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RESEARCH ARTICLE (ORIGINAL)

The lifestyles of Portuguese adolescents: Use of the FANTÁSTICO questionnaire

Estilos de vida em adolescentes portugueses: Aplicação do FANTASTICO
Estilos de vida en adolescentes portugueses: Aplicación del FANTASTICO

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Abstract
Background: The transition to the second cycle of basic education is characterized by several changes that present adolescents with different social, emotional, and relational challenges that are likely to influence their healthy lifestyles.
Objective: To describe the lifestyles of adolescents attending the second cycle of basic education in the Autonomous Region of Madeira, Portugal.
Methodology: A cross-sectional descriptive-correlational study was conducted with a probability sample of 170 adolescents from five schools in the Madeira Archipelago, using the FANTÁSTICO questionnaire.
Results: The participants were mostly adolescents aged 10 years (77.10%). The lifestyle measurement revealed that 56.5% of the participants were at the "Very Good" level. The dimensions with the least positive scores were "Physical and Social Activity," "Insight," "Nutrition" and "Health Control and Sexuality."
Conclusion: Assessing the lifestyles of adolescents allowed the characterization of this population and the identification of intervention *foci* that were considered highly relevant for the implementation of health promotion interventions.

Keywords: life style; adolescent; health promotion; school health services; public health nursing

Resumo
Enquadramento: A transição escolar para o segundo ciclo no ensino básico, caracteriza-se por várias mudanças sobre as quais os adolescentes experienciam diversos desafios sociais, emocionais e relacionais que são passiveis de influenciar o seu estilo de vida saudável.
Objetivo: Caracterizar o estilo de vida dos adolescentes que frequentam o segundo ciclo do ensino básico na Região Autónoma da Madeira.
Metodologia: Estudo descritivo-correlacional, transversal, amostra probabilística de 170 adolescentes de cinco escolas do Arquipélago da Madeira, com recurso ao instrumento O Meu Estilo de Vida FANTASTICO.
Resultados: Participantes, maioritariamente adolescentes com 10 anos de idade (77,10%). A mensuração do estilo de vida revelou que 56,5% deles, se posiciona no nível Muito Bom. As áreas menos positivas referem-se à Atividade Física e Social, Imagem Interior, Nutrição e ainda ao nível do Controlo da Saúde e Sexualidade.
Conclusão: A avaliação dos Estilos de Vida dos adolescentes permitiu caraterizar este grupo populacional, dando origem a focos de intervenção considerados extremamente relevantes para a implementação de intervenções de promoção da saúde.

Palavras-chave: estilo de vida; adolescente; promoção da saúde; serviços de saúde escolar; enfermagem em saúde pública

Resumen
Marco contextual: La transición a la enseñanza secundaria se caracteriza por una serie de cambios en los que los adolescentes experimentan diversos retos sociales, emocionales y relacionales que probablemente influyan en su estilo de vida saludable.
Objetivo: Caracterizar el estilo de vida de los adolescentes que cursan el segundo ciclo de enseñanza básica en la Región Autónoma de Madeira.
Metodología: Estudio descriptivo-correlacional, transversal, muestra probabilística de 170 adolescentes de cinco escuelas del archipiélago de Madeira, que utilizó el instrumento O Meu Estilo de Vida FANTASTICO.
Resultados: Los participantes fueron en su mayoría adolescentes de 10 años (77,10%). La medición del estilo de vida mostró que el 56,5% se situaba en el nivel Muy Bueno. Las áreas menos positivas fueron Actividad física y social, Imagen interior, Nutrición y control de la salud, y Sexualidad.
Conclusión: La evaluación de los estilos de vida de los adolescentes permitió caracterizar a este grupo de población, lo que dio lugar a focos de intervención considerados de gran relevancia para la puesta en marcha de intervenciones de promoción de la salud.

Palabras clave: estilo de vida; adolescentes; promoción de la salud; servicios de salud escolar; enfermería de salud pública

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Introduction

In a world where social demands and the resulting changes in human behavior are increasingly acute, the challenges of strengthening and maintaining health are a real concern for health professionals working in health promotion and disease prevention.
Science posits that the earlier interventions are implemented, the better the health outcomes will be (Duarte et al., 2022). For this reason, it is crucial to carry out population characterization studies aimed at establishing diagnoses. This is especially true in terms of the lifestyles of adolescents and the subsequent implementation of intervention strategies adapted to the needs of this population.
Adolescents' lifestyles will influence their adulthood, thus the adoption of healthy lifestyles by school-aged adolescents plays a fundamental role in their overall development. Moreover, the promotion of healthy habits from an early age has a lasting positive impact on adolescents' physical, mental, emotional, and social health, as well as their academic performance (Hormigo, 2019).
Therefore, there is a real need to characterize the lifestyles of adolescents in the context of school health and, consequently, to make a diagnosis of their situation as an important public health nursing activity.
For this reason, in order to make a community health diagnosis in this area, our study aimed to describe the lifestyles of adolescents attending the second cycle of basic education in the Autonomous Region of Madeira (ARM).

