







Agreement between nutritional status and perception of body image in indigenous Khisêdjê of the Xingu Indigenous Park

Concordância entre estado nutricional e percepção da imagem corporal em indígenas khisêdjê do Parque Indígena do Xingu

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ABSTRACT: *Objective:* To determine the agreement between body self-image (based on the Stunkard figure rating scale) and nutritional status and to evaluate body satisfaction among the Khisêdjê indigenous people of Parque Indígena do Xingu (Xingu Indigenous Park). *Methods:* A cross-sectional study involving 131 natives aged 20 and older. Data on body image, body mass index and waist circumference were collected. Kappa statistics, χ^2 ($p < 0.05$), crude and adjusted prevalence ratios and Student's *t*-test were used for data analysis. *Results:* The prevalence of overweight and obesity was respectively 42 and 5.3%. The percentage of satisfaction with body profile was 61.8% with no difference between the sexes. There was good agreement between actual and ideal self-image ($p < 0.001$), but poor agreement between actual and ideal self-image with nutritional status for both sexes. A higher prevalence of body dissatisfaction due to overweight was detected in individuals with central obesity and overweight. *Conclusion:* The results suggest that body self-image evaluated by the Stunkard silhouette scale has little applicability as an indicator of nutritional status among the indigenous Khisêdjê of Xingu Indigenous Park.

Keywords: Indigenous population. Perception. Body image. Nutritional status.

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RESUMO: *Objetivos:* Verificar a concordância entre autoimagem corporal (escala de silhuetas de Stunkard et al.) e estado nutricional e avaliar a satisfação corporal em indígenas khisêdjê do Parque Indígena do Xingu. *Métodos:* Estudo transversal que incluiu 131 indígenas khisêdjê, com 20 anos ou mais. Coletaram-se dados sobre imagem corporal, índice de massa corporal e perímetro da cintura. Foram utilizados a estatística kappa, o teste χ^2 ($p < 0,05$), as razões de prevalências brutas e ajustadas e o teste *t* de Student. *Resultados:* As prevalências de sobrepeso e obesidade foram, respectivamente, 42 e 5,3%. A porcentagem de satisfação com o perfil corporal foi de 61,8%, sem diferença entre os sexos. Houve boa concordância entre autoimagem real e autoimagem ideal ($p < 0,001$), porém baixa concordância entre a autoimagem real e ideal e o estado nutricional para ambos os sexos. Maior prevalência de insatisfação corporal por excesso de peso foi detectada entre indivíduos com obesidade central e excesso de peso. *Conclusão:* Os resultados sugerem que a autoimagem corporal avaliada por meio da escala de silhuetas de Stunkard et al. tem pouca aplicabilidade como indicador do estado nutricional de indígenas khisêdjê do Parque Indígena do Xingu.

Palavras-chave: População indígena. Percepção. Imagem corporal. Estado nutricional.

INTRODUCTION

In all times and cultures, the body has always played an important role in building the values of societies, being one of the regulators of the relationships and behavior of individuals¹. The conceptions of health, beauty and aesthetics linked to the body image (BI) of an individual are associated with the sociocultural and utilitarian values of the body and can guide the value that individuals attribute to the ideal body^{1,2}. Among indigenous people, the perception of the body and its symbolic value are present in the characteristics and modes of sociocultural organization, but the rites, values and symbols regarding the indigenous body culture are as vast as the number of existing ethnicities³.

For the Khisêdjê indigenous people, the meaning of the body transcends the physical aspect, being understood as part of the universe that surrounds it. Its importance and meaning become more evident when ceremonies and festivals occur, and can be perceived through the peculiar body ornamentation, which is not related to the aesthetic aspect only but above all to identity⁴. Among the Bororo indigenous people of Mato Grosso, the body is valued through dance, always present in the rituals of passage, with the educational purpose of transferring values, body techniques, rituals, ornaments and music to the younger generations⁵.

