

FACTORS ASSOCIATED WITH NEGATIVE SELF-PERCEPTION OF HEALTH IN SCHOOL CHILDREN

FACTORES ASOCIADOS A LA AUTOPERCEPCIÓN NEGATIVA DE SALUD EN
ESCOLARES

FATORES ASSOCIADOS À AUTOPERCEPÇÃO NEGATIVA DE SAÚDE EM ESCOLARES

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Abstract

The study aimed to estimate the prevalence of negative self-perception of health and associated factors in schoolchildren. This is an epidemiological, cross-sectional study, part of a monitoring of health risk behaviors with high school students living in Jequié/BA, Brazil. The sample was random, proportional by clusters in two stages. The dependent variable was negative self-perception of health, and the independent variables were sociodemographic and lifestyle. A total of 1,170 schoolchildren participated in the study and the reported prevalence of negative health perception was 37.6% higher for females (n=261). After regression analysis, the variables that remained associated with negative health were: being female with a higher probability of the outcome for those with higher inadequate consumption of vegetables (1.5; 95%CI: 1.21-1.87; p=0.00). Among males, the increase in negative health perception is for those who are insufficiently active (1.41; 95%CI: 1.01-1.96; p=0.04) and who spend more than two hours in front of a computer/ video game (1.54; 95%CI: 1.14-2.1; p=0.00). Therefore, inadequate consumption of vegetables by girls and low levels of physical activity and screen time longer than two hours for boys are associated with a negative perception of health. These findings demonstrate the need to develop actions aimed at promoting healthy habits in the school environment.

Keywords: Motor Activity; Teenagers; Risk factors; Adolescent health; health self-assessment.

Resumen

El estudio tuvo como objetivo estimar la prevalencia de autopercepción negativa de la salud y factores asociados en escolares. Se trata de un estudio epidemiológico, transversal, exclusivamente de seguimiento del comportamiento de riesgo medio para la salud escolar,

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residente en Jequié/BA, Brasil. La muestra fue aleatoria, proporcional a los conglomerados en dos años. La variable dependiente de la autopercepción negativa de la salud, y tan independiente como la sociodemográfica y el estilo de vida. Participaron del estudio 1.170 escolares y la prevalencia negativa de percepción de salud fue un 37,6% mayor para el sexo femenino (n=261). Análisis de consumo, como variables que se asociaron a la salud mayoritaria con mayor probabilidad de consumo fueron: Después del consumo 1.211: 1.211; p=0,00). En el sexo masculino o en el aumento de la percepción negativa de la salud, es para aquellos que son excepcionalmente activos (1,41; IC95%: 1,01-1,96; p=0,04) y que pasan más de dos horas frente al ordenador/videojuego (1,54; IC95%: 1,14-2,1; p=0,00). Por lo tanto, el consumo inadecuado de vegetales por parte de las niñas y los bajos niveles de actividad física y tiempo de pantalla mayor a dos horas por parte de los niños se asocian con una percepción negativa de la salud. Estos hallazgos demuestran la necesidad de desarrollar acciones encaminadas a la promoción de hábitos saludables en el ámbito escolar.

Palabras clave: Actividad del motor; Adolescentes; Factores de Riesgo; Salud de Los adolescentes; Autoevaluación de la Salud.

Resumo

O estudo teve como objetivo estimar a prevalência de autopercepção negativa de saúde e os fatores associados em escolares. Trata-se de um estudo epidemiológico, transversal, integrante de um monitoramento de comportamentos de risco à saúde com escolares do ensino médio, residentes em Jequié-BA, Brasil. A amostra foi aleatória, proporcional por conglomerados em dois estágios. A variável dependente foi a autopercepção negativa de saúde, e as independentes as sociodemográficas e estilo de vida. Participaram do estudo 1.170 escolares e a prevalência relatada de percepção de saúde negativa foi 37,6% maior para o sexo feminino (n=261). Após análise de regressão, as variáveis que se mantiveram associadas à saúde negativa foram: ser do sexo feminino com maior probabilidade do desfecho para aquelas que apresentam maior consumo inadequado de verduras (1,5; IC95%: 1,21-1,87; p=0,00). Já no sexo masculino o aumento de percepção negativa de saúde é para aqueles insuficientemente ativos (1,41; IC95%: 1,01-1,96; p=0,04) e que passam mais de duas horas à frente de computador/videogame (1,54; IC95%: 1,14-2,1; p=0,00). Logo, a prevalência de autopercepção de saúde encontra-se entre os valores identificados na literatura, e os fatores associados foram o consumo inadequado de verduras pelas meninas e baixos níveis de atividade física e tempo de tela maior que duas horas para os meninos.

