	27.8		
No	207	59.5	315	77.2		
High Cholesterol					< 0.001	2.42 (1.48 - 3.96)
Yes	51	14.6	27	6.6		
No	297	85.4	381	93.4		
Cardiovascular Disease					0.001	3.35 (1.60 - 7.02)
Yes	27	7.8	10	2.5		
No	321	92.2	398	97.5		
Diabetes					< 0.001	3.61 (1.89 - 6.91)
Yes	37	10.6	13	3.2		
No	311	89.4	395	96.8		
Kidney Disease					0.001	2.58 (1.44 - 4.62)
Yes	37	10.6	18	4.4		
No	311	89.4	390	95.6		
Arthritis/Arthroses					0.001	3.21 (1.53 - 6.76)
Yes	26	7.5	10	2.5		
No	322	92.5	398	97.5		
Depression					< 0.001	3.01 (1.93 - 4.70)
Yes	71	20.4	32	7.8		
No	277	79.6	376	92.2		
Back Problems					< 0.001	2.27 (1.63 - 3.15)
Yes	124	35.6	80	19.6		
No	224	64.4	398	80.4		
Overweight/obese[*]					0.700	0.945 (0.71 -1.26)
Yes	164	47.1	198	48.5		
No	184	52.9	210	51.5		

[*] Measured by the researchers. Based on BMI.

this study, and given their potential to directly interfere in quality of life, were also variables that affected SPH. The presence of at least one chronic disease was high in the study population, which agrees with another study conducted exclusively among *quilombolas*[5]. The current study found that the presence of chronic diseases was associated with negative individual SPH, agreeing with another study that also found this association, especially among individuals with diabetes or heart disease[7]. On the other hand, a study conducted in southern Brazil among the adult population in general did not show an inverse relationship between the presence of chronic disease and better SPH[23]. Naturally, it is important to take into account the different contexts, as the population in the South of Brazil is quite different from the *quilombola* communities studied, and the authors of

the Rio Grande do Sul study surveyed only users of primary care services.

In other studies, hypertension and diabetes were the most often studied chronic diseases, probably due to their high prevalence and the associated risks. The presence of hypertension and diabetes are associated with negative SPH, as shown by the data in this study. This was also clear in a study conducted in Bambuí, MG among exclusively elderly interviewees[25]. This association was also found in two international studies, one in Malaysia and another in Colombia, again among elderly interviewees[24,27]. The fact that an association was found between hypertension and diabetes and negative SPH in different communities is likely due to the chronic nature of these diseases, implying in changes in behavior and diet, and the constant use of med-

Table 4. Final SPH association model for quilombolas in northern Minas Gerais in 2013. based on a hierarchical analysis.

Model	Gross OR (CI 95%)	Adjusted OR (CI 95%)	p-value
Distal Component[*]			
Age (years)			0.002
< 40	1.00	1.00	
≥ 40	1.84(1.37- 2.46)	1.62(1.19- 2.19)	
Years of schooling			0.039
Literate	1.00	1.00	
Illiterate	1.85(1.24-2.75)	1.55(1.02-2.38)	
		x^2(H-L): p-value: 0.566	
Intermediate Component[**]			
Physical Activity			n.s.
Active	1.00	n.s.	
Sedentary	1.04(0.78-1.39)		
Tobacco User			n.s.
Non-smoker	1.00	n.s.	
Smoker	1.31(0.84-1.83)		
		x^2(H-L): p-value: 0.842	
Proximal Component[***]			
Hypertension			0.002
No	1.00	1.00	
Yes	2.31(0.68-3.16)	1.74(1.23-2.48)	
High Cholesterol		n.s.	n.s.
No	1.00		
Yes	2.42(1.48-3.96)		
Cardiovascular Disease		n.s.	n.s.
No	1.00		
Yes	3.35(1.60-2.02)		
Diabetes			0.005
No	1.00	1.00	
Yes	3.62(1.90-6.92)	2.66(1.35-5.26)	
Kidney Disease		n.s	n.s.
No	1.00		
Yes	2.58(1.44-4.61)		
Arthritis/Arthroses			0.035
No	1.00	1.00	
Yes	3.21(1.53-6.76)	2.32(1.06-5.07)	
Depression			<0.001
No	1.00	1.00	
Yes	3.01(1.93-4.70)	2.78(1.75-4.42)	
Back Problems			<0.001
No	1.00	1.00	
Yes	2.27(1.63-3.15)	1.88(1.33-2.66)	
		x^2(H-L): p-value: 0.667	

H-L: Hosmer and Lemeshow Test.

ication, which likely leads individuals to have lower self-perceived health. Although Brazilian literature points out the high prevalence of hypertension and other CNTD among people of African descent and *quilombolas*[2,28], we found no studies analyzing the association between such conditions and SPH. Kochergin et al.[5] found an association between medically diagnosed chronic diseases and negative SPH, but the authors did not list the diseases.

