

Can poor family interaction at mealtime be associated with drug use in adolescents?**O baixo convívio familiar no momento das refeições pode estar associado com o uso de drogas em adolescentes?****¿Puede asociarse la baja interacción familiar en comidas con el uso de drogas en adolescentes?****Received: 20/08/2020****Approved: 30/01/2021****Published: 21/08/2021****Veridiana de Oliveira do Amaral Cassel¹****Daniela Paini²****Vanessa Ramos Kirsten³**

This study aims to assess family life at mealtimes and associate it with drug use in adolescents. Cross-sectional study with adolescents from six public and one private schools in Southern Brazil in the second semester of 2017. Sociodemographic data, family structure and the Drug Use Screening Inventory were collected. 537 students aged 15.61 ± 1.5 years participated in the study. Alcohol was the most used drug, with mentions of 1-2 uses in the last month and the most preferred by adolescents. In the last 12 months, 38.9% reported enjoying games involving alcohol, 28.7% felt strong desire to consume alcohol, 25.9% had problems remembering what they did while under the influence of drugs and 20.1% reported having some withdrawal symptoms after use. The habit and frequency of meals in family showed a protective effect in relation to the use of alcohol and drugs, with a possible reduction in risk behaviors.

Descriptors: Adolescent; Risk factors; Ethanol; Tobacco; Family.

O objetivo foi avaliar o convívio familiar no momento das refeições e associar com o uso de drogas em adolescentes. Estudo transversal com adolescentes de seis escolas públicas e uma privada do sul do Brasil no segundo semestre de 2017. Foram coletados dados sociodemográficos, estrutura familiar e o *Inventário de Triagem do Uso de Drogas*. Participaram 537 alunos com idade de $15,61 \pm 1,5$ anos. O álcool foi a droga mais citada para uso de 1 a 2 vezes no último mês e a predileta pelos adolescentes. Nos últimos 12 meses, 38,9% relataram gostar de brincadeiras que envolvem álcool, 28,7% sentiu forte desejo pelo uso de álcool, 25,9% tiveram problemas para lembrar o que fizeram enquanto estavam sob efeito de drogas e 20,1% referiu ter algum sintoma de abstinência após o uso. O hábito e a frequência das refeições em família mostrou efeito protetor em relação ao uso de álcool e drogas, com possível redução em comportamentos de risco.

Descritores: Adolescente; Fatores de risco; Etanol; Tabaco; Família.

El objetivo fue evaluar la interacción familiar en las comidas y asociarla con el uso de drogas en adolescentes. Estudio transversal con adolescentes de seis escuelas públicas y una privada del sur de Brasil en el segundo semestre de 2017. Se recogieron datos sociodemográficos, la estructura familiar y el *Inventario de Detección de Uso de Drogas*. Los participantes fueron 537 estudiantes de $15,61 \pm 1,5$ años. El alcohol fue la droga más citada para el consumo de 1 a 2 veces en el último mes y la más preferida por los adolescentes. En los últimos 12 meses, el 38,9% declaró que le gustaban los juegos con alcohol, el 28,7% sintió un fuerte deseo de consumir alcohol, el 25,9% tuvo problemas para recordar lo que hizo mientras estaba bajo el efecto de drogas y el 20,1% declaró tener algún síntoma de abstinencia tras el consumo. El hábito y la frecuencia de las comidas en familia mostraron un efecto protector en relación con el consumo de alcohol y drogas, con una posible reducción de las conductas de riesgo.

Descriptores: Adolescente; Factores de riesgo; Etanol; Tabaco; Familia.

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INTRODUCTION

Nowadays, the indiscriminate use of legal and illegal drugs by the world population has been treated as a serious public health problem, because their regular use causes addiction, compromising the user and their relationship with the world, their family, friends and, especially their self-esteem^{1,2}.

The drug phenomenon is complex and multi-causal, has no territorial, social or age limits, significantly affecting children and adolescents. Adolescence is the age group in which drug experimentation and abuse usually take place³⁻⁷. In addition, studies^{8,9} have highlighted the high consumption of psychoactive substances among adolescents, with alcohol being the main legal drug used. Furthermore, consumption of legal and illegal drugs by adolescents has been growing gradually over the years, showing that this prevalence is an important public health problem^{9,10}.