Body image is individuals' perception of their own body, not only of what they can observe or recall, but also of their desires and aspirations^{6,7}. However, BI is not static, and it can change according to the experiences and transformations that have occurred during the subject's life and can be influenced by physical, psychological, environmental and cultural factors, as well as by communication means, beliefs and values⁸⁻¹¹.

The figure rating scale is one of the instruments most used for self-assessment of BI, because of its low cost and ease of administration, handling and transport. Moreover, this scale provides reliability coefficients similar to those obtained with other techniques considered more accurate but have greater cost and logistical difficulty, provided that due care is taken in its application. The scale consists in the presentation of a series of silhouettes that generally vary from the thinnest to the fattest, and asking the persons being assessed to choose a figure that represents their current body and the ideal^{1,12}.

The agreement between BI and nutritional status (NS) has been investigated through epidemiological studies that take into account the observed increase in the prevalence of dissatisfaction or distortions in BI, even in conditions of normal weight¹³⁻¹⁵. Some results point to greater dissatisfaction with BI among overweight people^{13,14}, while others suggest that there is a high prevalence of dissatisfaction even in normal-weight individuals¹⁵.

To date, there are no studies related to the evaluation of BI among indigenous people in Brazil; however, there are numerous studies in the literature that reveal an increase in nutritional imbalances with substantial prevalence in overweight and obesity in this population¹⁶⁻¹⁸. Up to the beginning of the 1990s, no studies indicated overweight as a problem among the indigenous populations of Brazil¹⁹. Since then, there is growing evidence of a notable increase in the number of cases, with wide variations according to the ethnicity evaluated^{16,18,20}.

The prevalence of overweight assessed using body mass index (BMI) varies from 8.9% in the indigenous Caingangue (Rio Grande do Sul)¹⁷ to 78% in individuals from the indigenous land of the Sangradouro/Volta Grande (Mato Grosso)²¹. In the National Survey on Health and Nutrition of Indigenous Peoples carried out in Brazil in 2008/2009, the prevalence was 45.9% among women aged 14 to 49 years¹⁶. This increase is of particular concern, given that a high BMI (over 25 kg/m²) is a major factor in determining some chronic non-communicable diseases, which supports the importance of identifying subjects with nutritional disorders²².

Thus, the increase in the prevalence of overweight observed in the last decades among different ethnicities¹⁶⁻¹⁸, as well as the meaning of the body in indigenous culture³, is a well-documented issue in the literature, but there is a gap in studies related to the perception of BI among Brazilian indigenous people. It is known that BI is influenced by physical, psychological, cultural and other sociodemographic variables and that distortions in the perception of this image interfere in the health-disease process and in the choice of healthy behaviors and attitudes. Thus, investigations on the topic are relevant to identify possible distortions and assist in the planning and direction of health measures and guidance of the subjects involved.

Accordingly, the present study aimed to assess body satisfaction and to determine the agreement between BI and NS assessed by BMI among Khisêdjê indigenous people in the Xingu Indigenous Park (XIP).

METHODS

This was a cross-sectional epidemiological study that included all individuals of Khisédjê ethnicity of both sexes, aged 20 years or older, except pregnant or sick women at the time of data collection (n = 131). In the course of this study, we counted on the consent and assistance of the professionals of the Xingu Project and the team of health professionals linked to the Federal University of São Paulo responsible for health care at XIP. Individual medical charts were used, which allowed the identification of all the inhabitants of the place and access to their health information. These records are periodically updated, which helped in the development of studies in this population, even allowing investigators to know exactly the population quantity by age.

To obtain consent to participate, a meeting was held with the community to clarify the objectives and procedures of the study, making it clear that participation would be voluntary and that at any time individuals could withdraw from being part of the investigation. Accordingly, we counted on the help of health agents and indigenous translators, and everything was duly recorded.

Data collection was carried out in the Ngojwere village, at the Wawi indigenous post, in XIP, by trained professionals during two periods: July 2010 and August/September 2011. During the second time, information was collected only from the subjects who had not been included in 2010 due to pregnancy, illness or absence from the village. The research team comprised 17 researchers and included physicians, nurses, nutritionists, physical education professionals, anthropologists and academic staff from medicine and nursing courses.

