ORIGINAL ARTICLE

Knowledge and attitudes related to drug abuse and prevention displayed by public school educators

Conhecimentos e atitudes de educadores de escolas públicas na prevenção do uso indevido de drogas

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Abstract

Objective: *To investigate the connection between knowledge about and the attitudes towards drug abuse by students displayed by public school educators in Brazil.* ***Method:*** *Cross-sectional study, with probabilistic sampling encompassing 20% of the municipal elementary schools located in the city of São Paulo from which educators were enrolled to answer three questionnaires: 1) professional and personal data; 2) assessment of their attitudes in drug abuse situations; 3) assessment of their knowledge on drug abuse.* ***Results:*** *Considering possible values between -17 and +21, professionals scored 11.5 ± 3.8 in the Attitudes scale. These values correspond to more empathic attitudes. Scores in the Knowledge on Drugs Scale were 55.2 ± 12.5 (possible values: 0 to 100). Correlation between the Attitudes Scale and the time spent working as education professionals was -0.288 ($p < 0.01$). The difference in the means in the Attitude Scale according to professional academic qualifications was statistically significant (-1.93, $t = 2.26$; $gl = 80$; $p < 0.05$).* ***Conclusion:*** *The level of knowledge about drugs displayed by educators was average and not influenced by the professional's academic qualifications. In contrast, their attitudes were predominantly empathic and directly associated to their academic qualifications and inversely associated to the amount of time they had spent in that position.*

Descriptors*: Drugs; Substance-related disorders; Health education; Knowledge; Questionnaires*

Resumo

Objetivo*: Investigar a associação entre conhecimento e atitudes relacionadas ao abuso de drogas por estudantes entre educadores das escolas públicas brasileiras.* ***Método:*** *Corte transversal, com amostra probabilística de 20% das escolas municipais de Ensino Fundamental da cidade de São Paulo, cujos coordenadores pedagógicos foram submetidos a três questionários: 1) dados pessoais e profissionais; 2) escala de atitudes em situações relacionadas ao abuso de drogas; 3) escala de conhecimento sobre abuso de drogas.* ***Resultados:*** *considerando os valores possíveis entre -17 e +21, encontramos média de 11,5 ± 3,8 na Escala de Atitudes. Isto corresponde a atitudes mais compreensivas. A média encontrada das taxas na escala de Conhecimento sobre Drogas foi 55,2 ± 12,5 (valores possíveis: 0 a 100). A correlação da Escala de Atitudes com tempo de trabalho como coordenadores pedagógicos foi -0,288 ($p < 0,01$). A diferença de médias na Escala de Atitudes de acordo com o nível de escolaridade foi estatisticamente significante (-1,93; $t = 2,26$; $gl = 80$; $p < 0,05$).* ***Conclusão:*** *O conhecimento sobre drogas demonstrado pelos educadores foi mediano e não influenciado pela formação acadêmica. Em contraste, suas atitudes foram predominantemente compreensivas, diretamente associadas com o nível de escolaridade dos educadores e inversamente associadas com o tempo de trabalho como coordenadores pedagógicos.*

Descritores*: Drogas; Transtornos relacionados ao uso de substâncias; Educação em saúde; Conhecimento; Questionários*

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Introduction

The strategy to decrease the demand for drugs by users has been gaining strength since 1970 when, for the first time, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) summoned experts from various countries to discuss preventive approaches.[1] Soon after, several international conferences were held and drug abuse preventive education began to be considered as a universal and pressing need.[1,2] Schools then became the privileged setting for the development of preventive activities, aiming at health education since not only does the majority of the population attends school at specific ages, but also because schools provide highly favourable circumstances for the assimilation of certain habits, attitudes and knowledge.[3,4]

If however, on one hand, it is a consensus that schools provide the target public and are a preferential venue for preventive actions, on the other hand, the interventional approach and its results remain controversial.[5,6]

According to the traditional approach, the highest concentration of efforts should be placed in the transmission of concepts and knowledge. To achieve this, several strategies were developed, including slogans of moral appeal or attempts at persuading people to abstain from drugs ("just say no"), as well as lectures and informative classes on the many substances of abuse, its effects and risks. There are also more elaborated intervention models proposing compulsory weekly classes for students attending the last years of elementary school, including exercises and activities to be performed in the classroom, which teach students how to refuse, resist, and cope with the offer of drugs.[5,7]

