Health and Addictions
salud y drogas

© Health and Addictions 2018
ISSN 1578-5319 ISSNe 1988-205X
Vol. 18, No.2, 133-141
Recibido: Marzo 2018 – Aceptado: Mayo 2018

PREVENTING ALCOHOL USE AMONG ADOLESCENTS: ASSESSMENT OF THE "ALCOHOL-FREE" PROGRAMME

PREVENIR EL CONSUMO DE ALCOHOL ENTRE LOS ADOLESCENTES: EVALUACIÓN DEL PROGRAMA "ALCOHOL-FREE"

Cristina Sá[1], Vânia Rocha[2], José Cunha Machado[3] y José Precioso[1]

[1]Institute of Education, University of Minho, Portugal

[2]Center for Psychology, University of Porto, Portugal

[3]Institute of Social Sciences, University of Minho, Portugal

Abstract

Introducción. El consumo de alcohol entre los adolescentes está asociado con problemas de salud graves y con una mayor mortalidad. *Objetivos.* Este estudio tuvo como objetivo evaluar la eficacia del programa "Alcohol-Free" en la prevención del consumo de alcohol entre los adolescentes. *Metodología.* Se realizó un estudio cuasi-experimental que incluyó un grupo experimental de 92 estudiantes y un grupo control de 77 estudiantes, del III ciclo de educación básica en escuelas de Braga y Porto (Portugal). Se administró un cuestionario a ambos grupos antes y después de la implementación del programa. El programa solo se administró al grupo experimental. *Resultados.* El programa "Alcohol-Free" no fue efectivo para prevenir el consumo de alcohol entre los adolescentes, ya que no se encontraron diferencias significativas entre el grupo experimental y el grupo de control con respecto a la prevalencia de consumo de alcohol, la prevalencia de embriaguez, la experimentación temprana de alcohol, y la intención de consumir alcohol en el futuro. *Conclusiones.* Los programas de prevención en las escuelas deberían mejorarse en el futuro, y deberían incluir a las familias, los compañeros y la comunidad escolar.

Keywords: Adolescentes, alcohol, escuela, prevención.

Resumen

Introduction. Alcohol use among adolescents is associated with serious health problems and with increased mortality. *Objectives.* This study aimed to assess the effectiveness of the "Alcohol-free" programme in the prevention of alcohol consumption among adolescents. *Methodology.* A quasi-experimental study was conducted including an experimental group of 92 students and a control group of 77 students, who attended the 3rd cycle of basic education at Braga and Porto schools (Portugal). A self-report questionnaire was administered to both groups before and after the programme implementation. The programme was only administered to the experimental group. *Results.* The "Alcohol-Free" programme was not effective in preventing alcohol consumption among adolescents, as no significant differences were found between the experimental group and the control group regarding the prevalence of alcohol use, the prevalence of drunkeness, early alcohol experimentation, and intention to consume alcohol in the future. *Conclusions.* School-based prevention programmes should be improved in the future, and should also include families, peers and the school community.

Palabras clave: Adolescents, alcohol, prevention, school.

Correspondencia: José Precioso
precioso@ie.uminho.pt

Alcohol abuse is a serious public health problem particularly among young people (Calafat, 2002). Adolescents' consumption pattern is currently characterized by the ingestion of large quantities of alcohol in a short period of time in order to cause intoxication (Instituto da Droga e da Toxicodependência, 2011). This consumption pattern can lead to alcoholic coma or even death (Calafat & Munar, 1999). It is also widely recognized that alcohol use contributes to the onset and development of physical illnesses (liver disease, tuberculosis, cardiovascular diseases, digestive diseases), mental illnesses (addiction, depression, stress), and social problems (Ferreira-Borges, Filho, & Frasquilho, 2008; Mello, Barrias, & Breda, 2001). Alcohol consumption among young people is related to premature deaths (due to road accidents, suicides, and aggressions), and to other risk behaviors such as delinquency, unprotected sex, school indiscipline, and school dropout (Ferreira-Borges et al., 2008). However, 19.7% of adolescents attribute little or no risk to the consumption of five or more standard drinks (with alcohol) during a weekend (Balsa, Vital, Urbano, & Pascueiro, 2008), revealing the lack of knowledge about the short-and long-term consequences of alcohol consumption.

