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FACTORS ASSOCIATED TO UNHEALTHY SEXUAL BEHAVIOURS AMONG PORTUGUESE ADOLESCENTS: 2018 HBSC STUDY

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Abstract

Practicing sexual intercourse (SI) under the influence of alcohol or drugs has been identified as an unhealthy sexual behaviour. The sample consisted of 5695 adolescents, of which 46.1% were males, with a mean age of 15 years old. The measures consisted of asking the adolescent if he or she had ever had SI, age of 1st SI, condom use at last SI, SI under the influence of alcohol or drugs and HIV testing. Most adolescents reported having never had SI (77.0%). Among those who responded affirmatively, they referred having had their 1st SI at 15 years old. A significant minority reported not having used condom at last SI (34.1%) and having had SI under the influence of alcohol or drugs (14.5%). It was noticeable that males, adolescents with high SES, those who reported not having used condom at last SI, those not having been HIV tested, those who consider themselves fat, smoke daily, and scored lower in emotional sensitivity and quality of life were those who were more likely to have reported having had SI under the influence of alcohol or drugs. Adolescents who reported having had SI under the influence of alcohol or drugs have multiple risk behaviours. These results may account for important changes in educational and health policies, directed towards the development of personal and social skills, the importance of adolescents' quality of life and the activation of all the support structures where adolescents are involved and that are somewhat responsible for promoting a healthy lifestyle.

Keywords: *unhealthy sexual behaviour, sexual intercourse, substance use, Portuguese adolescents*

Introduction

A healthy lifestyle reduces the risk of being ill or dying early. Scientific studies have identified behaviours that jeopardize people's health and mental and social well-being. The prevalence of mental health difficulties has been growing, as accounted for by the rise of psychological symptoms in adolescents in HBSC studies (Matos & Equipa Aventura Social, 2018). Thus, emphasis should be given on universal prevention programmes at school context within the framework of a public health policy. As such, lifestyles – both healthy and unhealthy – and the quality of life of children and adolescents are crucial to tailor effective intervention programmes (Taylor et al., 2017). In addition, the relationship between quality of life and overall well-being and several behaviours related to (un)healthy lifestyles such as physical activity, smoking, alcohol consumption, and truancy, among others, help identifying areas that should be specifically addressed through intervention (Gaspar et al, 2019).

In fact, childhood and adolescence are considered to be important developmental phases in terms of prevention and intervention for mental health and well-being (Collins & Dozois, 2008).

Practicing sexual intercourse (SI) under the influence of alcohol or drugs is identified as an unhealthy sexual behaviour, mainly for adolescents, on the one hand due to their difficulty in assessing negative results as unwanted pregnancy and HIV/AIDS or other STI, and on the other hand due to the impact that these consequences may have in their lives (UNAIDS, 2018). According to the latest statistical data from UNICEF, worldwide, about 30 teenagers among 15 and 19 years old were infected with HIV/AIDS every hour in 2017. These numbers are particularly alarming if considered that the epidemics is consistently decreasing in all other age groups (UNICEF, 2018). In Portugal, about a third of those infected (with HIV/AIDS) is less than 30 years old and, among these, about 16% are between 15 and 24 years old. (DGS, 2018). The most effective method against most STIs (including HIV/AIDS) is still the condom.

Having SI associated to the consumption of alcohol or drugs has been identified as an unhealthy sexual behaviour (Madkour et al., 2010), since both alcohol and drugs alter one's levels of rationality and disinhibition. Moreover, alcohol and drug use has even more damaging consequences for adolescents because psychosocial development is still happening during adolescence (López & Fuertes, 1999). As stated in the last national Health Behaviour in School-aged Children study (2018), both alcohol and drug consumption have been increasing in Portugal: daily consumption of spirits has increased from 0,4% (1998) to 3,7 % (2018), daily consumption of beer has increased from 1,0% (1998) to 3,6% (2018); and drug consumption (more than once) in the last month has increased from 1,4% (1998) to 2,1%. In Portugal, studies addressing SI under the influence of alcohol or drugs, and the factors associated with it in adolescents are scarce. Therefore, the aim of this study was to better understand unhealthy sexual behaviours and to shed light on the risk factors associated to these behaviours.