Palavras-chave: Atividade Motora; Adolescentes; Fatores de Risco; Saúde do Adolescente; Autoavaliação de Saúde.

Introduction

Adolescence is usually marked by great vulnerability, as they represent phases of growth and development, both physical and intellectual (GARBIN et al., 2009). This process constitutes the transition to adulthood and its understanding can contribute to the promotion of a better state of health, in addition to the possibility of avoiding injuries and developments that influence self-perception of health (ANDRADE et al., 2020).

In this sense, self-perception of health (SPH), which can be positive or negative, is a subjective indicator widely used due to the ease of obtaining in assessing physical and perceived health, or its scope in the association of information related to epidemiological outcomes, as it seems to be strongly associated with behavioral and biological risk factors (CUREAU et al., 2013; PEDRAZA; SOUSA; OLINDA, 2018). Given this, adolescents, for example, have always presented better health and vitality indices compared to other age groups (GARBIN et al., 2009).

However, prevalence rates of 2% to 28.4% of negative self-perception of health among schoolchildren in several cities around the world, such as Lima and Callao - PERU (SHARMA et al., 2017), and about 27.6% in the Brazilian Northeast (DE ARAÚJO PINTO et al., 2017; PEDRAZA; SOUSA; OLINDA, 2018) were recently verified. Thus, factors associated with negative health perception in this population have been investigated in search of a better explanation for the outcome (SILVA et al., 2022; MENDONÇA; FARIAS JÚNIOR, 2012; CUREAU et al., 2013; DE ARAÚJO PINTO et al., 2017).

Among the associated factors are unhealthy eating (DE SOUSA et al., 2022), as well as low levels of physical activity (MENDONÇA; FARIAS JÚNIOR, 2012), eating disorders, less ability to deal with stress and self-perception of overweight (SILVA et al., 2022).

Some studies have found differences in poor self-perception of health between the sexes (DE ARAÚJO PINTO et al., 2017; SILVA et al., 2022). Regarding girls, there was a greater chance of exposure to the outcome for those with risk behaviors, such as feeling sad and suicidal thinking (SILVA et al., 2022).

The boys, on the other hand, it seems that not practicing physical activity and high sedentary behavior has been responsible for the self-perception of poor health (DE ARAÚJO PINTO et al., 2017). A result different from these studies was identified in another research, where the only variable associated with the outcome was alcohol consumption among boys (DIAS et al., 2014).

Therefore, there seems to be no clarity between the factors associated with negative self-perception of health between the sexes, and due to the importance of identifying this factor for health, it is necessary to carry out more studies in order to better understand the topic in this population (SHARMA et al., 2017). Therefore, this study aimed to estimate the prevalence of negative self-perception of health and associated factors in high school students from state public schools in the city of Jequié-BA.

Methodology

This is a cross-sectional epidemiological study part of a monitoring of health risk behaviors in high school students from the state school system in the city of Jequié, Bahia. The municipality of Jequié is located in the Southwest region of the State, approximately 370 km from Salvador, with an estimated population of 151,895 inhabitants and a Human Development Index (HDI) of 0.694 (IBGE, 2016).

The population of this study comprised 3,040 students, from 98 classes of all 12 urban state public schools in the municipality, duly enrolled in high school in the morning and afternoon shifts, in 2015. This population represented 45.9% of the students enrolled in the municipality compared to the supply in private or municipal institutions. The sample selection was by two-stage clusters (LUIZ; MAGNANINI, 2000).

In the first stage, the sampling unit was the school. We selected those who offered high school in the day shift (morning and afternoon) and were located in the urban area (n= 12), out of a total of 13 units. Schools in rural areas (n= 3) and the Military Police College were excluded, where there is a selection system for vacancies and the teaching model differs from the others.