Amidst this problem involving drug use in adolescence, the family can be an important point of support and balance in the adolescent's transformation process, since parental monitoring can reduce risks of substance abuse and represent a factor in protection against this practice. On the other hand, factors such as poor relationship with parents, living with only one parent, poor communication between family members and lack of family support and monitoring have been identified as risk factors for drug abuse in this stage of life^{5,11-13}.

One of the most common habits that can demonstrate family connection is the act and frequency with which the family has their meals together, which can become a time for debate, clarification and monitoring on the topic involving the behavior of adolescents^{14,15}.

In view of this, investigations related to family nutrition and behaviors related to it, such as meal times, can increase strategies of family health teams and the school itself in protecting the use of drugs. Thus, the aim of this study was to assess family life at mealtimes and associate it with drug use in adolescents.

METHODS

This is an observational, cross-sectional study with a quantitative approach, carried out with adolescents from public and private primary and secondary schools in the municipality of Palmeira das Missões, located in the Northwest region of the state of Rio Grande do Sul. Data were collected during the second half of 2017, from October to December.

To participate in the research, students should volunteer to answer the applied questionnaire; their legal guardians should sign the Free and Informed Term (TCLE) and the adolescents themselves should sign a consent form. Adolescents who did not correctly complete the Drug Use Screening Inventory (DUSI) questionnaire were excluded.

The application of the instrument for data collection took place in the classrooms of the schools, with the presence of the adolescents, the class teacher and the responsible researcher. The average time to complete the questionnaires was approximately 25 minutes. After completing the questionnaires, the students handed them to the researcher and they were placed in envelopes identified with the name of the school, grade and shift in which the participating students studied.

Data were collected through the application of two questionnaires with closed questions, one referring to sociodemographic data (gender, age, religion and socioeconomic level) and family context (family composition, habits of having meals with parents, parents or guardians, what the children do in their free time, and if they skip classes without parental authorization), elaborated by the researcher. To assess drug use by adolescents, the Drug Use Screening Inventory (DUSI) was used, developed in the United States and adapted and validated for the Brazilian population¹⁶.

The DUSI initially consists of a table that addresses the frequency of use of thirteen classes of psychoactive substances (alcohol, amphetamines/stimulants, ecstasy, crack/cocaine,

marijuana, hallucinogens, tranquilizers, analgesics, opiates, phenylcyclidine, anabolics, inhalants, solvents, tobacco), followed by 149 questions divided into 10 areas providing an intensity profile of problems in relation to substance use, behavior, health, psychiatric disorders, sociability, family system, school, work, relationship with friends and leisure/recreation.

For this research, the questions about use and frequency of 13 classes of drugs in the last month, contained in Table 1, and Area I with 16 questions that addressed substance use in the last 12 months, with a total of 29 questions related to drug use, were analyzed. The other areas were not analyzed. The questions in Area I are answered with "Yes" or "No" and affirmative answers are equivalent to the presence of the problem.

The indicators were calculated through the absolute density of the problem, using the following formula: number of affirmative answers divided by the total number of questions in the area times 100, which indicate intensity of the problem in each isolated area. Three or more affirmative answers were adopted as the cutoff point for the risk of substance use, according to guidelines given by Dusi-R. This version was used because it is specifically aimed at the adolescent population, is in the public domain and is freely available^{16,17}.

The work was submitted and approved by the Research Ethics Committee of the Universidade Federal de Santa Maria, in the state of Rio Grande do Sul, under number 2,325,776, following Resolution No. 466/201218 which regulates all ethical precepts of research with human beings.

Data were analyzed using SPSS software version 18.0 using simple descriptive statistics (mean, standard deviation and percentage). To relate drug use with family issues, the chi-square test was used. Statistically significant differences were considered when $p < 0.05$.

RESULTS

Students from seven schools (six public and one private), of both genders, with ages between 15 and 19 years were considered.

The study included 577 students between the 8th and 9th grades and high school students from the morning, afternoon and evening shifts; however there was a loss of 6.93% (n=40) of the sample, resulting in 537 students in the sample final for data analysis (Table 1).

The sociodemographic variables showed that students enrolled in high school and those who study in the morning shift contributed with a greater number of participants in the research, representing 55% and 79.9% respectively. According to gender, female adolescents had a greater participation with 54.8% and the average age of students was 15.61 ± 1.5 years (Table 1).

