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Behaviour and Health: A Cross-Sectional Study between a Basic Teaching School and a Professional School

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ABSTRACT *The feeding habits acquired during childhood and adolescence have important implications on the health state of individuals, and their physical and emotional well-being. According to WHO (1993), one of the most serious problems that young people face is the excessive consumption of certain types of food that are less healthy. On the other side, physical activity contributes for the reduction of cardiovascular risk diseases (Ogden, 2004). We expect the study to contribute for the reduction of risk behaviours that are more and more threatening teenagers' health, and could encourage young people to keep high levels of health habits. The purpose of the study was to investigate the life-style of a sample of young students and target the following specific objectives: (i) to identify their feeding habits; (ii) to identify their leisure activities; (iii) to classify the type of their physical activity; (iv) to investigate their tobacco consumption, alcoholic drinking, illegal drugs consumption, and sexual behaviour; and (v) to identify issues that should be dealt with in health education. Results provided some insights of how to improve students' life-styles, by incorporating respective materials into teachers' training programmes.*

KEY WORDS: *Adolescence, healthy behaviour, health risk, well-being.*

Introduction

Health-related behaviour has been defined as actions carried out by individuals who perceive themselves as being healthy, hoping to prevent the onset of illness or disease (Kasl & Cobb, 1966). This definition of health-related behaviour includes only actions of preventive nature. In order to include other types of actions, particularly those relating to treatment or rehabilitation, two other types of health-related behaviour have been presented (Ogden, 1996). These behaviours are "*illness behaviour*" and "*sick role behaviour.*" *Illness behaviour* is defined as behaviour for reducing ailment, that is, it consists of actions that are carried out by individuals who feel somehow disturbed by the signs or symptoms of illness, causing doubts about their health condition, and hoping to find solutions to their problems. *Sick role behaviour* is defined as behaviour for reducing indisposition and consists of actions carried out by individuals who are ill and hope to recover their health condition.

Health-related behaviour is also classified as positive and negative behaviour (Ogden, 1996; Tones & Tilford, 1994). The positive health-related behaviour includes such actions as wearing the seatbelt, getting enough hours of sleep, doing physical exercise, having good hygiene habits, etc. (Tones, 1995; Ogden, 1996). These types of health-related behaviour include activities that contribute to promote health, protect against the risk of accidents, and detect illness or deficiency at the beginning stage (Steptoe & Wardle, 1996). Besides, this positive health-related behaviour also includes community and social actions that aim at decreasing the levels of risk management. The positive types of health-related behaviour can also be found in the literature as health protection types of behaviour (Matarazzo, 1984).

The negative types of health-related behaviour include actions, such as, tobacco and alcohol use, high-fat diet, etc. (Ogden, 1996; OMS, 2001). These types of health-related behaviour are a health risk and affect any activity carried out by individuals, with such a frequency or intensity that leads to an increase of the risk of illness or accident (Steptoe & Wardle, 1996). These actions are considered to be of risk, whether there is an awareness or not of the relationship between behaviour and its possible consequences. The negative types of health-related behaviour can also be found in the literature as harmful health habits (Matarazzo, 1984).

The relationship between health and behaviour gained importance in the second half of the 20th century. Its relationship with mortality, morbidity, and health has been described several times (Kolbe, 1988; Armstrong, 1988). In most research that has been done, the term "life-style" often appears as a synonym for behaviour.

One of the studies that has had a great impact on our notions of health and illness was carried out by Belloc, Breslow, and Hochstim (1971), and became known as the Alameda study. This study was carried out in California in the 1970s and it became an important landmark in the knowledge of the role of health-related behaviour in the processes of health and illness. It included a sample of 6928 American adults and it was concluded that seven healthy habits or practices were closely linked to the health of Americans: sleeping 7-8 hours a day; eating breakfast every day; eating balanced meals and avoiding snacks; eating moderately in order to maintain a stable weight; not smoking; moderate consumption or abstinence from alcohol; practising physical exercise regularly.

The aim of the present study was to investigate the life-style of a sample of young students of the Northern region of Portugal, and target the following specific objectives: (i) to identify their feeding habits; (ii) to identify their leisure activities; (iii) to classify the type of their physical activity; (iv) to investigate their consumption of tobacco, alcoholic drinking, and illegal drugs and their sexual behaviour; and (v) to identify issues that should be dealt with in health education.