In the second stage, the sample unit was all high school classes (N=98), selected in proportion to the number of grades in each school, as there were larger schools, with a number of classes by different grades. It was respected the proportionality and the chance of all classes being drawn a priori. It is not necessary

to weight by sample imbalance. The final sample consisted of 48 classes and respected the mean number of students in each class, the number of classes per grade and the proportionality according to the size of the school, and all schools had at least one class in each grade, maintaining the proportionality of representation of each school.

The parameter for determining the sample size was the estimated prevalence of the phenomenon equal to 50%, with a confidence interval of 95%, maximum acceptable error of three percentage points, design effect of 1.5, and 15% for cases of losses or refusals (LUIZ; MAGNANINI, 2000). Thus, a minimum sample of 1,388 students was obtained, represented by 48 classes.

Data collection took place in July and August 2015, using the COMPAC questionnaire (SILVA et al., 2013), applied in the classroom by previously trained researchers, with mean duration of 28 minutes for completion by students. This instrument presented good reproducibility indices (0.51 to 0.97).

The dependent variable (negative self-perception of health), obtained an Intra-Class Correlation Coefficient value, as a moderately high reproducibility indice (Alpha= 0.798; $p=0.00$) and was operationalized from the following question: “*In general, do you consider your health?*” (SILVA et al., 2013), being categorized in positive health, the answers “*Excellent/Good*” and negative, “*Regular/Bad/Very bad*”.

The independent variables were sociodemographic: gender (male or female), age group (< 16 years or \geq 16 years), occupation (not working or working), family income (< two minimum wages or \geq two minimum wages) and mother's education (< eight years of study or \geq eight years of study) (SILVA et al., 2013).

Lifestyle: consumption of fruits and vegetables, being inadequate “< 5 days/week” and adequate “ \geq 5 days/week”; current alcohol and tobacco consumption, using as a criterion the consumption, regardless of the number of doses or cigarettes being “yes” and “no”, screen time, using time in front of TV and Computer/Video Game, during the week with time “< 2 hours/day” and “ \geq 2 hours per day” (SILVA et al., 2013) and level of physical activity, considered insufficiently active those who did not accumulate the recommended minimum of at least five days in the week of 60 minutes per day and sufficiently active those who met the recommendation (WORLD HEALTH ORGANIZATION, 2011).

The chi-square test was used to compare the proportions of sociodemographic variables and lifestyle between genders. For the purpose of analysis, it was decided to stratify it by sex, in view of the result of the chi-square test, which showed statistical difference in relation to gender and the dependent variable ($\chi^2 = 21.7$; $p = 0.00$; $\text{cramer } v = 0.136$). Even with a weak magnitude of power of association in relation to gender, this stratification was chosen, based on previous studies. Poisson regression, with robust variance (REICHENHEIM; COUTINHO, 2010), was performed in order to analyze the relationship between the dependent variable (negative self-perception of health) and sociodemographic and lifestyle variables, with a confidence interval (CI) of 95%. Potential confounding factors with $p < 0.20$ were included in the adjustment, using the input model, through the main effects.

The study was approved by the Human Research Ethics Committee of the State University of Southwest Bahia (83.957/14). The students who participated in the study were authorized by their parents and those aged 18 years or more signed their own Informed Consent Form.

Results

The final sample consisted of 1,170 schoolchildren, with the highest proportion of girls (57.9%; $n = 678$) and in the age group < 16 years (52.1%; $n = 609$), being proportionally higher in females (54.4%; $n = 369$). The characteristics of the sample stratified by sex are shown in Table 1. Negative self-perception health was more prevalent among females (37.6%; $n = 261$). For the sociodemographic variables, there was similarity in the proportions between the genders in relation to the age group ($p = 0.056$). However, for the variables of occupation, mother's schooling and monthly family income, there were statistical differences. Among the lifestyle variables, there was similarity for fruit consumption ($p = 0.465$) and for time watching TV during the week ($p = 0.103$).

Table 1. Descriptive characteristics of the sample stratified by gender. Jequié, BA, 2015.