Research Methodology

General Background

The Health Behaviour in School-aged Children (HBSC) is a World Health Organization (WHO) collaborative cross-national study (Roberts et al., 2009) which is carried out every 4 years simultaneously in 50 countries or regions of Europe and North America in order to study school-aged behaviour regarding health and risk behaviours in adolescence (<http://www.hbsc.org/>). Portugal is part of this group since 1996 (www.aventurasocial.com).

Sample

The 2018 HBSC study included 8215 students from 42 schools and 476 classes, randomly selected, with a mean age of 14.36 years old ($SD=2.28$), 52.7% of which are female, from the 5 educational regions of mainland Portugal. Results are representative of 6th, 8th 10th and 12th grade students.

Because the topic being studied is focused on SI, 6th graders were excluded and therefore the sample was constituted by 5695 adolescents, of which 46.1% are boys and 53.9% girls, with a medium age of 15.46 years old ($SD=1,80$). The majority is Portuguese (91.7%). As for school grade, 48.6% attended 8th grade, 30.0% attended 10th grade and 21.4% 12th grade and they are proportionally distributed among the 5 educational regions of mainland Portugal (North, Centre, Lisbon and Tagus Valley, Alentejo and the Algarve).

In Portugal the 2018 HBSC study was approved by the Ethics Committee and the MSS (Monitoring Surveys in the School). Schools agreed to participate, and informed consent was obtained from parents or legal tutors of the students. The survey was conducted online, and the responses were voluntary and anonymous.

Instrument and Procedures

Measures and variables

In order to pursue the stated aim, several questions of the protocol were used. As for the demographic questions, gender, school grades and socioeconomic status were used. And regarding the questions about sexual behaviours and specifically unhealthy sexual behaviours, the following were used: age of first SI, condom use at last SI, engaging in SI under the influence of substances and having been HIV tested were also asked among those who responded that they had already had SI. In order to study potential factors associated to unhealthy behaviours among adolescents, condom use at last SI, HIV test as well as other items related to unhealthy behaviours were selected, namely socioeconomical status, body image, physical activity, tobacco consumption, perception of academic performance, truancy, bullying, a scale of emotional insensitivity and a scale of quality of life. More information about the measures can be found in table 1.

Table 1
Description of the Variables Included in the Study (n=5695)

Study variables	Coding	Recoding	Cronbach's Alpha
Gender	1=Male; 2= Female	-	-
School grade	1=8 th grade; 2=10 th grade; 3=12 th grade	-	-
SI	1=Yes; 2=No	-	-
Age of first SI	1=11 years old or younger; 2=12 years old; 3= 13 years old; 4=14 years old; 5= 15 years old; 6=16 years old or older	Item 1 was recoded into 11; item 2 was recoded into 12; item 3 into 13; item 4 into 14; item 5 into 15; and item 6 into 16	-
Condom use at last SI	1=Yes; 2=No;3= I don't know	1=Yes; Items 2 and 3 were recoded into 2=No/I don't know	-
SI associated to alcohol or drugs	1= I have never had SI; 2=No, I have never had SI because I had too much alcohol or taken drugs; 3=Yes, I have already had SI because I had too much alcohol or taken drugs;	Item 3 was recoded into 1=Yes; Items 1 and 2 were recoded into 2= No	-
HIV test	1=Yes; 2=No; 3=I don't know; 4= I don't know what a HIV test is;	1=Yes; Items 2, 3 and 4 were recoded into 2= No/ I don't know/ I don't know what a HIV test is	-
SES	The SES consists of 6 items, which reflect the family resources: family car (0= No; 1= Yes, one; 2= Yes, two or more), bedroom (0=No; 1= yes), number of computers (0= none; 1= one; 2= two; 3= more than two), number of bathrooms (0=none; 1= one; 2= two; 3= more than two); dishwasher machine (0=No; 1= Yes) and number of family vacation trips (0= none; 1= one; 2= two; 3= more than two).	The SES score is calculated based on the responses of the participants to these 6 items on a 3-point ordinal scale composed for analysis, where a low SES corresponded to a score that ranges from 0 to 6 points; a medium SES corresponded to a score that ranges from 7 to 12 points; and a high SES corresponded to a score that ranges from 13 to 18 points	-
Body perception	1=Very thin to 5= Fat	Items 1=Very thin; 2= Somewhat thin and 3= Right size were recoded into 0= Right size/ thinness; and the items 4= Somewhat fat and 5= Fat were recoded into 1= Fat	-
Physical activity	0= 0 days to 7= 7 days	Item 0= never, all the other items were recoded into 1 = At least once a week	-