Despite the consequences associated with alcohol use, there is still a significant prevalence of boys and girls who drink alcohol. According to the Health Behavior in School Aged Children report (HBSC), weekly alcohol consumption among adolescents aged 15 decreased from 29% to 11% in boys and from 9% to 4% in girls between 1998 and 2014 (Inchley et al., 2016). The European School Survey Project on Alcohol and Other Drugs (2016), which included more than 95.000 students from 35 European countries, showed that 43% of boys and 41% of girls in Portugal consumed alcohol in the last 30 days. Although there is a high prevalence of alcohol users among Portuguese adolescents, this prevalence was lower than the prevalence found in other countries (European School Survey Project on Alcohol and Other Drugs, 2016). Regarding excessive alcohol consumption (five or more drinks on the same occasion), 9% of boys and 9% of girls in Portugal reported abusive alcohol consumption in the last 30 days (European School Survey Project on Alcohol and Other Drugs, 2016).

Alcohol abuse is determined by the interaction of different risk factors and protective factors. It is also important to consider the social context (family and peers), the community (pro-alcohol attitudes, incentive, and availability of the product), the society (influence of the media on adolescents) and individual characteristics when explaining alcohol consumption behavior (Muisener, 1994). Brito et al. (2015) identified family attitudes towards alcohol consumption and negative emotions management as risk factors for early experimentation and regular alcohol consumption among university students. Thus, it is crucial to implement effective health education programmes to prevent alcohol use among adolescents.

Adolescence is a period in which many adolescents adopt behaviors that expose them to a great variety of risks, namely alcohol consumption (Araújo & Gomes, 1998). The school is where young people spend much of their time. Therefore, it is one of the most important places to implement health education prevention programmes, in order to reinforce attitudes, knowledge and health lifestyles among students that will facilitate their growth, development, and well-being (Precioso, 2004). Barroso, Barbosa, and Mendes (2006) stated that preventive programmes regarding alcohol consumption should be included in the school curriculum, in order to prevent early alcohol experimentation and its use among young people. Hernández, Poza, Poza, Dios, and Fresnillo (1999) developed the programme “Prevención del consumo de alcohol y tabaco”, which included not only students, but also parents, teachers, and the school community. In this programme, teachers were trained to implement the intervention in the classroom. Hernández (2006) underlined the “Alcazul” programme which included a relevant community approach: students were asked to organize preventive interventions in the communty. These programmes were based on a combination of the following approaches: promotion of social and communication skills in order to help adolescents to cope with peer pressure; reflection about the messages on the media; information about the risks of consuming alcohol; identification of healthy alternatives to consuming alcohol; and structuring students’ free-time to organize preventive initiatives in the community (Hernández et al., 1999; Hernández, 2006). According to Stigler, Neusel, and Perry (2011), the most successful school-based programmes addressed social and environmental risk factors (e.g., alcohol related norms), as well as risk factors at the individual level (e.g., enhancing student’s knowledge and skills). However, some research findings suggested that interventions

aimed to prevent alcohol consumption were not likely to be effective (Room, Babor, & Rehm, 2005). Barroso et al. (2006) conducted a systematic review about school-based prevention programmes regarding alcohol consumption among young students (aged 10 to 16 years). The authors found seven programmes with randomized controlled distribution and quasi-experimental designs that included an experimental group and a control group. None of the identified programmes was developed in Portugal. Agabio et al. (2015) conducted a systematic review of school-based alcohol and other drug prevention programmes, and found that 30 studies out of 53 showed no significant differences between the experimental group and the control group. Thus, it is increasingly relevant to implement effective school-based programmes to prevent alcohol experimentation and consumption, and to arise awareness about the risks associated with alcohol use among adolescents.

The present study aimed to implement and assess the "Alcohol-Free" school-based programme in the prevention of alcohol consumption among adolescents attending the 3rd cycle of basic education (9th grade). This programme was created and structured based on the existing literature about risk factors associated with alcohol consumption, susceptible of being modified by a school-based intervention (Brito et al., 2015; Magalhães & Precioso, 2011). The intervention was also inspired by the "Smokeout II" prevention programme for students attending the 9th grade (Sousa et al., 2017) and by the "Prevención del consumo de alcohol y tabaco" prevention programme (Hernández et al., 1999).