Background

Global health inequalities lead to many differences in the health care that is (or should be) available to children around the world. The United Nations Convention on the Rights of the Child establishes children's right to health protection and care in several articles (Organização das Nações Unidas, 1989).
Childhood obesity stands out as the "silent epidemic" among the various urgent areas of intervention for children at the European level. Moreover, according to the European Regional Report on overweight and obesity, the "alarming" situation is expected to worsen (Organização Mundial de Saúde, 2022), and, if current trends continue, the number of obese children is expected to increase by 61% between 2020 and 2035 (Federação Mundial da Obesidade, 2023).
The Portuguese study conducted as part of the Health Behavior in School-aged Children (HBSC) cross-national study (Guedes et al., 2022), based on the self-perceived health of children and adolescents attending school, identified several urgent areas for intervention, namely mental health and physical health, including nutrition and physical activity. The study also highlighted the importance of addressing problems related to substance and non-substance addictions, namely the use of psychoactive substances and online and gaming addictions, which are occurring at an increasingly younger age (Leidy & Gwin, 2020).
In the ARM, despite the existence of some health programs aimed at adolescents, there are no scientific studies that globally describe the reality of the lifestyles of this population.
The FANTASTIC instrument has been used worldwide in different practical and scientific contexts to assess adolescents' lifestyles with a high degree of internal reliability (Wilson et al., 1984; Loiza et al., 2015). A Portuguese version of the instrument named *O Meu Estilo de Vida FANTÁSTICO* ([FANTÁSTICO] Rodrigues-Pires et al., 2023) has been validated for preadolescents, along with an adult version named *Estilo de Vida Fantástico* (Silva et al., 2014).
Both instruments contain 30 questions, with three response options rated from 0 to 2. They are divided into 10 dimensions: F = Family and Friends; A = Physical and Social Activity; N = Nutrition; T = Toxics; A = Alcohol; S = Sleep and Stress; T = Type of Personality and Academic Satisfaction; I = Insight; C = Health Control and Sexuality; and
O = Order (Rodrigues-Pires, Festas, Amado, Neves-Amado, & Almeida, 2023; Silva, Brito, & Amado, 2014).
The lifestyles are assessed by adding the answers obtained and multiplying by two. The interpretation is based on the following intervals and explanation of the framework: 103-120 (Excellent) – "Congratulations, you have a fantastic lifestyle"; 85-102 (Very Good) – "Good job, you are on the right track"; 73-84 (Good) – "Adequate, you are fine"; 47-72 (Fair) – "Somewhat low, you could improve"; and 0-46 (Needs Improvement) – "You are in the danger zone, but your honesty is very valuable" (Rodrigues-Pires et al., 2023).
Nursing stands out among the different sciences that can and are qualified to work with the subject under study. For this reason, it is crucial to define the role of the school nurse as a member of the community with differentiated training in the field of lifestyles and who is very close to the school health context. It is also worth noting that the educational contexts where children are integrated recognize the skills of school nurses, with whom they have established a close relationship and to whom they often resort.

Research question

To describe the lifestyles of adolescents attending the second cycle of basic education in the ARM, identifying potential health problems.

Methodology

A descriptive-exploratory cross-sectional study with a quantitative approach was conducted on a sample of adolescents attending the second cycle of basic education in the ARM.
In order for the study to be representative of both urban and rural areas, a simple random probability sampling technique was used, including all schools in the ARM.

To this end, a formal request was made to the Regional Department of Education of the ARM for the number of schools with adolescents in Year 5 and the corresponding number of students in each class. Four public schools in urban municipalities and four public schools in rural municipalities were selected according to the classification of the National Statistics Institute (INE, 2014) for the Madeira Archipelago.

Due to the difference in population density between the island of Porto Santo and the island of Madeira, and the fact that Porto Santo has its cultural context, where adolescents come into contact with many adolescents from different parts of the world during the high tourist season, it was decided to include in the study all Year 5 classes of the only school in Porto Santo.