Study variables	Coding	Recoding	Cronbach's Alpha
Tobacco consumption	1= Never to 7= 30 days (every day)	Items 1 to 6 were recoded into 0= not smoking every day; and item 7= 30 days was recoded into 1= smoking every day	-
Academic performance	1=Very good to 4= Lower than the average	Items 1=Very good; 2= Good; and 3= Average were recoded into 0= Higher than the average; and item 4= Lower than the average was recoded into 1= Lower than the average	-
Truancy	1=I never miss a class except if I am ill or for some unexpected event. 2= I occasionally miss classes even if I am not ill and there isn't any unexpected event; 3= I miss classes for no special reason, just because I feel like it or because I'm late; 4= I miss classes for other reasons	Item 1 was recoded into 0= I never miss classes; and items 2, 3 and 4 were recoded into 1= Missing class	-
Bullying	1= I didn't bully anyone at school the last two months; 2= It happened once or twice in the last 2 months; 3= 2 or 3 times a month; 4= About once a week; 5= Several times a week	Item 1 was recoded into 0= I didn't bully; and items 2, 3, 4 and 5 were recoded into 1= at least one time	-
Emotional insensitivity	Scale with 6 items, with Likert response options: 1= I totally agree to 5 = totally disagree	The scale assesses emotional insensitivity and consists of 6 items. Items 1, 2 and 5 were reverse scored; scores ranged from 6 to 30; higher values reveal more emotional insensitivity.	.64
KIDS (quality of life)	Scale with 10 items, with response options 1= never, 2= rarely, 3= sometimes, 4= often and 5 = always	The scale assesses quality of life and consists of 10 items with a response option ranging from 1 = poor quality of life to 5 = good quality of life; scores ranged from 10 to 50; Items 3 and 4 were reverse scored; higher values indicated very good quality of life.	.84

Procedures

This study is based on data from the Health Behaviour in School aged Children/HBSC (Inchley et al., 2016; Matos et al., 2015, 2018), a collaborative WHO study.

It aims to study adolescent behaviour in their various settings and how these influence their well-being. A broad set of topics are studied, namely family, school, friends, health, well-being, sexuality, nutrition, leisure, sleep, sedentarism, physical activity, substance use, medicine use, violence, technology use, migration and social involvement. Portugal is part of this group of countries since 1996 (www.aventurasocial.com).

Data Analysis

Descriptive statistics, including frequencies, means and standard deviations, were performed to characterize the participants and gender and school grades differences were analysed using Chi-square and ANOVA tests. The level for statistical significance was set at $p < .05$.

The associations between the independent variables (gender, socioeconomic status, condom use, HIV test, body perception, physical activity, smoking tobacco on a daily basis, academic performance, truancy, bullying at school, emotional insensitivity and quality of life) and the dependent variable (having had SI under the influence of alcohol or drugs) were determined using multivariate logistic regression analysis. Odds ratios (OR) and 95% confidence intervals (CI) were calculated for all independent variables. Only significant results were discussed. Analyses and statistical procedures were carried out in the Statistical Package for Social Sciences program (SPSS, version 24.0 for Windows).