To ensure uniformity in data collection and recording, two monthly meetings on average were held with the team, between February and August 2010 (14 meetings), for training related to procedures for data collection and filling out the standard questionnaire. The forms were reviewed and coded in a meeting every day in the village, to detect failures in filling out the form and to confirm the results. In addition, the meetings were also for planning the next day's data collection.

STUDY VARIABLES

BI was assessed using the Stunkard figure rating scale according to the silhouette matching task (SMT)²³, which is based on a scale of silhouettes that contains nine male and nine female BIs. The subjects were asked two direct questions about their body image:

- How do you see yourself?: a variable called actual self-image. To answer it, individuals should indicate on the sheet/card the BI/silhouette that best represents their image at that moment;
- How would you like to look?: a variable called ideal self-image. Individuals should indicate on the sheet/card the ideal figure they would like to have.

Satisfaction with BI was assessed through the construction of a variable called satisfaction with body profile. For this, the figure value that represented the ideal silhouette was subtracted from the figure value that represented the actual silhouette, resulting in values of -8 to +8. Accordingly, the individual was classified as: satisfied (if the result was equal to zero), dissatisfied due to being underweight (if the result was negative) and dissatisfied due to being overweight (if the result was positive)²⁴.

For the evaluation of the NS, anthropometric measurements were taken, in duplicate, according to the procedures indicated by the World Health Organization (WHO)^{21,25}. To measure weight and height, a portable electronic scale (Líder, model P200m) and a portable wooden stadiometer (WCS, ranging from 20 to 220 cm) were used, respectively. BMI was calculated by dividing weight (in kilograms) by height (in meters) squared. For classification of NS, BMI was categorized according to the cutoff points suggested by WHO²⁵. Excess weight values were considered BMI ≥ 25 kg/m².

Waist circumference (WC) was checked in duplicate, using an inelastic, flexible and self-retracting fiberglass tape measure, with a lock and unlock button (TBW), with a scale from 0 to 150 cm, width of 0.8 cm and precision of 0.1 cm, to obtain the value of the smallest curvature located between the ribs and the iliac crest. The final value was the arithmetic mean between the measurements. The presence of central obesity was characterized BWC values ≥ 94 cm for men and ≥ 80 cm for women²⁶.

ANALYSIS OF DATA

Descriptive statistics were performed with absolute and relative frequencies and measures of position and dispersion. To assess the relationship between the groups, the χ^2 test was used for categorical variables and Student's *t*-test for quantitative variables. The χ^2 statistic ($p < 0.05$) and the prevalence ratios (per point and 95% confidence interval) were used in determining the association between the variables of interest. Poisson regression was used to obtain the prevalence ratio.

To assess the agreement between actual self-image and ideal self-image and between both and NS, we determined the correspondence of the categories of figures/silhouettes to each NS category:

- underweight: silhouettes 1, 2 and 3;
- normal-weight: silhouettes 4, 5 and 6;
- overweight: silhouettes 7, 8 and 9.

The agreement between actual self-image and ideal self-image was verified using the χ^2 test, and the agreement of the variables related to BI with NS, using the kappa statistic. Accordingly, the NS of each individual was classified as: underweight (BMI < 18.5 kg/m²), normal-weight (BMI 18.5 to 25.0 kg/m²) and overweight (BMI ≥ 25.0 kg/m²).

The Stata program (StataCorp, College Station, TX, United States) was used in the analyses. This study was approved by the Research Ethics Committee of the National Commission for Research Ethics, under assessment number 1,145,268, on June 29, 2015.

Table 1. Number and percentage of Khisêdjê indigenous individuals according to sex and variables of interest. Parque Indígena do Xingu (Xingu Indigenous Park), 2010–2011.