METHOD

Participants

A quasi-experimental study was conducted including an experimental group of 92 students and a control group of 77 students, attending the 3rd cycle of basic education (9th grade) at Braga and Porto schools, in Portugal. The control group presented the same characteristics as the experimental group, with the exception of not having been subjected to the "Alcohol-Free" programme. The official programme of the 9th grade "Diseases and health of the digestive system" was implemented in the control group. The schools in each district were selected by convenience: the selected schools were located close to the research team and all signed a formal authorization to participate in the study. The classes that integrated the experimental group and the control group were randomly selected.

Of the 92 students included in the experimental group, 54.3% were boys and the mean age was 14.36 (*SD* = .56), with an age range from 14 to 17 years. In the control group, 62.3% were girls and the mean age was 14.46 (*SD* = .74) with an age range from 13 to 17 years.

Instruments

Participants were asked to complete a self-report questionnaire validated for this research, based on questions already used in other studies (European School Survey Project on Alcohol and Other Drugs, 2016; Precioso, 2001). Authorization from the Ministry of Education was obtained to apply the questionnaire to the students. The questionnaire consisted of 21 multiple-choice questions and five open-ended questions, which assessed the following variables: sociodemographic variables, prevalence of alcohol consumption, prevalence of drunkenness, prevalence of early alcohol experimentation, intention to use alcohol in the future, and knowledge about alcohol consumption.

Procedure

This is a quasi-experimental study held in 2016/2017 which included a pre-test and a post-test, as well as an experimental group and a control group. The questionnaire was administered in the pre-test to both groups. The "Alcohol-Free" programme was implemented in the experimental group in the classroom by trained teachers, and included eight sessions: 1) effects of alcohol use in health; 2) effects of alcohol use in appearance; 3) alcohol composition; 4) social consequences of alcohol use; 5) prevalence of alcohol use among adolescents in European countries; 6) calculation of the economic costs of alcohol use; 7) behaviors, attitudes and communication styles associated with alcohol use; 8) influence of alcohol use in life projects. The same questionnaire was administered in the post-test to both groups. It was agreed that the intervention would also be administered to the control grup after the post-test assessment.

Data were analysed using the Statistical Package for Social Sciences (SPSS), 23.0 version for Windows. For statistical analysis, we performed descriptive statistics,

Chi-square test, and McNemar test. A significance level of 0.05 was considered.

RESULTS

Table 1 presents the prevalence of alcohol use in the last 30 days and in the last week, reported by the experimental group and by the control group in the pre and post-test. There were no significant differences regarding alcohol use (in the last 30 days) in the experimental group (p = .28) and in the control group (p = .23) over time. There were also no significant differences between both groups in the pre-test (χ^2 = .001, p = .98) and in the post test (χ^2 = .001; p = 1.00), regarding alcohol use in the last 30 days. The percentage of participants who reported not having used alcohol in the last 30 days decreased in the post-test compared to the pre-test: there was a decrease from 59.8% to 52.2% in the experimental group, and from 58.4% to 51.9% in the control group.

Table 1 also shows the results regarding alcohol use during last week, reported by the experimental group and the control group, in the pre and post-test. There were no significant differences regarding alcohol use (during last week) in the experimental group (p = .84) and in the control group (p = .11) over time. There were also no significant differences between both groups in the pre-test (χ^2 = .28, p = .60) and in the post test (χ^2 = 1.85; p = .17), regarding alcohol use during last week. The percentage of participants who reported not having consumed alcohol last week decreased in the post-test compared to the pre-test: there was a decrease from 84.8% to 82.6% in the experimental group, and from 80.5% to 72.7% in the control group.

Table 2 presents the prevalence of drunkenness in the last 30 days and in the last week, reported by the experimental group and the control group, in the pre and post-test. The majority of the sample did not get drunk in the last 30 days: 11.7% of participants in the control group reported having become intoxicated in the post-test, whereas in the experimental group only 8.8% reported drunkenness. There were no significant differences in the experimental group (p = 1.00) and in the control group (p = 1.00) over time. There were also no significant differences between both groups in the pre-test (χ^2 = .01; p = .91) and in the post-test (χ^2 = .13, p = .72).

Similar results were obtained for the prevalence of drunkenness during last week. The majority of the sample did not get drunk during last week: 6.5% of participants in the control group reported having become intoxicated in the post-test, while in the experimental group only 2.2% reported drunkenness. There were no significant differences in the experimental group (p = 1.00) and in the control group (p = 1.00) over time. The differences between both groups were not statistically significant in the pretest (χ^2 = .41, p = .41) and in the post-test (χ^2 = 1.00, p = 0.25).