Research Results

Differences between Genders and School Grades and Sexual Behaviours in Portuguese Adolescents

The majority of adolescents reported never having had SI ($n=4175$; 77.0%), namely girls ($n=2343$; 80.0%) and 8th graders ($n=2294$; 88.7%). Among those who stated having already had SI, they referred having had their first SI at 14.58 years old ($SD=1.49$), most mentioned having used condom at last SI ($n=822$; 65.9%), not having had SI associated to alcohol or drugs ($n=812$; 85.5%), and not having been tested for HIV ($n=893$; 85.6%).

Some statistical significant differences were found regarding sexual behaviours: boys referred having had their first SI at an earlier age than female (male: $M=14.27$, $SD=1.62$; female: $M=14.92$, $SD=1.24$) ($F_{(1, 1246)} = 63.725$, $p = .000$), and boys more frequently reported having used condom at last SI ($\chi^2(1) = 4.621$; $p < .05$) and having had SI under the influence of alcohol or drugs ($\chi^2(1) = 23.155$; $p < .0001$); and younger teenagers (8th graders) referred having had their first SI at an earlier age than older teenagers (10th and 12th graders) (8th graders: $M=13.29$, $SD=1.51$; 10th graders: $M=14.51$, $SD=1.28$; 12th graders: $M=15.30$, $SD=1.11$) ($F_{(2, 1246)} = 243.239$, $p = .0001$) and younger teenagers more frequently reported than older teenagers (10th and 12th graders) having had SI under the influence of alcohol or drugs ($\chi^2(2) = 11.937$; $p < .01$). Older teenagers reported having already had SI more often than younger teenagers (8th and 10th graders) ($\chi^2(1) = 592.248$; $p < .0001$).

Table 2

Differences between Genders and School Grades and Sexual Behaviours in Portuguese Adolescents (N=5695)¹

	Total (n=5695)		Gender (n=5695)				χ^2	School grades (n=5695)						χ^2
			Male		Female			8 th grade		10 th grade		12 th grade		
	N	%	N	%	N	%		N	%	N	%	N	%	
SI (n=5423)												32.488***	592.248***	
Yes	1248	23.0	662	26.5	586	20.0	293	11.3	394	23.9	561	47.2		
No	4175	77.0	1832	73.5	2343	80.0	2294	88.7	1253	76.1	628	52.8		
Only adolescents who reported having had SI														
	Total (n=1248)		Gender (n=1248)				F	School grades (n=1248)						F
			Male		Female			8 th grade		10 th grade		12 th grade		
	M	SD	M	SD	M	SD		M	SD	M	SD	M	SD	
Age of 1 st SI	14.58	1.49	14.27	1.62	14.92	1.24	63.725***	13.29	1.51	14.51	1.28	15.30	1.11	243.239***
Condom at last SI			Male		Female		χ^2	8 th grade		10 th grade		12 th grade		χ^2
	N	%	N	%	N	%		N	%	N	%	N	%	
												4.621*	1.860 ^{ns}	
Yes	822	65.9	454	68.6	368	62.8		188	64.2	270	68.5	364	64.9	
No	426	34.1	208	31.4	218	37.2		105	35.8	124	31.5	197	35.1	

Only adolescents who reported having had SI

	Total (n=1248)		Gender (n=1248)				School grades (n=1248)										
			Male		Female		F		8 th grade		10 th grade		12 th grade		F		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
SI associated to drugs or alcohol							23.155***										11.937**
Yes	138	14.5	96	20.0	42	9.0			42	22.3	35	11.6	61	13.3			
No	812	85.5	385	80.0	427	91.0			146	77.7	267	88.4	399	86.7			
HIV Test							0.001 ^{n.s}										4.190 ^{n.s}
Yes	150	14.4	78	14.4	72	14.3			41	18.4	40	12.2	69	14.0			
No	893	85.6	463	85.6	430	85.7			182	81.6	287	87.8	424	86.0			

[†] Total numbers differ considering that some participants have not replied to some variables.