Variable	Sex				Total		
	Female		Male		N	%	p*
	N	%	N	%			
Age (years)							
20 to 29	20	40.8	37	45.1	57	43.5	0.036
30 to 39	5	10.2	21	25.6	26	19.9	
40 to 49	11	22.5	7	8.5	18	13.7	
≥50	13	26.5	17	20.7	30	22.9	
Nutritional status							
Underweight	2	4.1	1	1.2	3	2.3	0.016
Normal-weight	30	61.2	36	43.9	66	50.4	
Overweight	16	32.7	39	47.6	55	42.0	
Obese	1	2.0	6	7.3	7	5.3	
Actual self-image (how one sees oneself)							
Silhouettes 1 to 3	14	28.6	35	42.7	49	37.4	0.082
Silhouettes 4 to 6	28	57.1	43	52.4	71	54.2	
Silhouettes 7 to 9	7	14.5	4	4.9	11	8.40	
Ideal self-image (how one would like to look)							
Silhouettes 1 to 3	15	30.6	30	36.6	45	34.4	0.164
Silhouettes 4 to 6	27	55.1	48	58.5	75	57.3	
Silhouettes 7 to 9	7	14.3	4	4.9	11	8.4	
Body satisfaction							
Satisfied	30	61.2	51	62.2	81	61.8	0.543
Dissatisfied with being thin	8	16.3	18	22.0	26	19.9	
Dissatisfied with being overweight	11	22.4	13	15.9	24	18.3	

* χ^2 test.

RESULTS

Of the total number of individuals evaluated (n = 131), 37.4% were female and 62.6% were male. The mean age was 37.3 ± 14.4 (SD) years, with no statistically significant difference between sexes. Table 1 shows the distribution of Khisêdjê indigenous people according

Table 2. Number, percentage and prevalence ratio (PR) of variables of interest according to satisfaction with body profile (satisfied; dissatisfied with being thin) among Khisêdjê indigenous individuals. Parque Indígena do Xingu (Xingu Indigenous Park), 2010–2011.

Variable	Satisfaction with body profile				Total		p	Crude PR (95%CI)	Adjusted PR* (95%CI)
	Satisfied		Dissatisfied with being thin						
	N	%	N	%	N	%			
Age (years)									
20 to 29	35	71.4	14	28.6	49	100	0.812	1.00	1.00
30 to 39	14	77.8	4	22.2	18	100		0.77 (0.29 – 2.06)	0.74 (0.28 – 1.96)**
40 to 49	11	78.6	3	21.4	14	100		0.75 (0.24 – 2.25)	0.79 (0.26 – 2.41)**
≥50	21	80.8	5	19.2	26	100		0.67 (0.27 – 1.66)	0.68 (0.27 – 1.71)**
Sex									
Female	30	79.0	8	21.0	38	100	0.561	1.00	1.00
Male	51	73.9	18	26.1	69	100		1.23 (0.59 – 2.58)	1.22 (0.59 – 2.52)***
Central obesity									
No	55	71.4	22	28.6	77	100	0.099	1.00	1.00
Yes	26	86.7	4	13.3	30	100		0.46 (0.17 – 1.24)	0.43 (0.15 – 1.24)
Nutritional status									
Underweight	2	66.7	1	33.3	3	100	0.237	1.11 (0.21 – 5.80)	1.00 1.42 (0.29 – 6.81)
Normal-weight	42	70.0	18	30.0	60	100		1.00	1.00
Overweight	37	84.1	7	15.9	44	100		0.53 (0.24 – 1.16)	0.49 (0.22 – 1.07)

*Adjusted PR according to sex and age; **Adjusted PR according to sex; ***Adjusted PR according to age; 95%CI: 95% confidence interval.

to variables of interest and sex. Men, when compared to women, exhibited a higher percentage of overweight and obesity ($p = 0.016$). Both in the variable actual self-image and in the variable ideal self-image, there was a higher percentage of individuals who chose the figures/silhouettes 4 to 6: 54.2 and 57.3%, respectively. As for body satisfaction, 61.8% of individuals were classified as satisfied. There was no difference between the sexes.