Table 2 shows aspects of the adolescents' family context.

Most students reported not using any type of drug in the last month. Except for alcohol and over-the-counter analgesics, all denied use, a total of more than 90% (Table 3). Alcohol was the most mentioned drug for use 1 to 2 times in the last month (25.2%), followed by painkillers (18.4%), tobacco (7.9%), over-the-counter tranquilizers (5.6 %) and marijuana (5.5%). Alcohol was the most preferred drug mentioned by students (7.4%) (Table 3).

Table 1. Sociodemographic characteristics of adolescent students from Palmeira das Missões, RS, 2017.

	<i>N</i>	%
Grade		
Elementary school 8 th /9 th grade	242	45.0
High school	295	55.0
School shift		
Morning	429	79.9
Afternoon	36	6.7
Evening	72	13.4
*Gender (n, %)		
Female	290	54.8
Male	239	45.2
Age (Mean ± Standard Deviation)	15.61 ±1.5	
Total	537	100.0

Key: *The sample value may vary according to the number of valid responses from adolescents.

Table 2. Family context of adolescent students from Palmeira das Missões, RS, 2017.

	<i>N</i> ^o	%
*Who do you live with?		
Mother and father	329	61.5
Just mother	118	22.1
Just father	20	3.7
Grandparents	31	5.79
Others	58	10.8
Do your guardians know what you do on your free time?		
Always	332	61.8
Sometimes	197	36.7
Never	8	1.5
Did you miss school without your guardians consent in the last 30 days?		
Never	455	84.7
1 to 2 times a week	75	14.0
3 to 4 times a week	3	0.6
More than 5 times a week	4	0.7
*Currently, do you usually have meals with your family?		
Yes	367	68.5
Sometimes	139	25.9
No	30	5.6
*Do you usually have conversations with your guardians during meals?		
Yes	479	91.6
No	44	8.4
*Do you feel free to discuss any subject with you guardians?		
Yes	416	78.9
No	111	21.1

Key: *The value for each question may vary depending on the number of valid responses from the teenagers.

The questions that addressed problems related to the use of alcohol and other drugs in the last 12 months showed that 38.9% of students reported enjoying games involving alcoholic beverages; 28.7% of students felt craving or strong desire to use alcohol or other drugs; 25.9% of them had problems remembering what they did while under the influence of drugs or alcohol and; 20.1% of students reported having had some withdrawal symptom after using any substance, and 37.8% of adolescents were at risk for substance use. However, 62.2% of students were not at risk for the use of alcohol or other drugs in the last 12 months, according to the calculated absolute density, considering the presence of the problem, when there were three or more affirmative answers (Table 4).

Table 3. Legal and illegal drug use referring to the last month of adolescent students from Palmeira das Missões, RS (n= 537, 2017).

Name of drug	Have not used it %(No.)	Used once or twice %(No.)	Used it 3 to 9 times %(No.)	Used it 10 to 20 times %(No.)	Used it more than 20 times %(No.)	I have problems with this specific drug %(No.)	This is my drug of choice %(No.)
Alcohol	41.2(216)	25.2(132)	15.5(81)	3.6(19)	6.9(36)	0.2(1)	7.4(39)
Amphetamines/stimulants (methamphetamine, methylphenidate) without a prescription	99.2(522)	0.4(2)	0.0(0)	0.0(0)	0.2(1)	0.0(0)	0.2(1)
Ecstasy	98.7(524)	0.9(5)	0.2(1)	0.0(0)	0.0(0)	0.0(0)	0.2(1)
Crack/cocaine	98.7(526)	0.6(3)	0.4(2)	0.0(0)	0.2(1)	0.0(0)	0.2(1)
Marijuana	90.4(481)	5.5(29)	1.5(8)	0.6(3)	0.9(5)	0.0(0)	1.1(6)
Hallucinogens (LSD, Mescaline, others)	97.4(518)	2.4(13)	0.2(1)	0.0(0)	0.0(0)	0.0(0)	0.0(0)
Tranquilizers (Diazepam, Barbiturates, and others) without a prescription	91.0(485)	5.6(30)	1.7(9)	0.4(2)	0.8(4)	0.2(1)	0.4(2)
Painkillers (without medical prescription)	71.8(382)	18.4(98)	5.5(29)	1.3(7)	2.6(14)	0.2(1)	0.2(1)
Opiates (morphine, heroin, others)	99.2(529)	0.2(1)	0.2(1)	0.0(0)	0.0(0)	0.0(0)	0.4(2)
Phencyclidine (PCP/angel dust)	99.8(532)	0.2(1)	0.0(0)	0.0(0)	0.0(0)	0.0(0)	0.0(0)
Anabolics	97.6(520)	1.9(10)	0.4(2)	0.0(0)	0.0(0)	0.0(0)	0.2(1)
Inhalants, solvents (glue, ether spray, others)	98.5(526)	0.7(4)	0.2(1)	0.2(1)	0.2(1)	0.2(1)	0.2(1)
Tobacco (cigarettes)	83.3(445)	7.9(42)	4.9(26)	0.7(4)	1.7(9)	0.6(3)	0.9(5)
Others	97.7(388)	1.5(6)	0.0(0)	0.0(0)	0.3(1)	0.0(0)	0.5(2)