Of the models assessed, meta-analysis results show that they have had little effect ($d < 0.32$).[6,8,9] Results from the assessment of different programmes, which include curricular classes, have shown significant immediate improvement, not only in knowledge but also in drug use patterns. However, despite the fact that acquired knowledge is permanent, no reduction in the use of drugs was found in assessments carried out one year or more after the end of the intervention. In some subgroups, for instance, Black and Hispanic male subjects increased the use of substances.[9] In his meta-analysis, Tobler found that the worst performance was seen in passive learning[6] programmes

Other approaches have been suggested: programs centred on Offering Alternatives; providing Health Education and implementing Changes to Teaching Conditions were developed. These approaches aimed at going beyond the transmission of knowledge, but do not exclude it.[5,7]

The Offering of Alternatives model aims to provide youngsters with mind expansion sensations, personal growth, excitement, challenge and boredom relief through other means rather than drug use.[5,7,10] The Change in Teaching Conditions model champions that the school experience, especially throughout elementary school is crucial for the healthy development of adolescents and adults and, therefore, can prevent drug use. In this model, the intervention is intensive, early, and long, involving both parents and the community. It revolves around 5 main points: 1) modification of institutional practices; 2) improvement of the school's environment; 3) emphasis on social development; 4) provision of health services; and 5) involvement of parents in curricular activities.[7] This model encompasses other models such as Health Education and Offering of Alternatives[5] and meets the proposal set forth by the Health Promotion School project.[11,12]

The preventive strategies which include intervention within the school environment are based on the observations that an inadequate and unfair school environment may constitute a propitious factor for drug abuse.[13] Besides that, school dropouts, specially among younger pupils;[14,15] lack of family structure conditions, attention and behaviour problems;[15-17] and problematic social conditions at birth, dissatisfaction towards the school and/or low performance at school at 12 years increase the risk of death or hospitalisation due to abuse of alcohol or other drugs in the 32 year old adults who participated in the study.[18] Intervention within the school environment aims to promote the bond between students and the school, and, therefore, educators are seen as the professionals of choice to implement such preventive actions. This is so because daily class work allows for an easier identification of drug abuse risk factors.

Furthermore, it has been found that educators present empathic attitudes in their daily practice, especially in situations which are indirectly related to drug use.[19] However, it is necessary to know whether such professionals are prepared enough to take on this task. Thus, our objective in this study was to investigate the connection between knowledge and the different attitudes displayed by educators at public schools towards the abuse of licit and illicit psychoactive substances by their students.

Method

In the city of São Paulo, there are 438 Municipal Elementary Schools (EMEFs), divided into 13 administrative school districts and a central administrative agency, the Municipal Education Board (SME). There are approximately 600 students in each school. Orientation activities provided to students and parents, coordination of the teaching staff, as well as the development and execution of the pedagogical programme are among the responsibilities of the pedagogical coordinators of each school. This study selected these professionals to lead the discussion on drug use and prevention in schools. In this study, they are called PCs (pedagogical coordinators) or simply educators.

This research was drawn based on the information that each elementary school have 2 PCs.[5] Sample selection was carried out in multiple stages. First, 23% of the schools located in each administrative district were randomly selected, resulting in 101 schools. One PC from each school was then randomly selected. However, of the randomly selected schools, 74 (75.5%) had 2 PCs; 23 (23.5%) had only 1 PC and 1 (1%) did not have a PC. In the last case, it was not possible to conduct the research. In schools with only one pedagogical coordinator, he or she was interviewed. The non-participation ratio was 13% - 12 due to refusal to participate by the PCs and 1 due to the fact that the school had no PC. Thus, 88 interviews were conducted i.e., a number that was higher than the predicted in the sample calculation ($n = 86$).

The non-participation ratio (13%) is acceptable, because non-participating schools in the research sample were homogeneously distributed throughout the administrative districts and throughout the city's geographic areas. A maximum of one school per city district did not participate. Although there was a difference in the number of PCs in the schools that refused to participate in the research, the number of PCs in the elementary schools that were studied did not reveal correlated with no other data about the school: school population (number of students and professionals), number of classrooms, number of students per teacher, number of students per classrooms, period of classes (morning, afternoon or evening) etc.