Table 3. Number, percentage and prevalence ratio (PR) of variables of interest according to satisfaction with body profile (satisfied; dissatisfied with being overweight) among Khisêdjê indigenous individuals. Parque Indígena do Xingu (Xingu Indigenous Park), 2010–2011.

Variable	Satisfaction with body profile				Total		p	Crude PR (95%CI)	Adjusted PR* (95%CI)
	Satisfied		Dissatisfied with being overweight						
	N	%	N	%	N	%			
Age (years)									
20 to 29	35	81.4	8	18.6	43	100	0.320	1.00	1.00
30 to 39	14	63.6	8	36.4	22	100		1.95 (0.84 – 4.52)	2.06 (0.90 – 4.70)**
40 to 49	11	73.3	4	26.7	15	100		1.43 (0.50 – 4.10)	1.32 (0.45 – 3.90)**
≥50	21	84.0	4	16.0	25	100		0.86 (0.28 – 2.58)	0.80 (0.26 – 2.45)**
Sex									
Female	30	73.2	11	26.8	41	100	0.438	1.00	1.00
Male	51	79.7	13	20.3	64	100		0.75 (0.37 – 1.53)	0.66 (0.32 – 1.38)***
Central obesity									
No	55	84.6	10	15.4	65	100	0.020	1.00	1.00
Yes	26	65.0	14	35.0	40	100		2.27 (1.11 – 4.64)	2.76 (1.10 – 6.92)
Nutritional status									
Underweight	2	100	-	-	2	100	0.038	#	#
Normal-weight	42	87.5	6	12.5	48	100		1.00	1.00
Overweight	37	67.3	18	32.7	55	100		2.61 (1.12 – 6.08)	2.77 (1.19 – 6.47)

*Adjusted PR according to sex and age; **adjusted PR according to sex; ***adjusted PR according to age; #not possible to calculate due to number of observations; 95%CI: 95% confidence interval.

Tables 2 and 3 show the numbers, percentages and prevalence ratios (PR) of the variables of interest according to satisfaction with body profile. The main difference between the two tables is in the way the response variable was categorized. In Table 2, individuals were categorized as: satisfied or dissatisfied due to being thin. In Table 3, the subjects were classified as: satisfied or dissatisfied due to being overweight. There was no statistically significant association between the independent variables and satisfaction with body profile when it was categorized as satisfied or dissatisfied due to being thin (Table 2). However, when this variable was categorized as satisfied and dissatisfied due to being overweight, there was a higher prevalence of body dissatisfaction due to being overweight among individuals with central obesity (adjusted PR = 2.76 and 95% confidence interval (95% CI) 1.10 - 6.92) and overweight (adjusted PR = 2.77 and 95%CI 1.19 - 6.47) (Table 3).

Regarding the agreement between actual self-image and ideal self-image, a high proportion of concordance was found in the underweight and normal-weight categories ($p < 0.001$) for both sexes (Table 4), but the degree of agreement between the variables actual self-image and self-image ideal and NS (BMI) was low for both sexes (Table 5). When repeating

Table 4. Agreement between actual self-image and ideal self-image among Khisêdjê individuals according to sex. Parque Indígena do Xingu (Xingu Indigenous Park), 2010-2011.

Variable	Ideal self-image**								
	Female								
	Underweight		Normal-weight		Overweight		Total		p [#]
N	%	N	%	N	%	N	%		
Actual self-image*	N	%	N	%	N	%	N	%	< 0.001
Underweight	11	22.4	3	6.1	-	-	14	28.6	
Normal-weight	4	8.2	22	44.9	2	4.1	28	57.1	
Overweight	-	-	2	4.1	5	10.2	7	14.3	
Total	15	30.6	27	55.1	7	14.3	49	100	
Variable	Ideal self-image**								
	Male								
	Underweight		Normal-weight		Overweight		Total		p [#]
N	%	N	%	N	%	N	%		
Actual self-image*	N	%	N	%	N	%	N	%	< 0.001
Underweight	26	31.7	8	9.8	1	1.2	35	42.7	
Normal-weight	3	3.7	38	46.4	2	2.4	43	52.4	
Overweight	1	1.2	2	2.4	1	1.2	4	4.9	
Total	30	36.6	48	58.6	4	4.8	82	100	

