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RISK KNOWLEDGE AND BEHAVIOR FOR ANOREXIA AND BULIMIA IN ADOLESCENTS

CONHECIMENTO E COMPORTAMENTO DE RISCO PARA ANOREXIA E BULIMIA EM ADOLESCENTES

CONOCIMIENTO Y COMPORTAMIENTO DE RIESGO CORRESPONDIENTES A LA BULIMIA Y LA ANOREXIA EN ADOLESCENTES

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Objectives: to describe adolescents' knowledge about anorexia and bulimia and to identify risky eating behaviors. Method: a descriptive, cross-sectional study with a quantitative approach, performed with 75 students. A questionnaire was used to assess knowledge about anorexia and bulimia and the eating attitudes test (EAT-26). Results: more correct answers regarding anorexia, an average of 88%, than about bulimia. In almost all questions, there was a statistically significant association between right and wrong answers ($p<0.05$). The students from the 9th grade and the second year of high school, both with 31%, and the age group of 17-19 years old (39%) were more at risk. However, there was no statistically significant association between risk behavior for the development of eating disorders and age and grade level ($p=0.154$ and $p=0.748$, respectively). Conclusion: adolescents' knowledge about anorexia and bulimia was not fully understood in the school environment. Regarding risky eating behaviors, they were present in all age groups and participating grades.

Descriptors: Knowledge. Adolescent. Eating and Food Ingestion Disorders.

Objetivos: descrever o conhecimento de adolescentes sobre anorexia e bulimia e identificar comportamentos alimentares de risco. Método: estudo descritivo, corte transversal, abordagem quantitativa, realizada com 75 escolares. Utilizou-se questionário para avaliar conhecimento sobre anorexia e bulimia e o teste de atitudes alimentares (EAT-26). Resultados: mais acertos referentes à anorexia, média de 88%, do que sobre bulimia. Em quase todas as questões, houve associação estatisticamente significante entre acertos e erros ($p<0,05$). As alunas do 9º ano fundamental e 2º ano ensino médio, ambos com 31%, e a faixa etária de 17-19 anos (39%) apresentaram mais risco. Entretanto, não houve associação estatisticamente significante entre comportamento de risco para o desenvolvimento de transtornos alimentares e faixa etária e série escolar ($p=0,154$ e $p=0,748$, respectivamente). Conclusão: o conhecimento de adolescentes sobre anorexia e bulimia não estava totalmente esclarecido no ambiente

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escolar. Quanto aos comportamentos alimentares de risco estavam presentes em todas as faixas etárias e séries participantes.

Descritores: Conhecimento. Adolescente. Transtornos da Alimentação e da Ingestão de Alimentos.

Objetivos: describir el conocimiento de los adolescentes sobre la bulimia y la anorexia e identificar comportamientos de riesgo. Método: estudio descriptivo de corte transversal, con enfoque cuantitativo, realizado con 75 estudiantes. Se utilizó un cuestionario para evaluar el conocimiento sobre la anorexia y la bulimia y la prueba de actitudes alimenticias (EAT-26). Resultados: se registraron más respuestas correctas en lo referente a la anorexia, con un valor medio del 88%, que sobre la bulimia. En casi todas las preguntas se registró una asociación estadísticamente significativa entre aciertos y errores (p<0,05). Alumnas del 9º año de la enseñanza primaria y del 2º año de la escuela media, ambos grupos con el 31%, y grupo etario de 17 a 19 años (39%) presentaron más riesgo. Entretanto, no se registró ninguna asociación estadísticamente significativa entre el comportamiento de riesgo para desarrollar trastornos alimenticios y el grupo etario ni el grado escolar (p=0,154 y p=0,748, respectivamente). Conclusión: el conocimiento de los adolescentes sobre la bulimia y la anorexia no estaba totalmente esclarecido en el ámbito escolar. En relación a los comportamientos alimenticios de riesgo, se hicieron presentes en todos los grupos etarios y grados participantes.

Descriptores: Conocimiento. Adolescente. Trastornos de la Alimentación y de la Ingesta de Alimentos.

Introduction

Adolescence is the chronological period characterized as the process of transition from childhood to adulthood, with significant physical, psychological, emotional and social transformations. The process of solidification of the personality, the desire to improve the physical appearance and the insertion in groups of the same age group with similar interests occur in adolescence. Thus, adolescents feel the need to be accepted and, for this, end up following the precepts of beauty exposed in the social and communication media, which are adopted by the groups in which they belong. The World Health Organization defines adolescence as the period of life that begins at age 10 and ends at age 19[1].