Personal contact was made by the investigator with the school administrations and, after obtaining their agreement, direct contact was made with the head teachers of the selected classes to determine the best time to administer the assessment instrument.

The head teachers gave each student an informed consent form which, after being read and signed by the parents/guardians, was returned to the investigator. Only those students who returned the informed consent form signed by them and their parents/guardians participated in the study.

Data were collected using an instrument composed of a first part with the sociodemographic characterization of the participant and a second part with the *FANTÁSTICO* questionnaire (Rodrigues-Pires et al., 2023). The instrument was self-administered in the classroom using a specific software tool on the Qualtrics platform, in the presence of the investigator and the head teacher of each class.

The study sample consisted of 170 adolescents attending the second cycle of basic education in schools located in the ARM. Of the nine schools selected through the sampling technique, only five could be included in the study because of the COVID-19 pandemic restrictions that were in place at the time of data collection.

All the necessary approvals to conduct the study were obtained, namely the approval of the Health Ethics Committee of the Health Service of the ARM ([SESARAM] Opinion No. 11/2019), the approval of the Regional Department of Education of the ARM, the approval of the author of the instrument used, and the informed consent of the participants and their parents/guardians. The guidelines of the General Data Protection Regulation were followed, respecting the confidentiality and anonymity of the data collected. There were no refusals to participate in the study. Anonymity was guaranteed by implementing an operational strategy in collaboration with the schools, according to which each student was given a unique code known only to the student and the school administrations. The codes were kept in a secure location in the schools and were never revealed to the investigators.

Data were analyzed using IBM SPSS Statistics software, version 29.0, and descriptive analysis and parametric statistical analysis (t-Student) were performed to test for correlation in independent samples.

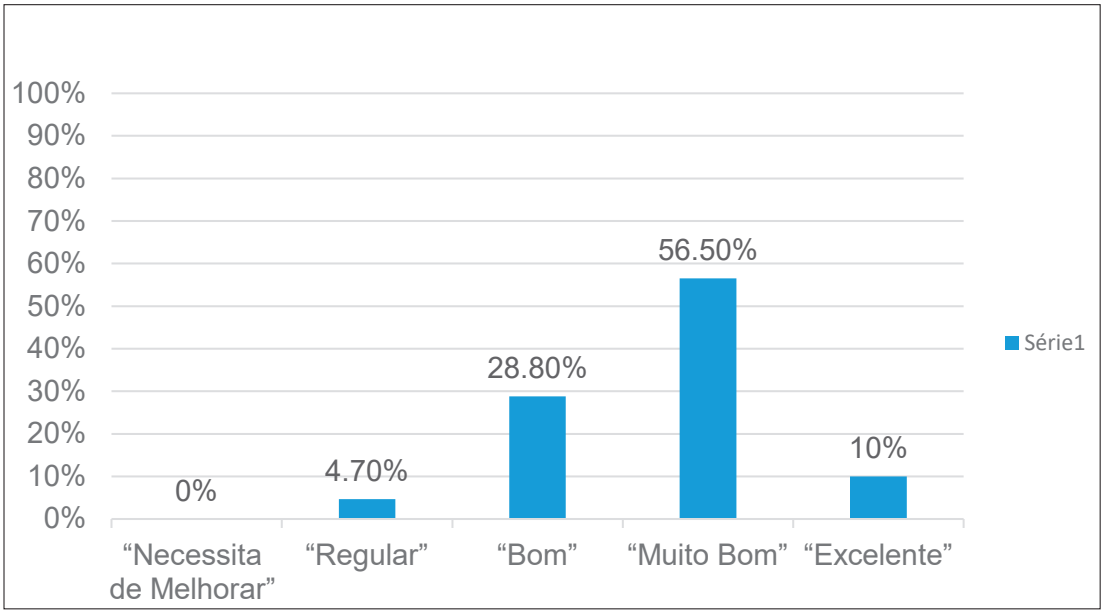
Results

The age of the participants ranged from 9 to 12 years, with the majority being 10 years old (77.10%). A similar distribution was observed in terms of sex, with most of the respondents (52.40%) being male.

After measuring the lifestyle of the participants, our study concluded that no adolescent had a score below 46 points, which would fall into the "danger zone". The distribution of the total score varied in the different categories (Figure 1), with an overall mean score of 90.11± 9.27 points, and the majority of participants (56.5%) achieving the "Very Good" level (85-102 points).