Another self-referred chronic disease that in this study was intimately related to negative SPH was depression. This is the most common mental health problem, and its incidence has increased

over the years[11]. Other studies have also shown a relationship between depression and negative SPH[9,27,29], including in *quilombola* communities[5]. This study showed a larger number of individuals reporting depression that the number found nation-wide[11]. Individuals who feel depressed often feel socially excluded. This could be having a synergistic effect in the population investigated, as *quilombola* communities suffer a number of social limitations that could contribute to an increase in the rates of depression.

This study also showed a relationship between arthritis/arthrosis and negative SPH, but no national studies with this type of analysis have been found. Similar data was found in a Malaysia study of different ethnicities (Malay, Chinese and Indian), which point to ethnic influences[24]. Aspects related to mobility could also be related to the results found. However, we would point out that as the population in this study is predominantly rural, mobility is a key issue due to their need to exert physical effort in their work. The same line of thought applies to back problems, another associated morbidity the study population mentioned. However, this question should be the topic of future in-depth studies, as no such association was found in the literature.

The literature shows that cigarette smoking can interfere in quality of life due to lung and cardiovascular disease and cancer, and consequently can also influence SPH[30]. This study revealed no statistical association between tobacco use and SPH. As yet, there is no consensus in the literature on the role of this variable in SPH. A study conducted in Belo Horizonte[19] and among *quilombolas* in south-eastern Bahia[5] found the same thing, while another study conducted in Rio Grande do Sul found that tobacco use is a factor of protection against individual negative SPH[23]. Smoking has shown itself to be associated with negative SPH in two studies, one among the general population and another exclusively with adolescents[7,31].

Among other variables that also do not appear to be associated with negative SPH we would point out that a sedentary lifestyle did not remain in the final multiple analysis model. This result differs from the results found by another study of *quilombolas*[5]. This association was also found in another study among the elderly[19]. However, here again the literature shows no consensus, as two other studies found that a sedentary lifestyle is a factor of protection against negative SPH[23,32].

Some studies have demonstrated that skin color causes inequality in terms of health, and this theme should be better explored in the context of public health[21,33]. Other authors in other situations have reported that racial discrimination influences SPH[34]. In Brazil, the National Policy of Integrated Healthcare for the Afro-descendant Population (*Política Nacional de Atenção Integral à Saúde da População Negra* or PNSIPN) was only approved in 2006. However, the directive recognizing the existence of racism in healthcare was only issued in 2009. The PNSIPN recognizes that racial inequality interferes in the health-disease process and because of that, aims to address the Afro-descendant population differently, respecting the principle of fairness. However, it has only recently been implemented and has done little to address the Afro-descendant population, and even less for the *quilombolas*[21].

Currently there are over 1,500 *quilombola* communities in 23 states in Brazil[35]. However, data on these communities is limited, especially regarding their health. This social invisibility is a characteristic that has remained with this population throughout the nation's history. This makes the *quilombola* communities a vulnerable group, subject to social and racial discrimination[36].

In conclusion, the results of this study reiterate the inequality experienced by *quilombola* communities, with a high prevalence of negative SPH. This perception is associated with demographic, socioeconomic and especially self-referred morbidity dimensions. We point out that in the communities we analyzed, the concept of health is closely linked to the absence of disease.

The results of this study must be looked at in light of some of its limitations. The variables studied were measured using self-reports, and we did not find any healthcare services available in these communities. This is a cross-sectional study that does not allow inferences on causality or temporality. Another aspect has to do with the difficulty to compare results with other studies, as there are differences in the response categories for self-assessment questions, which in this study were split into four categories. However, the study has merit as it shows the results from a representative sample of all *quilombola* communities in northern Minas Gerais. Regarding response categorization, classical SPH studies stress that "fair" or "poor" health are good predictors of healthcare service use and the risk of death in longitudinal studies[37,38]. For this reason, including "fair" as negative self-perceived health is not a critical element.

It is essential that studies be conducted among other rural *quilombola* communities to

assess the real health situation in these communities, which are almost always geographically isolated and with limited access to healthcare. This would enable gathering additional data that could contribute to implementing public health policies that can reduce the vulnerability of these communities and incorporate an expanded concept of health and well-being.

Collaborations

SKM Oliveira helped design the project and with data collection, processing and analysis, and also helped draft the final text. MM Pereira helped with data collection, processing and analysis, and also helped draft the final text. ALS Guimarães participated in data analysis and helped draft the final text. AP Caldeira helped design the project, and also process and analyze the data, and draft the final text.

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ERRATUM

p. 2879

which reads:
Luiz Sena Guimarães [1]

reads up:
André Luiz Sena Guimarães [1]