The search for the perfect body and the need for acceptance can lead to a dissociation between the real body and the body that is the object of desire, causing a decrease in self-esteem and dissatisfaction with body image, which contributes to the onset of psychological disorders[2]. Body dissatisfaction may predispose to the development of eating disorders in adolescents as they are susceptible[3].

Eating disorders are recognized to cause changes in the eating behavior influenced by body image distortion. They have as causes multiple factors such as biological, sociocultural and psychological ones[4]. In the psychopathology group, anorexia nervosa and bulimia nervosa stand out as the most prevalent in the population, especially females, with a 10:1 ratio compared to males. These disorders usually start in adolescence[5].

Anorexia nervosa is characterized by the obsession with losing weight and the endless pursuit of weight loss. During this process, there is a decrease and restriction of the consumption of foods considered caloric or without nutritional value, body image distortion and refusal of the pathological condition[4]. It is a clinical condition that can cause severe damage to health, such as malnutrition, dehydration, infertility, cardiovascular impairment, hydroelectrolytic disorders and changes in the menstrual cycle and may, in more severe cases, evolve to death[6].

Bulimia nervosa, in turn, presents repeated and exaggerated pictures of binge eating, followed by feelings of guilt. It leads the individual to use purgative methods such as vomiting induction, laxative use, diuretic medication intake, enema administration. In addition, there are non-purgative methods that consist of excessive physical activity and fasting intended to lose weight and minimize guilt[2].

In the last two decades, there has been an increase in the number of studies that sought to identify young people's dissatisfaction with their body image, as well as the risk of developing eating disorders, especially anorexia nervosa and bulimia nervosa[7]. Dissatisfaction with the body and such eating disorders have been increasingly frequent and early, causing implications for the health of adolescents, as they may contribute to the development of depressive symptoms, decreased self-esteem and suicide attempt.

Since there is susceptibility to the development of both anorexia and bulimia nervosa in adolescence, as well as the health problems they cause, it is necessary to address this issue in the school environment and to investigate the adolescents' knowledge about these themes[6]. School is the environment in which a long period of life is spent. It plays an important role in the process of consolidation of personal values and in the relevance given to objects and situations, such as health[8]. The insertion of health professionals in the school environment is extremely important because, through health education activities, situations are identified in which the individual exposes himself or presents risks that may imply a threat to health and life[9].

In Brazil, due to the lack of data on these eating disorders, dissatisfaction with body image and its associated risk factors, studies that may broaden knowledge about these aspects in relation to adolescents are warranted. This problematic made it possible to identify the need to investigate the following questions: What is the understanding of adolescents about anorexia nervosa and bulimia nervosa? What is the prevalence of risk behaviors of developing these eating disorders in adolescents from a public school?

Identifying adolescents' knowledge about the eating disorders, as well as their risk of development, is of great relevance to nursing, as it contributes to the early detection of health risks and health problems and to the development of prevention strategies that empower the adolescents, so that they can, based on this intervention, act as protagonists in self-care and knowledge disseminators. Thus, the study aimed to describe adolescents' knowledge about anorexia and bulimia nervosa and to identify risky eating behaviors.

Method

A cross-sectional descriptive study with a quantitative approach conducted at a public elementary and high school, located in Fortaleza, Ceará, Brazil, from October to November 2017.

The inclusion criteria were the following: students regularly enrolled in the morning shift of that institution, who were attending the ninth grade of elementary school, the first or second year of high school. The target population totaled 130 students, belonging to the age group of 14-19 years old. With the exclusion criteria, 55 students did not participate in the study because they were not present at school during the data collection period or for not having the Free and Informed Consent Form (FICF) signed by their guardians, in case they were under 18 years old. These two conditions met the exclusion criteria. So, the sample consisted of 75 adolescents.

Two data collection instruments were applied: the questionnaire and the Eating Attitudes Test (EAT-26). The first, built on the literature, was designed to assess the knowledge of schoolchildren of both genders about eating disorders. It was composed of 20 statements, to be flagged as true or false; the first ten referred to Anorexia Nervosa; the other ten, to Bulimia Nervosa.