Materials and Methods

The present study is a descriptive cross-sectional study. The data was collected by a questionnaire administered on line in a way that anonymity was guaranteed, and in no moment we ask for the identity of the participants. The sample consisted of 95 students that voluntarily answered to the questionnaire, 42.1% (40) from a basic teaching school (school A) and 57.9% (55) from a professional school (school B), both placed in Douro Region. The participants from School A were 22

(55.0%) females and 18 (45.0%) males. The average age of the participants was 11.50 years, with a standard deviation of 1.34 years. The participants from School B were 31 (56.4%) females and 24 (43.6%) males. Their average age was 17.76 years with a standard deviation of 1.83 years. The schools sent us the data electronically. The data were introduced and treated in a set up database of Statistical Package (SPSS). Differences between samples were assumed when $p.<0,05$.

Results

Feeding

The students of school A had the first meal between 7.15 a.m. and 12.30 p.m., which in large majority was the breakfast (90%), while the students of school B had the same meal between 6.30 a.m. and 1.20 p.m., and for 94.5% of them was the breakfast. In this school, some students have the first meal earlier than those in school A and others have it latter. Everyday students of school A had breakfast, lunch, and dinner, on a percentage of 85%, 100% and 100%, respectively. Students of school B also had breakfast, lunch, and dinner, but the respective percentages were 67.2%, 83.6%, and 80%, as shown in Figure 1. In school B, the students failed meals more frequently. The school A students who were living farther from school were those who had breakfast more times (Kruskal Wallis, $p. =0,033$).

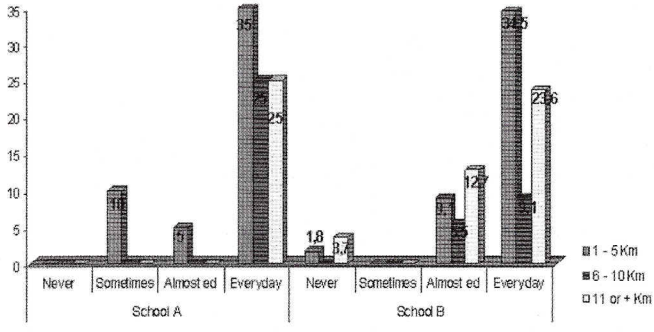

Figure 1. Breakfast Frequency for Participants from the Two Schools.

Regarding the types of food students used to eat, school A students consumed everyday 25%, 20%, and 65% of fruits, vegetables, and milk, respectively, and only 5% of them consumed cakes (Figure 2). In school B, students consumed everyday 21.8%, 10.9%, and 38.2% of fruits, vegetables, and milk, respectively, and 14.5% of them used to eat cakes. Only a few students from both schools consumed regular-

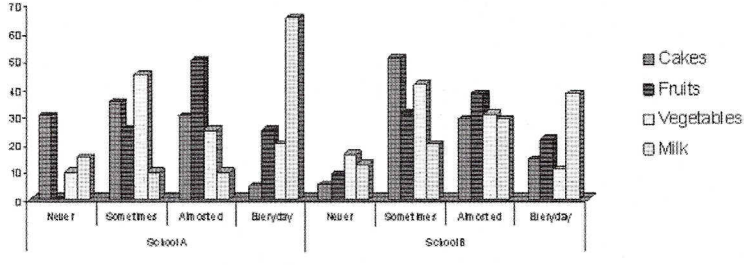

Figure 2. Food Consumption Frequency for Participants from the Two Schools.

ly protective food, and, in school B, only a few students used to drink milk and many of them used to eat cakes (Figure 2). In this school, boys consumed vegetables more times a week than girls (Mann Whitney, *p.* = 0,019).

Body Mass Index

Body Mass Index (BMI = w/h²) is a number calculated from a child's weight and height. BMI is a reliable indicator of body fatness for most children and teens. BMI does not measure body fat directly, but research has shown that BMI correlates to direct measures of body fat. Thus, BMI can be considered an alternative for direct measures of body fat. BMI is used as a screening tool to identify possible weight problems for children. However, BMI in not a diagnostic tool (Division of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health promotion, 2007).

In school A, there were 40% of thin students and 15% had weight excess, but no cases of obesity were found. In school B, there were 12.7% of weight excess students, 9.1% were thin, and 1.8% showed obesity. While in the first case, the problem was the low weight, in the second case, the problem was the weight excess and the obesity. Figure 3 presents the percentages of the body mass index.