1. Instrument

Three questionnaires were answered at a pre-booked school visit: 1) professional history and personal data of educators; 2)

assessment of daily responses to situations directly or indirectly related to the abuse of drugs;* 3) assessment of their knowledge on drug abuse and its prevention. All questionnaires were specifically designed for this study.

The attitude questionnaire is composed of eight scenarios, which are presented through vignettes with typical situations (change in behaviour - indiscipline; pupils facing legal problems; pupils who appear in the classroom while intoxicated, including with alcohol; pupils using drugs - including alcohol - inside the school, around the school and in a school tour; suspicion that pupils are intoxicated or using drugs; drug-addict student) and provides multiple choices in terms of possible attitudes to each one of them. An ethnographic study was performed to develop this questionnaire.[19] Interviews were conducted with key informants, who described work conditions and usual day-to-day situations faced by a PC. The aim of this phase was to identify common events related to drugs abuse. Interviews were recorded and transcripted. The transcription was submitted to a categorical content analysis. The typical events were turned into scenarios and the attitudes or resolutions considered to be usual or constituted a pattern were turned into possible answers. The result was submitted to a face validation in which two independent pharmaco-dependency experts assessed the attitudes adopted by the educators in each one of the events, and then categorised them as: empathic (E), intolerant (I) and neutral (N). In this study, "neutral attitude" means that the attitude adopted cannot be considered to be either intolerant or empathic.

Example of task:

"Which attitude would you adopt in the following situation:

'A student in this school experienced a change in behaviour, displaying lack of respect and engaging in verbal aggression towards her teachers. Professionals enforce several disciplinary actions, including, although unsuccessfully, asking the student to ask her parents to come to the school.

1. ( ) Contacting the family to help you understand the case...
2. ( ) The student may be going through family or emotional problems.
3. ( ) The first step is to talk to the girl.
4. ( ) With time, this kind of situation will most likely solve itself
5. ( ) The student was given every opportunity; she must now be duly reprimanded.
6. ( ) The school staff should consider asking the girl to leave the school."

After validation, answers 1, 2 and 3 were classified as empathic, 4 as neutral, and 5 and 6 as intolerant.

The questionnaire about knowledge is composed of ten closed questions based on a theoretical background,[10,14-16,18,21-24] including signs and symptoms of cannabis, cocaine, crack and alcohol intoxication, effects and consequences; risk factors; conduct disorder; drug prevention. Each question has a multiple choices of answers, including "I don't know". The interviewee could choose any alternative, plus mark the "I don't know" option for the same question. This questionnaire was also validated by pharmaco-dependency experts.

The agreement ratio in terms of the answers provided by the experts in both questionnaires was 95%. Those questions to which the experts had different answers were eliminated. After this, the three instruments were evaluated by two public health experts and by a senior pedagogical coordinator. At last, a pilot was performed at eight schools from the sample. As minor changes were made, the pilot interviews were incorporated into the final version.

2. Data analysis

The attitudes adopted in the situations presented by the proposed scenarios were verified through mean scores obtained in the attitude scale and, for the calculation of the attitude scores, we assigned value +1 for empathic answers; -1 (intolerant) and 0 (neutral). The sum of these values resulted in the general score for attitude (possible values: from -17 to +21) and per situation. The questions which included the option of expelling students from the schools were utilised in order to divide the group of pedagogical coordinators and then compare their means as for their knowledge on drugs. The score for general knowledge on drugs was generated from the sum of correct answers, with possible values ranging from de 0 to 100. Also, other scores were generated for more specific knowledge, which related to conduct disorder; marijuana, cocaine/crack, and alcohol use; dependence risk factors. These scores were generated from the sum of specific correct answers, with possible values ranging from 0 to 10. The "I don't know" answers were added up and analysed separately.

Two multiple linear regression models were employed. The first one investigated the influence that general knowledge on drugs had on the attitudes of educators, and the second investigated the influence that the knowledge about risk factors had on the attitudes of the educators. Both were measured against the education history of the educators (dichotomy: graduation and post-graduation); experience (in years) working as a pedagogical coordinator and number of students per school. The models were created from the results of univaried analyses, in which the variables with statistically significant associations were included, using as the parameter "p" values that were lower than 10%.