Variables	Male		Female		X ²	General	
	%	n	%	n		%	N
Dependent							
Self-perception of health							
Positive	75,6	379	62,4	433	0,000	67,8	792
Negative	24,4	122	37,6	261		32,2	376
Sociodemographic							
Age (years)							
< 16	48,8	240	54,4	369	0,056	52,1	609
≥ 16	51,2	252	45,6	309		47,9	561
Occupation							
It does not work	71,3	351	88,6	601	0,000	81,4	952
It works	28,7	141	11,4	77		18,6	218
Mother's education (years of study)							
< 8 years	33,7	156	41,2	279	0,010	38,0	445
≥ 8 years	66,3	326	58,8	399		62,0	725
Monthly Family Income (minimum)							
< 02 Minimum wages	63,8	314	76,7	520	0,000	71,3	834
≥ 02 Minimum wages	36,2	178	23,3	158		28,7	336
Lifestyle							
Fruit Consumption							
Inadequate	56,1	271	53,9	363	0.465	54,8	634
Adequate	43,9	212	46,1	310		45,2	522
Vegetable Consumption							
Inadequate	66,3	317	56,9	376	0,001	60,8	693
Adequate	33,7	161	43,1	285		39,2	446
Alcohol consumption							
Yes	28,2	138	20,6	139	0,003	23,8	277
No	71,8	352	79,4	535		76,2	887
Tobacco consumption							
Yes	8,7	43	3,8	26	0,000	5,9	69
No	91,3	449	96,2	652		94,1	1101
TV Time (Day)							
< 2 hours	69,9	341	65,3	441	0.103	67,2	782
≥ 2 hours	30,1	147	34,7	234		32,8	381
Computer/video game time (Day/week)							
≥ 02 hours	68,1	340	76,5	528	0,001	73,0	868
< 02 hours	31,9	159	23,5	162		27,0	321
Physical Activity Level							
Sufficiently Active	27,0	133	12,4	84	0,000	18,5	217
Insufficiently Active	73,0	359	87,6	594		81,5	953

Note - In bold, p-values < 0.05; X²: Square test.

In the crude analysis, for males (Table 2), those who did not consume fruits adequately (PR_{crude} = 1.41; 95% CI: 1.01-1.96; p=0.04), who spent more than two hours ahead of the computer/video game (PR_{crude} = 1.54; 95% CI: 1.14-2.1; p=0.00), and those considered insufficiently active (PR_{crude} = 1.77; 95% CI: 1.16-2.71; p=0.03), were associated with the outcome. However, after adjusted analysis, only those insufficiently active and those who spent more than two hours in front of the

computer/video game increased the probability of exposure to negative self-perception of health.

Table 2. Regression analysis for the association between negative self-perception of health of males, according to sociodemographic and lifestyle variables. Jequié, BA, 2015.

Variables	%	Crude PR (95% CI)	P	Adjusted PR (95% CI)	P
Sociodemographic					
Age (years)					
< 16	48.8	1.03 (0.76-1.4)	0.84	-	-
≥16	51.2	1	-	-	-
Occupation					
It does not work	71.2	0.82 (0.6-1.13)	0.22	-	-
It works	28.8	1	-	-	-
Mother's education (years of study)					
<8 years	33.7	1.25 (0.91-1.71)	0.16*	1.20 (0.88-1.65)	0.25
≥ 8 years	67.3	1	-	1	-
Monthly Family Income (Minimum)					
< 02 Minimum wages	63.7	1.07 (0.77-1.49)	0.67	-	-
≥ 02 Minimum wages	36.3	1	-	-	-
Lifestyle					
Fruit Consumption					
Inadequate	56.2	1.41 (1.01-1.96)	0.04	1.27 (0.91-1.79)	0.15
Adequate	43.8	1	-	1	-
Vegetable Consumption					
Inadequate	66.2	1.29 (0.91-1.83)	0.15*	1.1 (0.77-1.6)	0.59
Adequate	33.8	1	-	1	-
Alcohol consumption					
Yes	28.2	0.84 (0.58-1.2)	0.34	-	-
No	71.8	1	-	-	-
Tobacco consumption					
Yes	8.4	1.32 (0.81-2.12)	0.26	-	-
No	91.6	1	-	-	-
TV Time (Day)					
< 2 hours	30	0.99 (0.7-1.4)	0.95	-	-
≥ 2 hours	70	1	-	-	-
Computer/video game time (Day/week)					
≥ 02 hours	32	1.54 (1.14-2.1)	0.00	1.47 (1.07-2)	0.01
< 02 hours	68	1	-	1	-
Physical Activity Level					
Sufficiently Active	32	1.54 (1.14-2.1)	0.00	1.47 (1.07-2)	0.01
Insufficiently Active	68	1	-	1	-

Note – PR: prevalence ratio; CI: confidence interval; values in bold: $p < 0.05$; values at *: $p < 0.20$ were included in the adjustment.