Table 1. Prevalence of alcohol use in the last 30 days and last week

		Pre-test					Post-test					Pre-Post
		Yes		No		χ^2	Yes		No		χ^2	
		n	%	n	%	(p)	n	%	n	%	(p)	p
Last 30 days	Experimental (N=92)	37	40.2	55	59.8	.001	44	47.8	48	52.2	.001	0.28
	Control (N=77)	32	41.6	45	58.4	(.98)	37	48.1	40	51.9	(1.00)	0.23
Last week	Experimental (N=92)	14	15.2	78	84.8	.28	16	17.4	76	82.6	1.85	.84
	Control (N=77)	15	19.5	62	80.5	(.60)	21	27.3	56	72.7	(.17)	.11

Table 2. Prevalence of drunkenness in the last 30 days and last week

		Pre-test					Post-test					Pre-Post
		Yes		No		χ^2	Yes		No		χ^2	
		n	%	n	%	*(p)*	n	%	n	%	*(p)*	*p*
Last 30 days	Experimental (N=92)	8	8.7	84	91.3	.01	8	8.8	83	91.2	.13	1.00
	Control (N=77)	8	10.4	69	89.6	(.91)	9	11.7	68	88.8	(.72)	1.00
Last week	Experimental (N=92)	2	2.2	90	97.8	.41	2	2.2	89	97.8	1.01 (.25)	1.00
	Control (N=77)	4	5.2	73	94.8	(.41)	5	6.5	72	93.5		1.00

Table 3 presents early alcohol experimentation in the post-test among participants who reported never having drunk alcohol in the pre-test. The percentage of students who experimented alcohol for the first time in the post-test was higher in the control group (71.4%) than in the experimental group (66.7%), although the differences between both groups are not statistically significant (χ^2 = .01; *p* = 1.00).

Table 3. Early alcohol experimentation in the post-test by participants who had never consumed alcohol in the pre-test

		Post-test				
		Yes		No		χ^2
	N	n	%	n	%	*(p)*
Experimental (N=92)	9	6	66.7	3	33.3	.01
Control (N=77)	7	5	71.4	2	28.6	(1.00)

Table 4 presents the intention of using alcohol in the future reported by the experimental group and by the control group, in pre and post-test. The intention of using alcohol in the future decreased in the experimental group from the pre-test to the post-test (from 16.3% to 15.4% "Yes"). On the other hand, there was an increase in the intention of using alcohol in the future reported by the control group (from 18.2% to 19.5% "Yes"). The differences were not statistically significant in the pre-test (χ^2 = .94, *p* = .63) and in the post test (χ^2 = 4.40, *p* = .11) between both groups, as well as in the experimental group (*p* = 1.00) and in the control group (*p* = .63) over time.

Table 4. Prevalence of the intention of consuming alcohol in the future

.	Pre-test							Post-test							Pre-Post
	Yes		Maybe*		No		χ^2	Yes		Maybe*		No		χ^2	
	N	%	n	%	N	%	*(p)*	n	%	n	%	n	%	*(p)*	*p*
Experimental (N=92)	15	16.3	25	27.2	52	56.5	.94	14	15.4	35	38.5	42	46.2	4.40	1.00
Control (N=77)	14	18.2	16	20.8	47	61.0	(.63)	15	19.5	18	23.4	44	57.1	(.11)	.63

Note: *Not included in the McNemar test

Table 5 presents the results regarding the students' knowledge about the consequences of drinking alcohol. There was a significant difference between the experimental group and the control group in the post-test (χ^2 = 14.38; *p* = .01) regarding the item "Drinking alcohol only affects the health of those who have used it for many years". The control group disagreed more with this item (75.3%) than the experimental group (47.3%) in the post-test.