Results

Elementary schools had been in operation for 29 ± 16.8 years, offered 4 study periods (61%), had a mean of 1510 ± 653 students, 64 ± 30 professionals, 24.7 ± 8, students per teacher, 13.5 ± 6.4 classrooms per school, each occupied by 32.2 ± 9 students.

The majority of the PCs is female (91.7%); Christian (89.4%) – the majority being catholic and attending temples or churches (60.7%); married or in a steady partnership (50.6%); have children (58.8%); were born in the city of São Paulo (81.7%) and are aged 43 ± 6.9 years. Forty one per cent are post-graduated or hold a Master's Degree, 17.3% have completed a PC training course, 57.3% have attended a course on drugs, have worked in schools for 18.9 ± 7.4 years, have worked as professionals for 14.5 ± 6.2 years and have worked specifically as a PC for 5.4 ± 4 years.

PCs showed that they adopt a more understanding attitude towards drug users (mean = 11.5 ± 3.8). This attitude is more evident on the part of professionals with a better educational background, i.e., post-graduates (difference between means: -1.93; t = 2.26;

* Definition of attitude: "mental disposition maintained by an individual, which affects the way of response to events as well as knowledge organisation. Generally, it is believed that attitudes present three essential components or dimensions: a 'cognitive' dimension, which includes the beliefs and rationalisations which 'explain' the attitude maintenance; an 'affective' dimension, which involves the emotional aspects of attitude, such as liking, not liking, feelings of aversion and affection; and a conative or behavioural, dimension, which involves the degree of preparation the individual has in order to act upon the attitude he/she sustains".[20] It differs, therefore, from behaviour: "movements and actions one executes".[20]

Table 1 - Score for general knowledge on drugs, specific knowledge and total of 'I don't know' answers of pedagogical coordinators from Brazilian public schools (n = 101)

Pedagogical coordinators' knowledge	mean	SD	min	max	"I don't know"
Risk-related factors	5.9	1.6	1.4	8.6	2.3%
Effective preventive actions or attitudes	6.9	1.9	3.3	10	0%
True statements on crack	6.8	2.4	2	10	5.7%
True statements on alcohol	4.4	1.8	0	8	8%
True statements on illicit drugs	6.7	2.4	0	10	18.2%
True statements on prevention of abuse of drugs	7.3	1.9	4	10	2.3%
True statements on chemical dependents	6.3	1.7	2	10	15.9%
Score for general knowledge on drugs from pedagogical coordinators	55.2	12.5	32.2	82	
Sum of 'I don't know' answers	1.6	1.8	0	7	
Correctly identified sections:					
	yes		**no**		**"I don't know"**
Marijuana intoxication	40%		26%		34%
Cocaine intoxication	34%		26%		40%
Conduct disorder	33%		67%		31%

gl = 80; $p < 0.05$), with a negative correlation with the number of students in the schools (R = -0.208; P = 0.057) and with the length of time working as a PC (R = -0.288; $p < 0.01$).

The mean score for general knowledge on drugs was 55.2 (SD = 12.5; min = 32.19; max = 82.05). The mean score for crack-related questions was 7 and for alcohol-related questions was 4. For illicit drug-related questions, 18% answered "I don't know" and for alcohol-related questions, 8% answered "I don't know". There was no correlation between the PCs' knowledge and the characteristics of the schools, the PC's professional experience and educational background – including courses on drugs and exposure to discussions on harm reduction strategies (HR) (see Table 1).

1. Descriptive analysis of attitudes X knowledge

There was no correlation between the General Score of Attitudes and the Score for General Knowledge on Drugs.

There was a significant correlation between knowledge on risk factors and the General Score for Attitudes: $p < 0.01$ (Pearson = 0.373).

The group with one or more positive answers advocating that students be expelled from school presented a higher mean in terms of knowledge than the group without a positive answer advocating that students be expelled from school (difference between means = 13.07; t = 2.741; $p < 0.01$).

The scores for each one of the typical situations did not show a correlation with the score on knowledge about drugs, except in the dependent student situation in which there was an inverse correlation with a trend for statistical significance (Pearson = -0.209; p = 0.052).