Figure 1

Sample Distribution by Total Score of Lifestyle



Note. Needs Improvement (0-46 points); *Fair* (47-72 points); *Good* (73-84 points); *Very Good* (85-102 points); *Excellent* (103-120 points).

Concerning the other total scores obtained, the lifestyles of 28.8% of the participants reached the level of *Good* and 4.7% reached the level of *Fair*.

Since not all the subscales have the same number of items, we decided to average the responses for each subscale in a range from 0 to 2 to be able to correlate and compare them.

Pearson's correlation of the subscales with the total score of the instrument showed that although the correlations were weak, they were all statistically significant. The dimensions Family and Friends, Toxics and Type of Personality and Academic Satisfaction had a significant negative correlation with the total score of the instrument (Table 1), indicating that these are the dimensions that most negatively influenced the lifestyles of the adolescents in our study.

Table 1

Correlation of Subscale Means with the Total Score

	FANTÁSTICO Total Score	
	r	*Sig.*
Family and friends	-0.188*	<0.001
Physical and Social Activity	-0.074	<0.001
Nutrition	-0.015	<0.001
Toxics	-0.167*	<0.001
Alcohol	-0.069	<0.001
Sleep and stress	0.090	<0.001
Type of personality and academic satisfaction	-0.164*	<0.001
Insight	0.111	<0.001
Health Control and Sexuality	-0.054	<0.001
Order	-0.087	<0.001

Note. r = Pearson's correlation; *Sig.* = significance level.
*Correlation is significant at 0.05 level (2-tailed).

The assessment of the participants' lifestyles according to the subscales showed that most of them had higher means (above 1.5) in the dimensions Family and Friends, Toxics, Alcohol, Sleep and Stress, Type of Personality and Academic Satisfaction, and Order. On the other hand, the dimensions with the lowest mean scores (below 1.5) were Activity: Physical and Social, Insight, Nutrition and Control of Health and Sexuality (Table 2).

Although not statistically significant, $t(df) = 0.037(168)$, $p = 0.257$, a small difference in lifestyle means was noted between the two sexes, with boys having a higher healthy lifestyle mean (90.13) than girls (90.07).

In terms of age, although also not statistically significant, $t(df) = 1.369(168)$, $p = 0.546$, younger adolescents (between 9 and 10 years old) had higher means for healthy lifestyles (90.69) than older students (between 11 and 12 years old), who had lower means for healthy lifestyles (88.00).

Looking at each of the FANTÁSTICO items (Figure 2), an overall trend toward healthy behaviors was observed. However, some areas of potential health risk were identified in terms of diet, exercise, sleep, mental health, and taking medication without an adult's knowledge.

Our study also found that 25.3% of the sample did not exercise regularly, 52.9% thought they only sometimes ate a well-balanced and diversified diet, 26.5% had taken medication without an adult's permission, and 50.6% thought they never slept well and did not feel rested when they woke up.

Concerning lifestyle factors that may affect mental health, 73.5% of the participants reported that they could always relax and enjoy their free time, 43.5% of them sometimes felt upset and/or angry for no reason, 42.9% sometimes felt pressured, physically attacked or verbally abused by their colleagues, 62.9% sometimes felt stressed, and 61.2% sometimes felt depressed or sad.

In terms of Control of Health and sexuality, 2.4% of participants did not regularly attend health check-ups and 62.4% never discussed sexuality issues with their families.