* $p < .05$; ** $p < .01$; *** $p < .001$; n.s = not significant

In bold – values that correspond to an adjusted residual $\geq |1.9|$

Factors Associated to Unhealthy Sexual Behaviour among Portuguese Adolescents

A logistic regression analysis was performed using the enter method to evaluate the predictive factors for SI under the influence of alcohol or drugs. Possible predictor independent variables were condom use at last SI, HIV test, body image, doing physical exercise at least 60 minutes in the previous week, tobacco consumption, academic performance, truancy, being involved in bullying, emotional insensitivity, and quality of life, as well as gender and socioeconomic status.

An adjusted model (Hosmer and Lemeshow $\chi^2 = 5.558$ (8) $p = .697$) was obtained and the regression equation explained 28% of variance (Nagelkerke $R^2 = 0.275$) and 85.8% of the cases of having engaged in SI under the influence of alcohol or drugs.

In this model the condition of “having engaged in SI under the influence of alcohol or drugs” is explained by the variables gender (2.0 times greater likelihood) [OR 1.99; 95% CI 1.23-3.24; $p < .01$], SES (0.6 times greater likelihood) [OR 0.63; 95% CI 0.41-0.97; $p = 0.038$], condom use (1.6 times greater likelihood) [OR 1.61; 95% CI 1.03-2.52; $p < .05$], HIV test (1.9 times greater likelihood) [OR 1.91; 95% CI 1.11-3.29; $p < .05$], body image (2.0 times greater likelihood) [OR 2.02; 95% CI 1.17-3.49; $p < .05$], smoking (0.3 times greater likelihood) [OR 0.32; 95% CI 0.20-0.50; $p < .01$], emotional insensitivity (1.2 times greater likelihood) [OR 1.17; 95% CI 1.11-1.24; $p < .01$] and quality of life (0.9 times greater likelihood) [OR 0.96; 95% CI 0.93-0.98; $p < .01$].

This is to say that the likelihood of having engaged in SI under the influence of alcohol or drugs is greater for boys and those subjects who reported not having used condom at last SI, not being HIV tested, considering themselves fat, smoking daily, having higher insensitivity and a lower perception of quality of life.

Table 3

Factors Associated with SI under the Influence of Alcohol or Drugs and Having Had Alcohol or Drugs in Portuguese Adolescents (N=1248)

	β	SE	OR	95% IC	p
Gender	.691	.247	1.996	(1.229 – 3.242)	.005
Socioeconomic status (SES) - high	.455	.219	0.634	(0.413 – 0.974)	.038

	β	SE	OR	95% IC	<i>p</i>
Condom use at last SI - no	.478	.227	1.613	(1.034– 2.515)	.035
HIV test - no	.646	.279	1.908	(1.106 – 3.294)	.020
Body image - fat	.704	.280	2.021	(1.168 – 3.497)	.012
Physical activity – 60 minutes previous week	-.281	.332	0.755	(0.394 – 1.448)	.398
Smoking tobacco - on a daily basis	1.139	.230	0.320	(0.204 – 0.502)	<.001
Academic performance	-.538	.323	0.584	(0.310 – 1.100)	.096
Truancy	-.138	.224	0.871	(0.562 – 1.351)	.539
Bullying at school	-.085	.290	0.918	(0.520 – 1.620)	.768
Emotional insensitivity - high	.159	.030	1.173	(1.106 – 1.243)	<.001
Quality of life (KIDS) - low	-.045	.014	0.956	(0.930 – 0.984)	.002

OR: adjusted odds ratios for all table variables; CI: confidence interval

Discussion

Findings show that the majority of 8th, 10th and 12th grade Portuguese adolescents have never had SI and among those who said they had, most stated having used condom at last SI and not having had SI under the influence of alcohol or drugs. Although the majority reported safe sexual behaviours, a significant minority - worthy of professional attention, referred not having used condom at last SI and having had SI under the influence of alcohol or drugs. These two risk behaviours have increased in comparison to the previous HBSC study (2018 – 33.6% and 17.0%; 2014 – 29.6% and 15.9% of 8th and 10th graders, respectively), therefore these need to be understood and require intervention. One possible explanation for these results may be negligence in sexual education. Despite the existence of laws that make sexual education in school context compulsory in every school grade, recently it has been reduced to the contents that are part of school subjects, minimizing adolescents' opportunities to develop the personal and social skills that are the basis for all healthy behaviours, including those related to sexuality. Another explanation for these unhealthy sexual behaviours may be the reduction of AIDS campaigns, which may be a result of the evolution of AIDS into a chronic disease and no longer a fatal disease, consequently contributing to the downgrading of the importance of prevention.