*How one sees oneself; **how one would like to look; underweight: silhouettes 1-3; normal-weight: silhouettes 4-6; overweight: silhouettes 7-9; [#] χ^2 test.

the analysis of agreement separately for individuals under the age of 40 and for those 40 or older, it was observed that the kappa value (0.4331) was statistically significant ($p < 0.001$) only for women 40 or older, indicating moderate agreement between actual self-image and NS.

Table 5. Agreement between self-image (actual and ideal) and nutritional status (body mass index — BMI) among Khisêdjê indigenous individuals according to sex. Parque Indígena do Xingu, 2010–2011.

Variable	Nutritional status									
	Female									
	Underweight		Normal-weight		Overweight		Total		Kappa	p
N	%	N	%	N	%	N	%			
Actual self-image*										
Underweight	1	50	12	40	1	5.9	14	28.6	0.203	0.012
Normal-weight	1	50	18	60	9	52.9	28	57.1		
Overweight	-	-	-	-	7	41.2	7	14.3		
Total	2	100	30	100	17	100	49	100		
Ideal self-image**										
Underweight	1	50	12	40	2	11.8	15	30.6	0.116	0.093
Normal-weight	-	-	17	56.7	10	58.8	27	55.1		
Overweight	1	50	1	3.3	5	29.4	7	14.3		
Total	2	100	30	100	17	100	49	100		
Variable	Nutritional status									
	Male									
	Underweight		Normal-weight		Overweight		Total		Kappa	p
N	%	N	%	N	%	N	%			
Actual self-image*										
Underweight	1	100	23	63.9	11	24.4	35	42.7	0.057	0,900
Normal-weight	-	-	13	36.1	30	66.7	43	52.4		
Overweight	-	-	-	-	4	8.9	4	4.9		
Total	1	100	36	100	45	100	82	100		
Ideal self-image**										
Underweight	1	100	17	47.2	12	26.7	30	36.6	0.096	0,980
Normal-weight	-	-	16	44.5	32	71.1	48	58.5		
Overweight	-	-	3	8.3	1	2.2	4	4.9		
Total	1	100	36	100	45	100	82	100		

*How one sees oneself; **how one would like to look; underweight: silhouettes 1–3; normal weight: silhouettes 4–6; overweight: silhouettes 7–9.

DISCUSSION

The present study evaluated the perception of BI and its agreement with NS among the indigenous Khisêdjê in XIP. Based on the specific literature for the indigenous population, there has been little research related to this topic on the international level and still does not exist in Brazil. Even among non-indigenous people, most studies are restricted to specific groups, such as individuals with eating disorders and who have suffered disease-related changes in BI²⁷⁻²⁹, which makes it difficult to compare and discuss the results.

The assessment of satisfaction with body profile revealed that 61.8% of indigenous people are satisfied with their BI. In other words, most Khisêdjê answered that the BI they would like to have is that which they already had at that time. This result is confirmed by analyzing the agreement between actual self-image and ideal self-image, which revealed good agreement between the two variables. In a study with Australian indigenous youth and Anglo-European youth³⁰, the results also showed a high percentage of satisfaction with body profile in the two populations examined (71.2 and 72.9% for Australian indigenous men and women and 77 and 70.1% for Anglo-European men and women, respectively); also, there was no statistically significant difference between the two populations, an intriguing finding considering the cultural differences between the two populations.

Conversely, results from another study revealed that, when comparing non-aboriginal and aboriginal women in Australia, the latter perceived their weight condition more accurately, although they showed a higher prevalence of overweight, indicating that they had interest in losing weight and were more likely to consider a larger body size as ideal for women.

Even among obese aborigines, approximately 15% showed a positive BI³¹. A possible explanation for this is that women from traditional populations may not feel judged by Western cultural ideals³².