Table 5. Knowledge regarding alcohol consumption

			Pre-test							Post-test							Pre-Post
			Disagree		Don't know+		Agree			Disagree		Don't know+		Agree			
Item	Group	N	*N*	*%*	*n*	*%*	*n*	*%*	χ^2 *(p)*	*n*	*%*	*n*	*%*	*n*	*%*	χ^2 *(p)*	*p*
Men and women are affected in the same way if they consume the same amount of alcohol	Experimental	92	20	21.7	26	28.3	46	50.0	2.62 (.27)	23	25.3	24	26.4	44	48.4	1.07 (.59)	.34
	Control	77	25	32.5	17	22.1	35	45.5		24	31.2	16	20.8	37	48.1		1.00
Alcohol causes cancer	Experimental	92	7	7.6	29	31.5	56	60.9	.15 (.93)	8	8.8	23	25.3	60	65.9	.53 (.77)	1.00
	Control	77	5	6.5	26	33.8	46	59.7		8	10.4	16	20.8	53	68.8		.63
Excessive amounts of alcohol lead to organic tolerance to alcohol and reduced risks	Experimental	92	52	56.5	20	21.7	20	21.7	.08 (.99)	42	46.2	30	33.0	19	20.9	3.77 (.15)	.58
	Control	77	43	55.8	17	22.1	17	22.1		46	59.7	16	20.8	15	19.5		.34
Alcohol consumption can be good for health (when we are sick, sore throat, etc.)	Experimental	92	60	65.2	21	22.8	11	12.0	2.41 (.30)	61	67.0	21	23.1	9	9.9	.64 (.73)	1.00
	Control	77	53	68.8	20	26.0	4	5.2		53	68.8	19	24.7	5	6.5		1.00
Drinking alcohol only affects the health of those who have used it for many years	Experimental	92	45	48.9	18	19.6	29	31.5	2.99 (.22)	43	47.3	31	34.1	17	18.7	14.38 (.01)	.24
	Control	77	47	61.0	14	18.2	16	20.8		58	75.3	10	13.0	9	11.7		.18
The negative effects of alcohol use on the brain are the same in young people as in adults	Experimental	92	45	48.9	21	22.8	26	28.3	7.95 (.02)	41	45.1	28	30.8	22	24.2	15.36 (.01)	1.00
	Control	77	54	70.1	9	11.7	14	18.2		57	74.0	14	18.2	6	7.8		.31
Alcohol is stimulant / gives energy	Experimental	92	30	32.6	39	42.4	23	25.0	.16 (.92)	32	35.2	34	37.4	25	27.5	5.49 (.06)	.75
	Control	77	24	31.2	35	45.5	18	23.4		30	39.0	37	48.1	10	13.0		.25
Fermented drinks (eg, wine, beer) have the same amount of alcohol as distilled drinks (eg, vodka, whiskey)	Experimental	92	74	80.4	12	13.0	6	6.5	.49 (.78)	55	60.4	31	34.1	5	5.5	4.47 (.11)	.73
	Control	77	59	76.7	13	16.9	5	6.5		57	74.0	15	19.5	5	6.5		1.00

There was also a significant difference between the experimental group and the control group in the pre-test (χ^2 = 7.95; p = .02) and in the post-test (χ^2 = 15.36; p = .01) regarding the item "The negative effects of alcohol use on the brain are the same in young people as in adults". The control group disagreed more with this item than the experimental group in the pre-test (70.1% vs. 48.9%) and in the post-test (74% vs. 45.1%). There were no significant differences in the remaining items.

DISCUSSION

This study aimed to develop, implement and assess the effectiveness of the "Alcohol-Free" programme in the prevention of alcohol consumption among school-aged adolescents. The data suggested that the "Alcohol-Free" programme was not effective in preventing alcohol consumption among adolescents, as no significant differences were found between the experimental group and the control group regarding the prevalence of alcohol use, the prevalence of drunkeness, early alcohol experimentation, and intention to consume alcohol in the future. According to Strøm, Adolfsen, Fossum, Kaiser and Martinussen (2014), who conducted a meta-analysis of randomized controlled trials about the effectiveness of school-based prevention interventions on adolescents alcohol use, the effects of school-based preventive alcohol interventions were small, and the effect size among studies reporting categorical outcomes was not significant. Thus, the results obtained in this study were similar to other alcohol prevention interventions that were not effective. These results can be justified by peer pressure and by the influence of social contexts, such as nightclubs and music festivals, often sponsored by companies that sell alcohol (Araújo & Gomes, 1998). The "Alcohol-Free" programme also did not have a significant effect on the participants' knowledge about alcohol use. Students of the experimental group believed that alcohol only affects the health of those who consume it for many years, and that the negative effects of alcohol use on the brain are the same in young people as in adults. Although this topic was addressed during the "Alcohol-Free" programme, this belief will have to be differently addressed in future interventions. However, it can be considered that, in general, both groups have a good knowledge regarding alcohol consumption in the remaining items. The non-effectiveness of the prevention programme in these dimensions resulted from the influence of peers on alcohol consumption among adolescents, and also from their need of not feeling excluded from the group in order to achieve social acceptance and to facilitate social interactions. Alcohol consumption among adolescents is also influenced by parents' consumption (Barroso, Mendes, & Barbosa, 2009). These results underline the importance of improving prevention programmes so that adolescents consider the impact of their choices in their life projects.