The second instrument, the Eating Attitudes Test (EAT-26) by Garner & Garfinkel[10] translated and validated for Portuguese by Bighetti[11] as a test of eating attitudes, was applied to female adolescents, since its original validation study included only girls. The EAT-26 instrument, originally built to track anorexia nervosa behaviors, primarily measures restrictive eating behaviors, diet and fasting, and bulimic behaviors such as excessive food intake, purgative behaviors for weight loss/body control.

The questionnaire, consisting of 26 questions, was self-administered. Its purpose was to identify risky eating behaviors for the development of anorexia or bulimia. Each question had six possible answers: 1) Always; 2) Often; 3) Sometimes; 4) Few times; 5) Almost never; and 6) Never. And they received higher (3) and lower (0) scores, according to the degree of proximity or distance of anorexic behavior. The EAT-26 score is made by the sum of its items. It is considered a risk indicator for the development of an eating disorder when the score formed by the sum of positive responses is equal to or greater than 21.

The school principal was invited to participate in the research, being informed about the objectives and procedures. After authorization from the school board, the students were approached in the classroom about the objectives and procedures necessary for their inclusion in the study. The Free and Informed Consent Form (ICF) was given to participants older than 18 years old; children under 18 signed a consent form (TALE), agreeing to participate in the research. It is to be noted that the parents of students under the age of 18 were given the Free and Informed Consent Form (FICF), asking them to return it duly signed the following week.

Data was organized in tables with absolute frequencies and percentages. The comparison between the number of hits and errors was made by the binomial test. The association by the Chi-square test between knowledge about anorexia nervosa and bulimia nervosa and school grade was analyzed; and between the development risk and age group and school grade. Analyses with $p<0.05$ were considered statistically significant. Data was processed in the Software PASW Statistics for Windows (SPSS), version 20.0, license N°. 10101131007.

All ethical parameters were followed in accordance with Resolution 466/2012, of the National Health Council. The research was approved by Opinion N°. 2,320,931 of the Research Ethics Committee of the Ateneu University Center.

Results

Among the 75 adolescents who participated in the survey, females predominated (64%), attending the second year of high school (37%), and aged between 14 and 16 years old (60%).

Table 1 presents the errors and correct answers regarding the students' knowledge about anorexia and bulimia nervosa. The questions with the most correct answers were related to anorexia with a mean of correct answers of 88%. The percentage of correct answers was higher than the errors in 80% (16/20) of the questions ($p<0.0001$), and the percentage of errors was higher than the correct answers in 15% (3/20) ($p< 0.0001$), with 5% (1/20) of draws ($p=1.000$). The questions with the highest percentage of correct answers (>90%) were numbers 9, 13, 8 and 4, regarding the following statements, respectively: "Anorexia can lead to severe cases of malnutrition and even death" (96%); "Many times you don't realize you have a disease" (96%); "She is always satisfied with weight and body image" (92%); "You see yourself fat, even though you're thin" (95%). It was observed that the differences and similarities between bulimia and anorexia are not totally clear among the students. The lowest percentages of correct answers (<50%) were related to questions 11, 17 and 18, respectively: "One of the characteristics of bulimia is extreme weight loss" (32%); "Has an excessive concern with appearance, especially weight" (20%); "Does not accept the body as it is, believes she/he is overweight, but she/he is not" (21%).

Table 1 – Distribution of hits and errors about anorexia and bulimia. Fortaleza, Ceará, Brazil – 2017 (N=75)

Questions	Hits		Errors		*p
	n	%	n	%	
1. Anorexia is more common in women than in men.	69	92	6	8	0.0001
2. Frequently eats a large amount of food.	61	81	14	19	0.0001
3. With the advancement of anorexia, amenorrhea occurs.	53	71	22	29	0.0001
4. You see yourself fat, even though you are thin.	71	95	4	5	0.0001
5. Does long fasts and various diets to lose weight.	66	88	9	12	0.0001
6. One of the symptoms is excessive fear of getting fat.	66	88	9	12	0.0001
7. Anorexia is common in adolescents.	64	85	11	15	0.0001
8. Is always satisfied with weight and body image.	69	92	6	8	0.0001
9. Anorexia can lead to severe cases of malnutrition and even death.	72	96	3	4	0.0001
10. Stops eating for fear of getting fat.	67	89	8	11	0.0001
11. One of the characteristics of bulimia is extreme weight loss.	24	32	51	68	0.0001
12. The person with bulimia is not afraid of getting fat.	51	68	24	32	0.0001
13. Many times, you dos not realize you have a disease.	72	96	3	4	0.0001
14. Eats large amounts of food and then causes vomiting.	59	79	16	21	0.0001
15. Bulimia is more common in women.	57	76	18	24	0.0001
16. The person with bulimia stops eating for fear of getting fat.	38	51	37	49	1.000
17. Has an excessive concern with appearance, especially weight.	15	20	60	80	0.0001
18. Does not accept the body as it is; believes she/he is overweight, but he/she is not.	16	21	59	79	0.0001
19. It is an eating disorder and may show symptoms of anxiety.	63	84	12	16	0.0001
20. Television, fashion and the media can all influence the development of bulimia.	55	73	20	27	0.0001