In fact, while in many Western societies a small figure represents the desirable aesthetic standard, studies affirm that in some traditional societies, large body size can be socially desirable, as it is associated with better performance for work and reproduction and represents beauty, prestige, good health, wealth and high social standing^{11,33}. Among Fijian indigenous women, broad hips represent an advantage both in reproduction and the capacity to support children, and wide legs and calves reflect absence of laziness and increased ability to work^{8,11}.

Over time and with the process of modernization and media influence, the ideal BI has been changing even among traditional populations³⁴. Studies indicate that the preference for larger figures seen among older women belonging to traditional Pacific populations is no longer being accepted among younger women, who in turn, prioritize a slimmer body^{9,10}. It is possible that the influence of Western culture, through the media, is causing sociocultural transformations in terms of perception and satisfaction with body profile, given that self-image is in constant transformation, where it is woven by the relations with the world surrounding it³⁴.

A study compared two groups of female adolescents, indigenous Fijians and Australians, between 13 and 18 years of age, and found that both groups showed a preference for

being thin, dissatisfaction with overweight and concerns associated with weight gain. Despite this, Fijian girls valued a muscular body for its physical functionality, while Australian women, for its aesthetic appeal. The authors associated the increase in body dissatisfaction and desire for a slimmer figure with the introduction of television among Fijian indigenous teenagers⁸.

The present study also evaluated the prevalence of dissatisfaction with thinness and overweight between categories of different variables, with the aim of identifying possible differences between groups of individuals. There was no statistically significant association between the independent variables and dissatisfaction with being thin, but a higher prevalence of dissatisfaction with being overweight was observed among individuals with central obesity (adjusted PR = 2.76 and 95%CI 1.10 - 6.92) and overweight (adjusted PR = 2.77 and 95%CI 1.19 - 6.47) according to BMI. Such findings are important, as they may indicate that such conditions are already affecting the quality of life of these subjects in their daily activities. It is possible that dissatisfaction with overweight is not due to the aesthetic factor, but rather the limiting factor of the conditions that the individual is in. This is a difference between ethnic groups linked to the reasons for dissatisfaction with being overweight reported by different populations. In general, dissatisfaction with being overweight in urban populations can even influence mood, or lead to the appearance of crises and neuroses. In non-Western populations, including indigenous people, it is not always related to the fact of being overweight³⁵.

In the present study, there was low agreement between BI and NS. Only among women 40 and older was there a moderate agreement between the two variables. These results suggest that body self-image, assessed using the Stunkard silhouette scale, had little applicability as an indicator of NS. Such findings are different from those found by McElhone et al.³⁶, who identified a strong association of NS, assessed through BMI, with the BI figures corresponding to the proposed classification.

The results of a study that evaluated 13,595 individuals from different ethnic groups in Colombia revealed that only 3.8% of the adult indigenous population surveyed overestimated their BI with regard to NS according to BMI and that 39% underestimated self-image, while 57.2% showed agreement between the two variables³⁷.

The non-agreement between actual body image and NS among the *Khisêdjê* observed in the present study and the existence of agreement in studies with Western populations¹⁴ can be associated with sociocultural identity, which is the indicator of the subjective individual concepts and values of satisfactory BI in a given society. Thus, it is understandable that the perception of body image is different when comparing different ethnic groups.

CONCLUSION

The results revealed that, despite the high prevalence of overweight, satisfaction with BI was high in both sexes. Such findings, along with the low agreement observed between

NS and actual self-image, suggest that the Khisêdjê appreciate a body profile with a larger figure compared to that idealized in Western populations. In addition, the low agreement between the two variables suggests that a figure rating scale is not an appropriate instrument for evaluating NS in the indigenous Khisêdjê in XIP. However, BMI itself as an indicator of NS, along with the cutoff points used to define overweight/obesity, needs to be the target of scientific investigations to assess its suitability for indigenous populations.

The results emphasize the importance of surveillance and control actions related to overweight and obesity, as well as the morbidities associated with these diseases.

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