Thus, it is crucial to improve the "Alcohol-Free" programme and to overcome its limitations. The study only included adolescents attending the 9th grade in public schools from two districts in the north of Portugal (Braga and Porto), which implies caution in generalizing the data. The results were obtained through self-report, which is also a limitation of the study. A larger sample would allow to strenghen the study's statistical power.

In conclusion, although the "Alcohol-Free" programme did not produce significant changes in the prevalence of alcohol consumption, it was useful to describe and analyse adolescents' behavior regarding alcohol consumption, which can contribute to the improvement of school-based prevention programmes. In the future, we suggest restructuring the programme sessions according to the adolescents' needs in order to implement interventions that promote their autonomy, responsibility and active participation. We also suggest including peers (who can provide information to the participants by role-playing, lectures or other sessions) and families (parents could also participate in the programme sessions and act as protective factors for alcohol consumption) in the intervention. The inclusion of teachers and the school community in the prevention programme should also be promoted. We believe the teachers' training should be improved and further explored in the future. Bobrowski, Pisarska, Ostaszewski, and Borucka (2014) concluded that a very tight timetable for implementation of the programme in classrooms, a relatively low level of teachers motivation to implement preventive actions, and an insufficient support for teachers from their school principals contributed to a poor quality of their programme implementation with a negative effect in the long-term prevention of alcohol use among students. Stigler et al. (2011) stated that to be most effective, interventions should be theory driven, address social norms around alcohol use, build personal

and social skills helping students resist pressure to use alcohol, involve interactive teaching approaches, use peer leaders, integrate other segments of the population into the programme, be delivered over several sessions and years, provide training and support to facilitators, and be culturally and developmentally appropriate. Longitudinal studies following students from the first to the third cycle of education would be criticial to implement prevention programmes among adolescents before alcohol experimentation. Griffin, Botvin, Nichols, and Doyle (2003) argued that school-based interventions are most effective for preventing and reducing alcohol use among adolescents when delivered as primary prevention programmes to youths who have not yet begun to experiment alcohol. Changing behaviors is not easy, but this study can significantly contribute to explore new directions to achieve this goal in the future.

REFERENCES

Agabio, R., Trincas, G., Floris, F., Mura, G., Sancassiani, F., & Angermeyer, M. (2015). A Systematic Review of School-Based Alcohol and other Drug Prevention Programs. *Clinical Practice & Epidemiology in Mental Health,* 11, 102-112.

Araújo, L. & Gomes, W. (1998). Adolescence and the expectations of alcohol effects. *Psicologia: Reflexão e Crítica, 11,* 5-33. doi:10.1590/S0102-79721998000100002

Calafat, A. (2002). Estrategias preventivas del abuso de alcohol [Preventive strategies for alcohol abuse]. *Adicciones, 14*, 317-35.

Calafat, A., & Munar, M. (1999). *Actuar es posible: Educación sobre el alcohol [Acting is possible: Education about alcohol].* Madrid: Ministerio del Interior.

Balsa, C., Vital, C., Urbano, C., & Pascueiro, L. (2008). *II Inquérito nacional ao consumo de substâncias psicoativas na população geral: Portugal 2007 [II National survey on the use of psychoactive substances in the general population: Portugal 2007].* Lisbon: Sicad.

Barroso, T., Barbosa, A., & Mendes, A. (2006). Alcohol consumption prevention programs for young students - Systematic review. *Referência, 3,* 33-44.