Source: Created by the authors.

* p - Binomial test.

Table 2 shows correct answers by grade level. In questions 1, 4, 8, 9, 10 and 13, the occurrence was noticed in all grades of correct answers of more than 80%. Of these questions, most were about anorexia. There was no statistically significant association between grade level and number of correct answers in 80% (16/20) of the questions (p>0.05); in only two of them a statistical significance was found: "Does prolonged fasts and various diets to lose weight", with 100% success in the 2nd year (p=0.002), and "The person with bulimia stops eating for fear of getting fat", with 82.6% correct answers in the 1st ear (p=0.001).

Table 2 – Hit distribution by grade level. Fortaleza, Ceará, Brazil – 2017. (N=75)

(continued)

Questions	Grade						*p
	9th		1st		2nd		
	n	%	n	%	n	%	
1. Anorexia is more common in women than in men.	21	87	20	87	28	100	0.520
2. Frequently eats a large amount of food.	18	75	18	78	25	89	0.378

Table 2 – Hit distribution by grade level. Fortaleza, Ceará, Brazil – 2017. (N=75) (conclusion)

Questions	Grade						*p
	9th		1st		2nd		
	n	%	n	%	n	%	
3. With the advancement of anorexia, amenorrhea occurs.	17	71	15	66	21	75	0.747
4. You see yourself fat, even though you are thin.	23	96	20	87	28	100	0.780
5. Does long fasts and various diets to lose weight.	17	71	21	91	28	100	0.002
6. One of the symptoms is excessive fear of getting fat.	22	92	23	100	22	79	0.580
7. Anorexia is common in adolescents.	19	79	23	100	22	79	0.580
8. Is always satisfied with weight and body image.	20	83	23	100	26	93	0.560
9. It can lead to severe cases of malnutrition and even death.	22	92	23	100	27	96	0.247
10. Stops eating for fear of getting fat.	20	83	20	87	27	96	0.240
11. One of the characteristics of bulimia is extreme weight loss.	7	29	9	39	8	29	0.678
12. The person with bulimia is not afraid of getting fat.	16	67	16	70	19	68	0.977
13. Many times, you do not realize you have a disease.	23	96	23	100	26	93	0.291
14. Eats a large amount of food and then causes vomiting.	17	71	20	87	22	79	0.403
15. Bulimia is more common in women.	19	79	18	78	20	71	0.772
16. The person with bulimia stops eating for fear of getting fat.	9	38	19	82.6	10	36	0.001
17. Has an excessive concern with appearance, especially weight.	3	12	8	34.8	4	14	0.102
18. Does not accept the body as it is; believes she/he is overweight, but she/he is not.	3	12	8	34.8	5	18	0.150
19. It is an eating disorder and may show symptoms of anxiety.	19	79	22	95.7	22	79	0.187
20. Television, fashion and the media can all influence the development of bulimia.	19	79	17	73.9	19	68	0.653

Source: Created by the authors.

* p - Chi-square test.

Table 3 shows the risk of female adolescents to develop anorexia or bulimia by applying the Eating Attitudes Test (EAT-26). It is considered a risk indicator when the score formed by the sum of positive responses is equal to or higher than 21. The highest risk age group was 17-19 years old (39%). Referring to the grade level, they were the students of the 9th grade of elementary school and 2nd year of high school, both with (31%). However, there was no statistically significant association between risk behavior for the development of eating disorders and age and grade level (p=0.154 and p=0.748, respectively).