Regarding the female sex, in the crude analysis (Table 3), those who did not consume fruits ($PR_{\text{crude}} = 1.29$; 95% CI: 1.05-1.6; $p = 0.01$) and vegetables ($PR_{\text{crude}} = 1.5$; 95% CI: 1.21-1.87; $p = 0.00$) adequately, in addition to those considered insufficiently active ($PR_{\text{crude}} = 1.5$; 95% CI: 1.03-2.17; $p = 0.03$), were associated with the outcome. However,

after adjusted analysis, only those who did not consume the amount of vegetables properly increased the probability of having a negative self-perception of health.

Table 3: Regression analysis for the association between negative self-perception of health of females, according to sociodemographic and lifestyle variables. Jequié, BA, 2015.

Variables	%	Crude PR (IC95%)	p	Adjusted PR (IC95%)	p
Sociodemographic					
Age (years)					
< 16	54.4	0.94 (0.77-1.14)	0.54	-	-
≥16	45.6	1	-	-	-
Occupation					
It does not work	88.6	1.13 (0.81-1.57)	0.47	-	-
It works	11.4	1	-	-	-
Education (years of study)					
<8 years	41.2	0.94 (0.77-1.14)	0.53	-	-
≥ 8 years	58.8	1	-	-	-
Monthly Family Income (Minimum)					
< 02 Minimum wages	76.7	1.08 (0.85-1.37)	0.52	-	-
≥ 02 Minimum wages	23.3	1	-	-	-
Lifestyle					
Fruit Consumption					
Inadequate	53.9	1.29 (1.05-1.6)	0.01	1.15 (0.93-1.43)	0.20
Adequate	46.1	1	-	1	-
Vegetable Consumption					
Inadequate	56.9	1.5 (1.21-1.87)	0.00	1.4 (1.12-1.76)	0.00
Adequate	43.1	1	-	1	-
Alcohol consumption					
Yes	20.6	1.15 (0.92-1.44)	0.22	-	-
No	19.4	1	-	-	-
Tobacco consumption					
Yes	3.8	0.81 (0.45-1.46)	0.48	-	-
No	96.2	1	-	-	-
TV Time (Day)					
< 2 hours	34.7	0.89 (0.72-1.1)	0.29	-	-
≥ 2 hours	65.3	1	-	-	-
Computer/video game time (Day/week)					
≥ 02 hours	23.9	1.14 (0.092-1.14)	0.24	-	-
< 02 hours	76.1	1	-	-	-
Physical Activity Level					
Sufficiently Active	87.6	1.5 (1.03-2.17)	0.03	1.35 (0.93-1.96)	0.10
Insufficiently Active	12.4	1	-	1	-

Note – PR: prevalence ratio; CI: confidence interval; values in bold: $p < 0.05$; values in *: $p < 0.20$ were included in the adjustment.

Discussion

The present study was conducted in a city in the interior of Bahia, with a sample of 1170 public high school students. Prevalences of negative self-perception

of health were estimated for females and remained associated to the girls the outcome inadequate consumption of vegetables and for the boys with low levels of physical activity and screen time greater than two hours.

It has already been verified that this set of behaviors are accentuated when adolescents present low levels of physical activity (GANDE et al., 2022) and high screen time, which is associated with higher values of body mass index and, depending on the situation, with diseases (SILVA et al., 2022; ANDRADE et al., 2019).