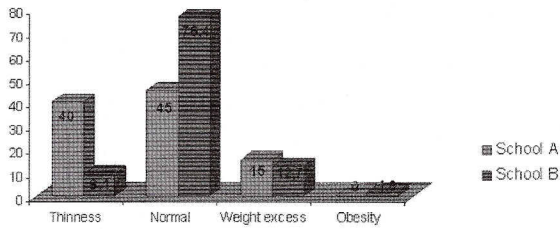

Figure 3. Body Mass Index for Participants from the Two Schools.

Tobacco Consumption

In *school A*, the male students never consumed tobacco, whereas 10% of the female students did so (Figure 4). The average age of initiation was 13 ± 1.15 years. In the last 30 days, they smoked once a month. In *school B*, 30.9% of the male students and 40% of the female students consumed tobacco (Figure 4). The average age of initiation was 14.54 ± 1.60 years. In the last 30 days, 25.7% smoked everyday, 10.3% at the weekend, and 7.7% twice a month.

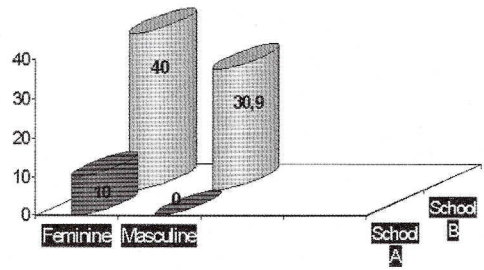

Figure 4. Tobacco Consumption by Participants from the Two Schools.

Alcoholic Drinks Consumption

In s*chool A,* 15% of the male students and 5% of the female students consumed alcoholic drinks (Figure 5). The average age of initiation was 10.5 ± 1.60 years. In the last 30 days, they consumed once a month, being wine the consumed drink. In s*chool B,* 43.6% of the male students and 54.5% of the female students consumed alcoholic drinks (Figure 5). The average age of initiation was 14.54 ± 1.41 years. In the last 30 days, 38.9% consumed once a month, 22.2% once a weekend, 14.8% twice a month, and 11.1% twice a week, and the most consumed drink was beer (67.3%), followed by white drinks (25%), and wine (7.7%).

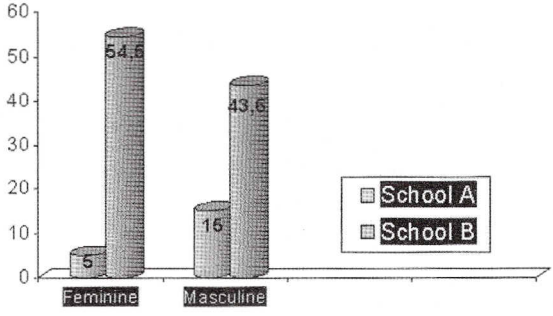

Figure 5. Alcoholic Drinks Consumption by Participants from the Two Schools.

Illegal Drugs' Consumption

As we can see in Figure 6, male and female students in *school A* never consumed illegal drugs and, in s*chool B,* 14.5% of the male students and 12.7% of the female students consumed illegal drugs. The average age of initiation was 15.47 ± 1.68 years. In the last 30 days, 42.9% consumed once a month, 14.3% twice a month, and 7.1% at the weekend, being cannabis the usual consumed substance.

Sexual Intercourse

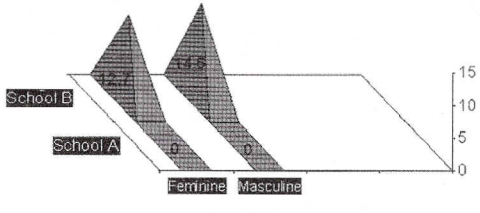

Figure 6. Illegal Drugs Consumption by Participants from the Two Schools.

We observed in S*chool A that* male and female students never had sexual intercourse (Figure 7), while, in S*chool B,* 27.3% of the male students and 21.8% of the female students had sexual intercourse (Figure 7). The average age of initiation was 17.29 ± 1.6 years and 33.2% of the youth did not use measures of protection in the sexual intercourse. Figure 7 presents the percentage of the sexual intercourse.