The analysis of differences between genders and school grades and sexual behaviours in Portuguese adolescents resulted in several findings: boys reported having used condom more frequently than girls, but they were also the ones who reported having engaged in SI under the influence of alcohol or drugs; and younger adolescents (8th graders) reported having engaged in SI under the influence of alcohol or drugs much more frequently than older students (10th and 12th graders).

In addition, the study of the factors associated to having had SI under the influence of alcohol identified boys, adolescents with a higher SES, those who did not use condom at last SI, those who did not get tested for HIV, think of themselves as fat, smoke every day, have lower emotional insensitivity, and reported less quality of life as the adolescents who more often reported this risk behaviour. These results are accounted for by literature since illegal drugs, tobacco consumption, alcohol consumption, history of sexual abuse, and bad academic performance, among others, are identified as behaviours associated to unhealthy sexual behaviours (Cruzeiro et al., 2010) and imply that the intervention to be implemented is tailored specifically to these groups.

As such, a much broader area of education than sexuality education is needed; Health Education may be a much more adequate answer as adolescents get involved in multiple risk behaviours that go beyond the sexual ones. Consequently, they need their personal and social skills to be addressed and developed in order to enhance their abilities to adopt overall protective behaviours (self-regulation, negotiation, resisting peer pressure, etc.) and therefore they need interventions that aim to promote healthy lifestyles and quality of life instead of being subjected to interventions that are limited to prevent risk behaviours, that is achieving prevention throughout positive emotional, cognitive and behavioural competence promotion.

Schools are often seen as places where all children and adolescents can have access to life changing opportunities through systematic interventions that are able to promote self-management strategies (Department of Health and Department of Education, 2017) and overall well-being (Hayes et al, 2019).

Given the scope of this approach, it is crucial to involve not only the individual and the school, but all the structures that can be activated to support teenagers (Morgan, et al., 2010).

Conclusions and Implications

These results may represent significant changes in educational and health policies, directing these towards the development of personal and social skills, the importance of adolescents' quality of life and the activation of all the support structures where adolescents are involved and that are somewhat responsible for promoting a healthy lifestyle. Adolescents must be encouraged to lead healthy lifestyles in all the settings they live in. Schools must be responsible for a comprehensive approach, thus promoting adolescents' quality of life, and consequently their physical and mental health.

Besides all the known factors that are more or less associated to healthy and unhealthy risk behaviours, namely sexual risk behaviours, the world is now facing an emerging challenge due to the Covid-19 outbreak with its unknown impacts. It is an evolving situation that is transforming the lifestyles of the world population, adolescents included. Despite all the uncertainties that still exist about how it spreads and the measures for protection, health authorities urge people to avoid close contact and wear a face mask, among other measures, which may change the way people interact in general. If that may have dramatic consequences for the adult population, adolescents' lifestyles and socialization may suffer greatly with this since they are in a stage in which avoiding contact may hinder the development of their social skills in the future.

These are important messages addressing public policies in the area of education and health that will allow youth to be more participative, with access to a broad range of alternatives, more self-fulfilled, happier, healthier and less prone to inequality.

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Received: November 16, 2021

Accepted: December 12, 2021

Cite as: Ramiro, L., Reis, M., & Matos, M. G. (2021). Factors associated to unhealthy sexual behaviours among Portuguese adolescents: 2018 HBSC study. *Problems of Psychology in the 21st Century, 15*(2), 73-81. <https://doi.org/10.33225/ppc/21.15.73>

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