Key: *The sample value may vary according to the number of valid responses from adolescents. Source: survey data, 2017.

Table 4. Drug use in the last 12 months by teenage students from Palmeira das Missões, RS, 2017.

	Yes % (No.)	No % (No.)
1. Have you ever felt "craving" or a strong desire for alcohol or other drugs?	28.7 (154)	71.3 (383)
2. Have you ever needed to use more and more alcohol or drugs to get the desired effect?	12.7 (68)	87.3 (469)
3. Have you ever felt like you couldn't control your alcohol and drug use?	5.0 (27)	95.0 (510)
4. Have you ever felt that you were addicted or too involved in alcohol or drugs?	5.8 (31)	94.2 (506)
5. Have you ever stopped doing any activity because you spent a lot of money on drugs?	4.5 (24)	95.5 (513)
6. Have you ever broken rules or disobeyed laws by being "high" under the influence of alcohol or drugs?	10.4 (56)	89.6 (481)
7. Do you quickly change from very happy to very sad or from very sad to very happy because of drugs?	7.4 (40)	92.6 (497)
8. Have you been in a car accident after using alcohol or drugs?	0.9 (5)	99.1 (532)
9. Have you ever accidentally hurt yourself or someone else after using alcohol or drugs?	9.9 (53)	90.1 (484)
10. Have you ever had a serious argument or fight with a friend or family member over your alcohol or drug use?	11.7 (63)	88.3 (474)
11. Have you ever had relationship problems with one of your friends due to the use of alcohol or drugs?	12.7 (68)	87.3 (469)
12. Have you ever had withdrawal symptoms after using alcohol (eg, tremors, nausea, vomiting or headache)?	20.1 (108)	79.9 (429)
13. Have you ever had trouble remembering what you did while under the influence of drugs or alcohol?	25.9 (139)	74.1 (398)
14. Do you like "games" that involve drinking when you go to parties? (For example: "vira-vira"; bets to see who drinks faster or more; and others.)	38.9 (209)	61.1 (328)
15. Do you have problems resisting or using alcohol or drugs?	7.6 (41)	92.4 (496)
16. Have you ever told a lie?	64.1 (344)	35.9 (193)
Number of affirmative answers (median, p25-p75)	6.25 (6.25- 25%)	
No risk*	334	62.2%
With risk*	203	37.8%

Key: *The sample value may vary according to the number of valid responses from adolescents.

When analyzing the risk for substance use by students according to characteristics of family organization, no relationship with gender and whether they have the habit of talking during meals was observed ($p=0.59$ and $p=0.259$ respectively). However, those teenagers whose parents know what they do in their free time, who always have meals with their family and who eat daily are the teenagers who are least at risk for drug use (72% - $p<0.0001$, 66.5% and 65.5% respectively) (Table 5).

The main findings of the study indicate that, in the last 30 days, alcohol was the drug most mentioned by adolescents for use 1 to 2 times (25.2%), similarly it was identified as the drug of choice among students (7.4 %). Regarding behaviors related to drug use in the last 12 months, 37.8% were at risk for drug use, while 62.2% who did not show risk according to the absolute density.

The factors that proved to be protective for students are the fact that parents know what their children do in their free time, the habit of having family meals and the frequency with which they have these meals, and as this practice increases, it reduces the risk of adolescents engaging in risky behaviors.