The prevalence of negative self-perception of health was 32.2% (n=1170) for female students living in the city of Jequié-BA. A similar value was identified in a study conducted in another country, in the provinces of Lima and Callao - PERU, in which prevalences of 2% to 28.4% (n=1234) of negative self-perception of health among adolescents were observed (SHARMA et al., 2017). In the research carried out with adolescents between 14 and 19 years old from Amazonas, a prevalence of 19.3% was also observed for females, (DE ARAÚJO PINTO et al., 2017); however both values were lower than those observed in the city of Jequié-BA.

Regarding the higher prevalence of the outcome for girls when compared to boys, a probable explanation for this result may be related to the fact that girls are more sensitive and attentive to the physiological and psychological changes that occur with health (MENDONÇA; FARIAS JÚNIOR, 2012). In addition, girls seek more consultations and tests than boys, which results in the early identification of diseases, a condition that directly reflects on the exteriority of the health status (CUREAU et al., 2013; DE ARAÚJO PINTO et al., 2017).

In the present study, another variable that was associated with negative self-perception of girls' health was inadequate consumption of vegetables. It has been observed that girls consume vegetables less than five times a week (OR = 2.4), are more exposed to low weight (OR = 6.7) and excess body weight (OR = 2.7), greater dissatisfaction with life (OR = 2.8) and these factors are associated with poor self-perception of health, according to a survey conducted by household survey that included 1,042 adolescents from Belo Horizonte (MEIRELES et al., 2015).

It is observed that negative self-perception of health among girls is a consequence of the influence of the media, which values the unattainable search for an ideal body, responsible for variations in eating habits, dissatisfaction with body weight and consequently a worse state of health (DE SOUSA et al., 2022).

Another variable that was associated with poor self-perception of health among schoolchildren in Jequié-BA was being male and presenting low levels of physical activity. This result corroborates the study carried out with adolescents from 26 other schools in the state education network of Ceará (SEDUC), who identified negative self-perception of health among inactive boys, with a balanced diet, less ability to deal with stress, self-perception of excess fat (ANDRADE et al., 2020), in addition to alcohol consumption (DIAS et al., 2014).

Adolescents who do not practice the minimum of physical activity (<300 min./week) are more prone to sedentary behaviors, such as spending more than two hours a day in front of the computer/video game, when compared to physically active ones (OR= 1.25; 95% CI 1.02; 1.53) (DIAS et al., 2014).

When sedentary behavior was analyzed among male students in the city of Jequié-BA, higher values of negative self-perception of health were observed for boys when compared to girls. Sedentary male adolescents are more likely to assimilate their negative health status when compared to non-sedentary ones (MENDONÇA; FARIAS JÚNIOR, 2012; BARBOSA FILHO et al., 2014; DE ARAÚJO PINTO et al., 2017). This is because the practice of physical activity promotes a greater sense of pleasure and well-being to its practitioners, which improves the state and the perception of health (MENDONÇA; FARIAS JÚNIOR, 2012).

Therefore, both school and physical education classes have become conducive environments to stimulate knowledge and experiences related to self-perception of schoolchildren's health, such as the use of anthropometry to identify body measures and even analysis of obesity (MUSSI et al., 2019). Thus, it is pointed out the importance of adopting an active lifestyle, in addition to healthy eating habits still in adolescence, as both factors are fundamental in the prevention of diseases and injuries throughout life (MELLENDICK et al., 2018).

This study presents as a limitation the use of a questionnaire, which, even validated and tested, can overestimate or underestimate the prevalence values of the variables. Even so, in view of the scarce studies carried out on the self-assessment of adolescents' health in Brazil, this study stands out as a representative sample and the first epidemiological survey with this theme in the municipality.

Conclusion

The prevalence of self-perception of health is among the values identified in the literature, and the associated factors were inadequate consumption of vegetables by girls and low levels of physical activity and screen time greater than two hours for boys.

Thus, these findings demonstrate the need to develop actions aimed at promoting healthy habits in the school environment, such as structured programs that prioritize or intensify health education and access to information and opportunities for behavioral changes related to the health of adolescents.