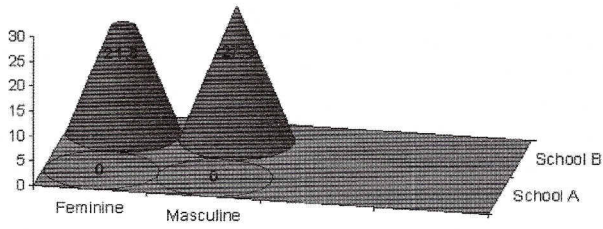

Figure 7. Sexual Intercourse by Participants from the Two Schools.

Physical Activity

In terms of physical activity, in *school A,* 5% of the male students practiced physical activity, whereas the female students did not do so (Figure 8). In *school B,* 34.5% of the male students and 25.5% of the female students practiced physical activity (Figure 8). In this school, the majority of students (60%) were involved in physical activity predominantly twice a week (29.1%), in contrast with only 5% of school A students, who also practiced exercise twice a week. In school B, the boys were involved in physical activity in average, more often than the girls ($x2$, p=0,014).

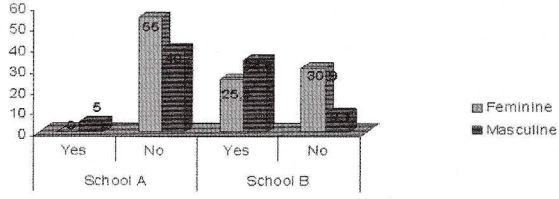

Figure 8. Physical Activity by Participants from the Two Schools.

Leisure Activities

The leisure activities of school A students were mainly watch TV (90%), use Internet (15%), and play screen games (15%), while in school B, in addition to watching TV (81.8%), the leisure activities were meeting friends (74.5%), and a smaller group enjoyed to go to a bar/coffee (9.1%) (Figure 9). In school A, there was one activity predominantly, whereas, in the school B, the activities were more diversified.

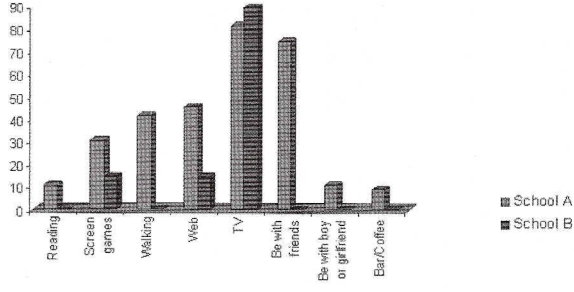

Figure 9. Leisure Activities by Participants from the Two Schools.

Discussion

It is accepted that certain types of behaviour or habits seem to promote health and prevent illness, while others seem to contribute towards the appearance of illness or even premature death (Waldron, 1988). It seems that there is a close relationship between life-style and people's behaviour and their health condition (Rodrigues, 2004) The goal of this work was to get a better understanding of the adolescence period as far as healthy habits and healthy risks are concerned - eating habits, legal (tobacco and alcohol) or illegal (cannabis) drugs consumption, early sex intercourse, and leisure activities – in order to improve teachers' training relating to health education and to make it more adequate to youth needs.

Our results indicated that health education must focus on the importance of having all meals everyday, increasing the consumption of fruits, vegetables, and milk. Similarly, the regular practice of physical activity should be a matter for health education, in particular in the case of girls who tend to avoid physical activities. Moreover, it was found that school B had more problems concerning healthy eating, legal (tobacco and alcohol) or illegal (cannabis) drugs consumption, early sex intercourse, and a narrow diversity of leisure activities. This indicates that an intense health education programme should be carried out in school B to improve health practices, and also to contribute to improve health literacy, and get health gains (Carvalho, 2002). A more precise social, economical, and cultural characterisation of both schools might give an insight for these differences in the two schools located in the same area of the Northern Region of Portugal.

It is however relevant to have in mind that the students' answers were sent by electronic means in order to select similarly the students from both schools. In contrast, this electronic methodology for gathering data might also produce a bias in the case we intend to use the samples as being representatives of either school population.

This study was a necessary starting point, so that a community intervention program in terms of health education and health promotion could be successful. Any involvement of parents and teachers in the process of health education is a basic condition to obtain effective healthy life-styles. In addition, canteen healthy meals is a pressing issue for having a coherent environment leading to health promotion (Carvalho, 2004). In short, this study provided important insights for be incorporating respective materials in our teachers' training programmes for helping them to improve their students' life-styles.

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