Regarding teenagers whose parents know what they do in their free time, 72% were not at risk for drug use, in the same way as 66.5% and 63.3%, which corresponds to those teenagers who always eat with the family and who this practice occurs every day respectively, they did not present a risk for substance use.

Table 5. Relationship between the risk of drug use with variables, gender, characteristics and family practices of adolescents from Palmeira das Missões, RS, 2017.

		RISK FOR DRUG USE			P*
		No risk No. (%)	Risk No. (%)	Total No. (%)	
Gender	Female	183 (63.1)	107 (36.9)	290 (100)	0.59
	Male	145 (60.7)	94 (39.3)	239 (100)	
Guardians know what they do on their free time	Always	239 (72.0)	93 (28.0)	332 (100)	<0.0001
	Sometimes	92 (46.7)	105 (53.3)	197 (100)	
	Never	3 (37.5)	5 (62.5)	8 (100)	
Family usually have meals together	Always	244 (66.5)	123 (33.5)	367 (100)	0.006
	Sometimes	71 (51.1)	68 (48.9)	139 (100)	
	No	18 (60.0)	12 (40.0)	30 (100)	
Family Meals	Every day	247 (65.5)	130 (34.5)	377 (100)	0.027
	2 to 4 times a week	23 (46.9)	26 (53.1)	49 (100)	
	Once or twice a week	51 (61.4)	32 (38.6)	83 (100)	
	Never	9 (45.0)	11 (55.0)	20 (100)	
Talk to guardians during meals	Yes	303 (63.3)	176 (36.7)	479 (100)	0.259
	No	24 (54.5)	20 (45.5)	44 (100)	

* The chi-square test was used for analysis considering statistically significant differences $p < 0.05$. The sample value may vary according to the number of valid responses from adolescents.

DISCUSSION

The findings of the present study suggest that factors such as parents knowing what their children do in their free time and family practices related to family meals can help reduce the risk of involvement and problems related to drug use by adolescents.

There was a high consumption of alcohol (58.8%), which is frequent among studies with Brazilian adolescents³. The use of alcohol by adolescents is strongly associated with violent death, a drop in school performance, learning difficulties, impairment in the development and structuring of cognitive-behavioral and emotional skills¹⁹.

Although tobacco consumption has appeared in the last month in 16.7% of adolescents, this value is considered high in relation to national data (12.8%)²⁰. It is known that the average age of tobacco experimentation among young Brazilians is 16 years of age, for both boys and girls²¹.

According to the Brazilian National Survey of School Health (PeNSE)²², the highest frequency of experimentation with tobacco is observed in the Southern Region (24.9%). Some studies^{7,12} found alcohol as the most cited substance for use in the last month, 33% and 22.6% respectively, and low consumption of other drugs in general. Factors such as parents knowing what their children do in their free time and the adolescent always having their meals with the family had a protective effect for the adolescent in this study.

The fact of the consumption of painkillers and tranquilizers by adolescents without a medical prescription is worrying²³. According to some studies^{11,24,25}, the lack of parental supervision and monitoring of adolescents, as well as family distancing has contributed to the initiation of drug use by adolescents, meeting the results obtained in this study that showed that the fact of parents, knowing what their children do in their free time, protects adolescents from the use of these substances, highlighting the fundamental importance of family monitoring in distancing adolescents from drugs.

Adolescents who belong to more distant families, in which there is no family cohesion, lack of communication between parents and children leading to fragile bonds, increased conflicts and lack of affection between them, drive the increased risk of adolescents to get involved with alcohol and other drugs, as they make it difficult to establish and comply with rules and limits that may distance them from this context^{2,17,26}.

Another factor that can increase the risk is the parents' excessive affection, which can produce low control when confused with the children's permissiveness to use drugs¹¹. This

evidence contributes to the affirmation of the results obtained in this research, which showed that adolescents whose parents know what they do in their free time have a reduced risk of engaging in risky behavior.

On the other hand, families of adolescents with a well-defined and organized hierarchy, in which there are rules and limits established, in which the parents know what the child does in their free time, they know the friendship cycle that involves them and the parents do not have involvement with drugs tend to protect adolescents from adopting risky behavior such as drug use^{11,27,28}.