References

- ANDRADE, G. F.; LOCH, M. R.; SILVA, A. M. R. Changes in health-related behaviors as predictors of changes in health self-perception: longitudinal study (2011-2015). **Cadernos de Saúde Pública**, v.35, n.4, p.e001514182019.
- ANDRADE, L. V. et al. Autopercepção de saúde e a vulnerabilidade em jovens escolares com excesso ponderal. **Brazilian Journal of Development**, v.6, n.5, p.25005-25016, 2020.
- BARBOSA FILHO, V. C. et al. Changes in lifestyle and self-rated health among high school students: A prospective analysis of the "Saúde na Boa" project. **Revista Brasileira de Cineantropometria & Desempenho Humano**, v.16, Suppl. 1, p. 55-67, 2014.
- CUREAU, F. et al. Autopercepção de saúde em adolescentes: prevalência e associação com fatores de risco cardiovascular. **Revista Brasileira de Atividade Física & Saúde**, v.18, n.6, p.750-750, 2013.

DE ARAÚJO PINTO, A. et al. Prevalência e fatores associados à autopercepção negativa de saúde em adolescentes da região Norte do Brasil. **Revista Brasileira de Pesquisa em Saúde/Brazilian Journal of Health Research**, v.19, n.4, p.65-73, 2017.

DE SOUSA, L. P.; FRANZOI, M. A. H.; DE MORAIS, R. C. M. Influência das mídias sociais no comportamento alimentar de adolescentes Influence of social media on the eating behavior of adolescents. **Brazilian Journal of Development**, v.8, n.6, p.43489-43502, 2022.

DIAS, P. J. P. et al. Prevalência e fatores associados aos comportamentos sedentários em adolescentes. **Revista de Saúde Pública**, v.48, n.2, p.266-274, 2014.

GANDA, G. T. et al. Correlações entre a prática de atividade física, índice de massa corporal, autopercepção da imagem corporal e estado de saúde em alunos do ensino fundamental II. **RENEF**, v.5, n.5, p.37-46, 2022.

GARBIN, C. A. S. et al. A saúde na percepção do adolescente. **Physis: revista de saúde coletiva**, v.19, n.1, p.227-238, 2009.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. **IBGE Cidades**. Disponível: <https://cidades.ibge.gov.br/brasil/ba/jequie/panorama>. Acessado em 20/02/2016

LUIZ, R. R.; MAGNANINI, M. F. M. A lógica da determinação do tamanho da amostra em investigações epidemiológicas. **Caderno de Saúde Coletiva**, v.8, n.2, p.9-28, 2000.

MEIRELES, A. L. et al. Self-rated health among urban adolescents: the roles of age, gender, and their associated factors. **PLoS One**, v.10, n.7, p.e0132254, 2015.

MELLENDICK, K. et al. Diets rich in fruits and vegetables are associated with lower cardiovascular disease risk in adolescents. **Nutrients**, v.10, n.2, p.136, 2018.

MENDONÇA, G.; DE FARIAS JÚNIOR, J. C. Percepção de saúde e fatores associados em adolescentes. **Revista Brasileira de Atividade Física & Saúde**, v.17, n.3, p.174-180, 2012.

MUSSI, R. F. F. et al. O ensino da antropometria na escola: uma proposta na educação em saúde. **Cenas Educacionais**, v.2, n.1, p.14-28, 2019.

REICHENHEIM, M. E.; COUTINHO, E. S. F. Measures and models for causal inference in cross-sectional studies: arguments for the appropriateness of the prevalence odds ratio and related logistic regression. **BMC medical research methodology**, v.10, n.1, p.1-12, 2010.

SHARMA, B. et al. Television viewing and its association with sedentary behaviors, self-rated health and academic performance among secondary school students in Peru. **International journal of environmental research and public health**, v.14, n.4, p.383, 2017.

SILVA, B. et al. Associação entre comportamentos de riscos e autopercepção negativa de saúde em adolescentes. **Psicologia, Saúde & Doenças**, v.23, n.1, p.186-195, 2022.

SILVA, K. S. et al. Health risk behaviors Project (COMPAC) in youth of the Santa Catarina State, Brazil: ethics and methodological aspects. **Revista Brasileira de Cineantropometria & Desempenho Humano**, v.15, n.1, p.1-15, 2013.

WORLD HEALTH ORGANIZATION et al. **Global atlas on cardiovascular disease prevention and control**: published by the World Health Organization in collaboration with the World Heart Federation and the World Stroke Organization. World Health Organization. Regional Office for Europe, 2011.