Figure 2

Evaluation of the FANTÁSTICO questionnaire item by item

F	A	N	T	A	S	T	I	C	O
Family and Friends	Activity: Physical and Social	Nutrition	Toxics	Alcohol	Sleep and stress	Type of personality and academic satisfaction	Insight	Control of Health and Sexuality	Order
1. I have someone to talk to about things that are important to me. Always 72,9 % (124) Sometimes 22,9 % (39) Never 4,1 % (7) 2. I give affection. Always 35,9 % (61) Sometimes 64,1 % (69) Never 0 % (0) 3. I receive affection. Always 64,7 % (110) Sometimes 34,7 % (59) Never 0,6 % (1)	4. I am a member of a group or organization (e.g., scouts, red cross, sports, religious, music, theater). Always 46,5 % (79) Sometimes 21,2 % (36) Never 32,4 % (55) 5. In the past week, I engaged in such vigorous physical activity for 30 minutes that I experienced a racing heart and felt tired. 5 or more times 30,6 % (52) 2 to 4 times 44,1 % (75) 0 to 1 time 25,3 % (43)	6. Never eat a balanced diet. Always 46,5 % (79) Sometimes 52,9 % (90) Never 0,6 % (1) 7. Every day, I have at least breakfast, lunch, and dinner. Always 89,4 % (152) Sometimes 8,8 % (15) Almost never 1,8 % (3) 8. I often eat excess sugar, salt, fat, sweets, and fast food (e.g., burgers, pizza, and chips). None of these 17,6 % (30) Some of these 77,1 % (131) All of these 5,3 % (9) 9. I weigh myself regularly Always 17,6% (30) Sometimes 68,8 % (117) Almost neverr 13,5% (23)	10. I have tried smoking. Never 99,4 % (169) Sometimes 0 % (0) Always 0,6% (1) 11. I have already taken medicine on my own without the permission of an adult (e.g., parent, guardian, teacher, or health care professional). Never 71,8 % (122) Sometimes 26,5 % (45) Always 1,8 % (3) 12. I drink caffeine-containing drinks (e.g., coffee, cola, or energy drinks). Less than 3 a day 82,9 % (141) From 3 to 6 a day 15,3 % (26) More than 6 a day 1,8% (3)	13. I have consumed alcoholic beverages in the past 6 months (e.g., beer, wine, sangria or poncha [traditional drinks], shots). 0 times 95,9 % (163) 1 to 3 times 4,1 % (7) More than 3 times 0 % (0) 14. I think alcoholic beverages are harmful. Always 87,1 % (148) Sometimes 7,1 % (12) Never 5,9 % (10) 15. The people I live with drink alcoholic beverages. Never 28,8 % (49) Sometimes 68,8 % (117) Always 2,4 % (4)	16. I sleep well and I feel rested when I wake up. Never 50,6 % (86) Sometimes 43,5 % (74) Always 5,9 % (10) 17. I can deal with stressful situations and find solutions easily. Always 36,5 % (62) Sometimes 60,6 % (103) Never 2,9 % (5) 18. I relax and enjoy leisure time. Always 73,5 % (125) Sometimes 26,5 % (45) Never 0 % (0)	19. I get irritated or angry without reason. Never 52,9 % (90) Sometimes 43,5 % (74) Always 3,5 % (6) 20. I am in a good mood, happy and energetic. Never 1,2 % (2) Sometimes 46,5 % (79) Always 52,4 % (89) 21. I am satisfied with my studies. Never 1,8 % (3) Sometimes 42,4 % (72) Always 55,9 % (95) 22. I have felt pressured, physically assaulted, or verbally abused by my colleagues. Never 53,5 % (91) Sometimes 42,9 % (73) Always 3,5 % (6)	23. I am a positive or optimistic thinker. Always 50,0 % (85) Sometimes 47,6 % (81) Never 2,4 % (4) 24. I feel tense or uptight. Never 35,3 % (60) Sometimes 62,9 % (107) Always 1,8 % (3) 25. I feel sad or depressed. Never 2,4 % (4) Sometimes 61,2 % (104) Always 2,4 % (4)	26. I undergo health check-ups periodically (e.g., medical, nursing, nutrition, dental consultations). Always 58,2 % (99) Sometimes 39,4 % (67) Never 2,4 % (4) 27. I talk to my family about sexuality. Always 14,1 % (24) Sometimes 23,5 % (40) Never 62,4 % (106) 28. I accept myself as I am, and I am satisfied with body image or how I see myself. Always 75,9 % (129) Sometimes 21,2 % (36) Never 2,9 % (5)	29. I can manage my day-to-day responsibilities. Always 48,2 % (82) Sometimes 49,4 % (84) Nunca 2,4 % (4) 30. I respect traffic rules (e.g., I wear seatbelts and respect traffic lights, pedestrian crossings and bridges). Always 87,6 % (149) Sometimes 11,8 % (20) Never 0,6 % (1)
x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)	x̄ (S)
1,68 (0,48)	1,10 (0,60)	1,36 (0,39)	1,94 (0,25)	1,87 (0,34)	1,57 (0,50)	1,55 (0,44)	1,34 (0,50)	1,48 (0,57)	1,66 (0,33)

Discussion

Our study aimed to describe the lifestyles of adolescents attending the second cycle of basic education in the ARM. The sample consisted of 170 adolescents from different schools, including rural and urban areas. The results show that although most of the participants have an overall good lifestyle, some of them present variations that need to be taken into account if they are going to grow up healthy.

The small difference in the mean of healthy lifestyles between girls (90.07) and boys (90.13) may be explained by the socio-affective precocity of girls and the resulting behavioral modeling. The same reasoning can be applied to age, from younger to older.