Table 3 – Risk for the development of anorexia or bulimia according to age and grade level. Fortaleza, Ceará, Brazil – 2017 (N=48)

Variables	> Risk		< Risk		*p
	n	%	n	%	
Age group					
14-16	6	20	24	80	0.154
17-19	7	39	11	61	
Grade					
9th	4	31	9	69	
1st	5	21	15	79	0.748
2nd	4	31	11	69	

Source: Created by the authors.

* p - Chi-square test.

Discussion

In the present study, a higher participation of adolescents was observed. This public is identified as most vulnerable to the development of anorexia and bulimia nervosa. However, encouraging male participation in research of this nature is relevant since studies show an increase in the number of cases in these adolescents, making it necessary to focus attention on this population[5]. Global prevalence, although fluctuating according to the realities of each continent and country, has tended to rise among people with a non-classically characteristic profile, such as men, adults and the elderly, and the population of eastern countries, which indicates that eating disorders have become a global reality[12].

Regarding the adolescents' knowledge about anorexia nervosa and bulimia nervosa, the one related to the first pathology was higher, as shown by the greater number of correct answers on the related questions. Although present in the most distinct societies, especially in the industrialized countries, bulimia still lacks a greater social disclosure of its occurrence and associated damages, such as its relationship with high risk of suicide and dysfunction in social role performance[2].

The large number of hits for the "Anorexia is more common in women than in men" item exposes an aspect that is significant in the context of eating disorders: gender issues. The participants generally demonstrated to understand that females predominate in the development of these psychopathologies, which highlights the understanding of this fact and the peculiarities of being female in the disease profile[5].

Still regarding aspects of knowledge, the question "Individuals with anorexia sees themselves fat, even though they are thin" stands out, with 94.7% of correct answers. It was evident that adolescents recognized body image distortion as one of the main features of anorexia nervosa. This distortion arises with the idealization of the "perfect" body. The further the adolescent moves away from her/his goal, the more vulnerable she/he becomes. This can lead to a dissociation between the real body and the body object of desire and cause a decrease in self-esteem and also dissatisfaction with body image, a fact that contributes to the onset of psychological disorders[2].

In Table 2, in the question that mentions "The person with anorexia is on prolonged fasting and various weight loss diets", it was observed that 88% of the respondents said true and got the answer right. A study conducted with 33 adolescent students between 16 and 19 years old from a district of the city of Rondônia, Roraima, Brazil, on the knowledge about anorexia nervosa,

obtained 81.8% of correct answers in the question whose statement also addressed the behavior exerted by the person with anorexia regarding eating habits[15].

The real perception and recognition of the symptom of self-food restriction was also identified in a study conducted with 100 adolescent students of both genders from Palmeiras de Goiás, Goiás, Brazil, when asked about the risks of developing bulimia and anorexia. Food self-restriction may trigger malnutrition, gastrointestinal motility disorders and hydroelectrolytic disorders. For this reason, the adolescents' knowledge about the subject becomes a positive point, since they have the ability to recognize and promote self-care, minimizing the risk for the development of these eating disorders[16].

Regarding adolescents' knowledge about bulimia nervosa, the question "The person with bulimia stops eating for fear of getting fat", was highlighted by the high percentage of errors (49.3%). A significant number of adolescents was found to have missed the point since bulimia nervosa is characterized by repeated and exaggerated binge eating, followed by feelings of guilt, leading the individual to use purgative methods with the intention of losing weight to minimize this feeling[2]. This result indicates greater fragility in the knowledge of the characteristics of the bulimic behavior[2].

Still regarding bulimia, the question "Television, fashion and the media influence the development of bulimia", obtained 73.3% of affirmative answers. This result highlights the knowledge of the influential power of media for the development of eating disorders, as changes in body patterns are displayed in social networks, soap operas and movies, which show women whose beauty catches the eye, wearing fashionable clothes and accessories, which only fit the body profile of a dummy[16]. Such aesthetic pattern contributes to the growing dissatisfaction with body image, especially among adolescents, who adhere to the standards established by these means through dietary restrictions, inadequate diets, exhaustive physical activities and purgative methods, even inducing vomiting for weight loss, and the range of the desire object body[17].