The family context in relation to interaction during meals has also been investigated, and the findings suggest that families that usually do activities together, such as sharing meals, provide adolescents with a moment of union and socialization, increasing connectivity between parents and children. This family connection is essential in the formation of a welcoming and protective environment, as, according to the results of this study, the fact that adolescents have regular meals with the family exerts a protective effect^{14,27-29}.

Frequent family meals are generally associated with better nutritional intake and positive family interactions, which provide an organized family environment. This practice, when started in childhood, can have positive repercussions, thus avoiding engaging in risky behaviors, as shared meals can provide the child or adolescent with the opportunity to talk to their parents about concerns or share them. Despite the fact that they talk or not during meals has not been protective, the issue of adolescents creating the habit of sharing their meals with the family, creating a daily ritual involving a pleasant and, at the same time, affective moment may have been important in the affirmation of the protective factor that family meals exerted for adolescents^{30,31}.

The present investigation brings results that are in line with the National Survey of Health of Schoolchildren^{14,22}, which demonstrated through questions that addressed family aspects such as family monitoring, parents know what their children do in their free time in the last 30 days, class without parental consent and at least one family meal, five or more times a week, had a protective effect for the adolescent.

Other studies^{15,32} have also found long-term positive effects of having family meals for adolescents, reducing the likelihood of drug use, acting as a protective factor. As the frequency of family meals increases, the risk for drug use by adolescents is reduced³³.

The rituals developed by families during meals and the behaviors repeated over time can build a sense of unity and identity that is particularly important during adolescent development. At that moment, the transmission of affective and cultural values in the family occurs, evidencing a family organization that spans generations^{14,15,34}. In this way, the family meal, in addition to becoming a reference for the teenager when they see their family around the table, can also serve to monitor parents with their children, making them feel valued, to the detriment of the interest of the family for their daily lives^{30,31}.

The Food Guide for the Brazilian Population³⁵ recommends having meals together, highlighting the numerous benefits that this practice can provide, such as creating opportunities and strengthening ties between family and friends and generating more pleasure with eating. For teenagers, this guide emphasizes that sharing meals can increase the sense of belonging, the creation of good habits and responsibility when the steps involved in preparing meals are shared by the whole family.

The creation of good habits, especially for children and teenagers, and the strengthening of bonds between people who like each other, as well as family meals, also protect the teenager from engaging in risky behavior such as drug use, as seen in this paper.

The Brazilian Society of Pediatrics³⁶ emphasizes that one of the main indicators of family life is related to the practice of having family meals and this habit represents a protective factor for adolescents. Therefore, as described in the Statute of the Child and Adolescent³⁷ (Law No. 8,069 of July 13, 1990 in force by Law No. 13,431 of 2017) in Article 22, sole paragraph, the

right of the adolescent to preserve and transmit the family values, which may include healthy practices such as sharing family meals.

CONCLUSION

There was a high consumption of alcohol and tobacco, as well as painkillers. However, there was an association between the habit and frequency of meals in the family and less use of drugs, exerting a protective effect for the adolescent, reducing the engagement in risk behaviors.

The aspects involved in this common habit in many homes should be further investigated, to understand the protective effect that the family meal has for this audience, that is, what happens before, during and after this sharing prevents the adoption of risky behavior, such as drug use.

The data collected in this research should be analyzed with caution, given the specific limitations of cross-sectional studies and the fact that a pilot study was not carried out to avoid possible flaws, such as misinterpretation of questions throughout the research, also due to the fact that most students belong to schools located in the central region of the municipality, with only one of these in the peripheral region and absence of schools in the countryside. Another limiting factor resides in the fact that the prevalence of substance use has been underestimated when investigating socially illegal behaviors, and the anonymous self-completion of the questionnaire can reduce the impact of this bias.

Thus, this study should be explored for the formulation of realistic strategies that will cultivate and encourage the population's habit of having family meals, given the context in which they live, in order to promote the healthy development of adolescents, as well as distance them from illegal practices that could reflect negatively on your future. Therefore, guidelines from these perspectives can be part of a strategy in the context of health education, both at school and in primary health care.

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CONTRIBUTIONS

Veridiana de Oliveira do Amaral Cassel participated in the design, collection and analysis of data and writing. **Daniela Paini** contributed to the writing and revision. **Vanessa Ramos Kirsten** collaborated in the design, collection and analysis of data, writing and review.

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