The collected data reveal that the dimensions that most negatively influence adolescents' lifestyles are those associated with the following factors: family and friends, the use of medication without an adult's recommendation,

experimentation with alcohol and tobacco, and aspects related to the type of personality and academic satisfaction. These findings are consistent with current concerns about the relationship between adolescents' lifestyles and emotional and behavioral problems (Freitas et al., 2023).
The assessment of regular physical activity reveals that 25.3% of the participants did not engage in any physical activity or engaged in physical activity for at least 30 minutes only once in the past seven days. Similarly, in the recent HBSC study conducted in Portugal, 4.8% of children and adolescents did no physical activity in the past seven days (Guedes et al., 2022). Taken together, these findings reveal the reality of a sedentary lifestyle among young people that begins at an early age.
In close relation to this, our study shows that 52.9% of its participants believe that they only sometimes eat a well-balanced and diversified diet, a percentage that is in line with international studies. This finding also shows that it is increasingly common for younger populations to eat a less diversified and well-balanced diet, an issue that is compounded by the increasing problem of processed food consumption (Woods et al., 2023).
In terms of assessing "Toxics," 26.5% of adolescents report having taken medication without an adult's permission. Although this percentage is not directly comparable with that of the HBSC study in Portugal, which reported that 38.7% of its participants took medication without a medical prescription (Guedes et al., 2022), both findings support the development of nursing intervention *foci* at the child and school health levels.
Sleeping habits are also a current concern at younger ages. One of the most common lifestyle changes during the transition to adolescence is a decrease in the number of hours of sleep, as well as a reduction in sleep quality (Sevilla-Vera et al., 2021). In our study, 50.6% of adolescents feel that they do not sleep well and wake up without feeling rested. According to the HBSC (Guedes et al., 2022), from 2018 to 2022, there was an increase from 39.2% to 46.2% in the number of adolescents who reported sleeping less than 8 hours per night during the week.
In terms of lifestyles that can affect mental health, 42.9% of adolescents say that they sometimes feel pressured, physically attacked, or verbally abused by their peers. The data obtained nationally show that 18.9% of adolescents have been the target of bullying/provocative behavior at least once a week, taking into account that bullying is not when two people with approximately equal strength or power argue or fight (Guedes et al., 2022). At the international level, the same variable reached 20% (Sánchez & Gualteros, 2023).
The dimension "Sleep and Stress" reveals that 62.9% of adolescents consider that they sometimes feel stressed. This percentage is much higher than the 30% found in a study carried out in Colombia with the same instrument in the same age group (Sánchez & Gualteros, 2023).
When evaluating the parameters related to sexuality, 62.4% of the adolescents consider that they never talk about sexuality with their family. This is strongly related to their social and cultural contexts. Nevertheless, the literature recognizes that it is crucial to work on these issues from an early age in order to reduce problems related to the sexual and emotional health of populations (Alencar et al., 2023).
Regarding the external validity of the results, since our study was conducted during the COVID-19 pandemic, it was not possible to include the desired number of students, which affected the sample size and limited our study.
The fact that the instrument used to assess addictions focused only on substance addictions and did not include non-substance addictions (i.e., screen addictions, online addictions, gaming addictions, etc.) also limited our study. We recommend that future studies aimed at assessing lifestyles should include this new variable, which is particularly relevant in light of the current technological evolution.
All the data presented represent nursing *foci* and serve as a basis for making diagnoses and, consequently, implementing nursing actions/interventions.

Conclusion

The periods of childhood and adolescence are critical for personal growth and development. At this periods, physical, social, psychological, and emotional health problems are increasingly concerning health professionals, who should act as a lever for the development of physical and psychological empowerment interventions for health, resilience, and well-being.
The FANTÁSTICO questionnaire proved to be an interesting and versatile measurement instrument because, in addition to assessing the adolescents' lifestyles, it also provided them with immediate feedback on their lifestyles, congratulating those with the highest scores and positively encouraging those with the lowest scores to reflect on their lifestyles.
The internal validity of the data shows a characterization of the lifestyles of students in the second cycle of basic education, and specifically highlights priority areas for health interventions, both in terms of individual child health consultations and in the context of school-based interventions carried out by nurses.
Based on the diagnosis made of the situation, the need exists to develop interventions/programs capable of empowering adolescents to make decisions about their options and adopt healthier lifestyles.

Author contributions
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Writing – Review & Editing: Rodrigues-Pires, F., Festas, C., Amado, J.

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