Regarding the presence of risk behavior for the development of bulimia and anorexia, although without statistical association, it was identified, among the participants and in the final stage of adolescence, by applying EAT-26. A study conducted with 1,112 male and female adolescents from schools in the city of Postdam, Germany, for the evaluation of an intervention program on eating behavior, identified a prevalence of 20.1% in the intervention group and of 19.2% in the control group as regards the risk behavior for the development of anorexia and bulimia by applying EAT-26 before the start of interventions properly[3]. A study conducted with 249 female adolescents from a school in Juiz de Fora, Minas Gerais, Brazil, identified a prevalence of 24% for the risk behavior regarding the development of an eating disorder by applying EAT-26[1].

A survey conducted with 139 adolescents of both genders in a school of a small town in northwestern Paraná, Brazil, applied two instruments for data collection, the EAT-26 and the body image questionnaire (BQS), and identified, in 10.1% of the adolescents, a risk behavior for developing anorexia and bulimia[13]. A study conducted with 371 female adolescents from a school in Juiz de Fora, Minas Gerais, Brazil, found that 21.7% had a risk behavior[14]. The EAT-26 questionnaires and the Major Depression Inventory (MDI) were applied.

A study that applied the Bulimic Investigatory Test of Edinburgh (BITE) in 850 female adolescents aged from 15 to 18 years old in the city of Campina Grande, Paraíba, Brazil, identified risk patterns for bulimia nervosa in 42% of the participants. The application of EAT-26 in 500 adolescent students of both genders in Recife, Pernambuco, Brazil, identified a risk for anorexia in 6.8% of the female participants and the presence of various eating behaviors, such as concern about the body (28.81%), feeling guilty after eating sweets (22.88%), vomiting after eating sweets (21.19%), concern with body fat (22.88%) and the assertion that they always

avoided eating when hungry, as an attempt to lose weight or preserve body weight (21.19%)[18].

The presence of effective risk, as well as behavioral patterns for bulimia and anorexia, in the present study, when compared to the other researches presented herein, allows us to infer the need for educational and intervention strategies among adolescents for the prevention of anorexia nervosa and bulimia nervosa. These findings reinforce that adolescence is a vulnerable period for the development of eating disorders[6].

Eating disorders are recognized because they cause changes in the eating habits and have multiple factors as their cause, such as biological, sociocultural and psychological ones. They can cause several damages to the individual's health, such as physical, endocrine, renal, pulmonary, cardiac, hydroelectrolytic, hematological, bone, metabolic complications, among others[4]. Anorexia and bulimia, as they can cause severe harms and damage to health, require identification and prior intervention for the early initiation of treatment. This is accomplished through the use of an intensive and broad project involving a specialized multidisciplinary team to provide holistic assistance, that is, observing the individual in its entirety, as well as the influence of biopsychosocial aspects on their pathological condition[18].

Health professionals play an important role in the treatment of adolescents with eating disorders, as their interventions can influence family relationships, as they are able to identify risky behaviors and thus support the social network of adolescents[19]. They are also able to guide the family and the client to facilitate the adaptation process and improve the clinical condition, in addition to establishing diagnosis and intervention for each identified situation.

Conclusion

The study participants were aware of the signs, symptoms and characteristics of anorexia and bulimia nervosa, since a significant portion answered the statements correctly, showing a good conception about the subject. However, still, the error in the answers of certain items by some students showed that the subject is not fully understood among these subjects. Regarding the risk behavior for the development of eating disorders, the identification of adolescents with this profile reinforces the relevance of the presence of health professionals in the school environment, in order to contribute to the identification of risk behaviors, as well as to advise on the characteristics, signs and symptoms of the eating disorders.

Health professionals can work in the school environment through the Health at School program, whose purpose is to promote educational actions for the prevention of diseases and health problems, promotion and health care in the school environment. This partnership is established between primary health care and the school.

With the appropriation of this tool, these professionals can approach these adolescents, to facilitate the identification of weaknesses related to the eating behavior, as well as other health-related issues, thus contributing to minimize risks and health problems for adolescents.

Collaborations:

1 – conception, design, analysis and interpretation of data: Jéssica Rita Sousa da Costa and Adriana Sousa Carvalho de Aguiar;

2 – writing of the article and relevant critical review of the intellectual content: Jéssica Rita Sousa da Costa, Kariane Gomes Cezario Roscoche, Monaliza Ribeiro Mariano and Adriana Sousa Carvalho de Aguiar

3 – final approval of the version to be published: Paulo César de Almeida, Kariane Gomes Cezario Roscoche and Adriana Sousa Carvalho de Aguiar.

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