Barroso, T., Mendes, A., & Barbosa, A. (2009) Analysis of the alcohol consumption phenomenon among adolescents: Study carried out with adolescents in intermediate public education. *Revista Latino-Americana de Enfermagem, 17,* 347-53. doi:10.1590/S0104-11692009000300011

Brito, I., Precioso, J., Correia, C., Albuquerque, C., Samorinha, C., Filho, H., & Becoña, E. (2015). Factors associated with alcohol consumption in adolescence, by gender. *Psicologia, Saúde & Doenças, 16,* 392-410. doi:10.15309/15psd1603010

Bobrowski, K., Pisarska, A., Ostaszewski, K., & Borucka, A. (2014). Effectiveness of alcohol prevention programfor pre-adolescents. *Psychiatria Polska, 48,* 527-39.

European School Survey Project on Alcohol and Other Drugs (2016). *ESPAD Report 2015.* Luxembourg: European Monitoring Centre for Drugs and Drug Addiction.

Ferreira-Borges, C., Filho, H., & Frasquilho, M. (2008). *Organização de intervenções preventivas: Gestão de problemas de saúde em meio escolar [Organization of preventive interventions: Management of health problems in schools].* Lisbon: Coisas de Ler.

Griffin, K., Botvin, G., Nichols, T., & Doyle, M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk for substance use initiation. *Preventive Medicine, 36,* 1–7. doi:10.1006/pmed.2002.1133

Hernández, J. (2006). *Plan de alcoholismo y drogodependencias de Castilla-La Macha 2006-2010.* Castilla La-Mancha: Dirección General de Planificación y Atención Sociosanitaria.

Hernández, C., Poza, G., Poza, L., Dios, T. & Fresnillo, A. (1999). *Prevéncion del consumo de alcohol y tabaco. Guia didáctica para el professorado de primer ciclo de ESO.* Madrid: Ministerio del Interior, de Educación y Cultura, y de Sanidad y Consumo.

Inchley, J., Currie, D., Young, T., Samdal, O., Torsheim, T., Augustson, L. ... Barnekow, V. (2012). *Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Health behaviour in school-aged children (HBSC) study: International report from the 2013/2014 survey*. Copenhagen: World Health Organization.

Instituto da Droga e da Toxicodependência (2011). *Plano Nacional para a redução dos problemas ligados ao álcool 2010-2012 [National plan for the reduction of alcohol related problems 2010-2012].* Lisbon: IDT.

Magalhães, J. & Precioso, J. (2011). Factores de risco relacionados com o consumo de álcool em adolescentes escolarizados: Implicações para a prevenção [Risk factors related to alcohol consumption among school-aged adolescents: Implications for prevention]. In J. C. Teixeira, *Comportamento e Saúde [Behavior and Health]* (pp. 177-200). Lisbon: ISPA.

Mello, L., Barrias, J., & Breda, J. (2001). *Álcool e problemas ligados ao álcool em Portugal [Alcohol and alcohol-related problems in Portugal].* Lisbon: Direção Geral de Saúde.

Muisener, P. (1994). *Understanding and treating adolescent substance abuse.* London: Sage Publications.

Precioso, J. (2001). *Educação para a prevenção do comportamento de fumar – Avaliação de uma intervenção pedagógica no 3º ciclo do ensino básico [Education for the prevention of smoking behavior – Evaluation of an educational intervention in the 3rd cycle of basic education].* PhD thesis presented at IE-UM. Braga.

Precioso, J. (2004). Educação para a saúde na escola: Um direito dos alunos que urge satisfazer [Health education at school: A right that urges to meet]. *O Professor*, *85,* 17-24.

Room, R., Babor, T. & Rehm, J. (2005). Alcohol and public health. *Lancet, 365,* 519-530. doi: 10.1016/S0140-6736(05)17870-2

Sousa, I., Precioso, J., Machado, J., Reis, M. F., Sousa, C., Samorinha, C., & Antunes, A. (2017). Assessing the effectiveness of a tobacco use prevention programme based on the school curriculum. *Conexão Ciência, 12,* 45-51.

Stigler, M., Neusel, E., & Perry, C. (2011). Schoolbased programs to prevent and reduce alcohol use among youth. *Alcohol Research & Health, 34,* 157-162.

Strøm, H., Adolfsen, F., Fossum, S., Kaiser, S., & Martinussen, M. (2014). Effectiveness of school-based preventive interventions on adolescent alcohol use: a meta-analysis of randomized controlled trials. *Substance Abuse Treatment, Prevention, and Policy, 9,* 1-11.