2. Multiple linear regression

The PC's attitude is associated with knowledge about risk factors (Table 2), length of time working as a PC and educational background, and is not associated with the score for knowledge and number of students in the school (Table 3). Results from the multivariate analysis only confirm those found in previous analyses.

Discussion

Empathic attitudes identified in educators from public schools represent a positive aspect, as these attitudes provide the opportunity for the bond between students and professionals to be enhanced. This is so because such attitudes convey implicit acceptance or the view that students should not be expelled. The predominance of the adoption of empathic attitudes by public school educators in vulnerable situations has already been identified in a previous study, and its positive effect on the bonding between students, schools, and educators[19] has become evident. The bond with the school is, on its own, considered to be a factor associated with the protection against substance abuse.[16,18,21-23]

Empathic attitudes on the part of educators were not associated with specific educational training on drugs, but rather with a more general education such as post-graduate courses (specialisation or Master Degree), regardless of the area of study. This is an important point to reflect upon as the investment in the improvement of the general educational standards of educators would be more beneficial in terms of results than efforts to provide these professionals with specific knowledge about drugs.

Table 2 - Results from a linear regression analysis on the influence of specific knowledge about drug use risk factors on the attitudes of pedagogical coordinators, controlled by the length of time working as a pedagogical coordinator, number of students and educational background of pedagogic coordinators

	Non-standardised coefficients		Standardised coefficients	t	p
Dependent variable: Attitude Scale Score	B	Standard error	Beta		
Independent variables:	6.720	2.233		3.009	0.004
Number of students	-0.001	0.001	-0.153	-1.525	0.131
Length of time working as a pedagogic coordinator	-0.289	0.098	-0.286	-2.963	0.004
Educational Categories (being a post-graduate)	1.729	0.795	0.218	2.176	0.033
Score for specific knowledge on risk factors	0.870	0.237	0.355	3.678	0.000

Table 3 - Results from linear regression analysis on the influence of general knowledge about drugs on the attitudes of pedagogical coordinators, controlled by the length of time working as a pedagogical coordinator (PC), number of students and educational background of PCs

	Non-standardised coefficients		Standardised coefficients	t	p
Dependent variable: Attitude Scale Score	B	Standard error	Beta		
Independent variables:	10.360	2.736		3.787	0.000
Scale score for the General Knowledge on drugs	0.027	0.033	0.085	0.813	0.419
Number of students	-0.001	0.001	-0.170	-1.570	0.121
Length of time working as a pedagogic coordinator	-0.304	0.106	-0.301	-2.873	0.005
Educational Categories (being a post-graduate)	1.973	0.863	0.248	2.286	0.025

Little work experience as a PC was the only characteristic of the education professional associated with an empathic attitude. This result can be understood thanks to the study of Moreira et al., which found reports describing the sense of impotence that educators feel when problems become chronic and unfavourable outcomes seem to be norm, often due to factors that are outside the professional's scope of action.[19] Our hypothesis is that the education professional who is exposed to this condition for a longer period of time becomes less empathic, representing one of the main limiting factors to the implementation of preventive actions.

Given the importance that alcohol consumption has among school-aged subjects and the general population,[25] the need for greater knowledge on illicit drugs rather than on alcohol and the little concern that there is about not having enough knowledge about alcohol are now a cause for concern.[26,27] However, such asynchrony coincides with way the media has been approaching the matter at hand, which privileges articles and programmes on illicit drugs - in particular crack and cocaine - often using an emotional and alarming tone.[28] Gorgulho points out the emphasis given by the media to illicit drugs, 'police cases', alcohol 'banalization' and even to their glamorisation of alcohol.[29,30]

The emphasis on illicit drugs to the detriment of licit substances also characterises the preventive drug use programmes that are currently widely in use at schools. If, on one hand, we take advantage of the knowledge gained on illicit drugs, such knowledge is imbued with moral and manichaeistic concepts, which may lead to intolerance.[31] The association between intolerance and knowledge can be observed in our results, since the greater the knowledge one has, the less tolerant attitudes one adopts toward the 'dependent student' situation, and the higher the chance of requesting the student's expulsion from the school.

It is important to note that, unlike specific knowledge about drugs, specific knowledge about risk factors seemed to be associated with empathic attitudes, which reinforces the hypothesis that these attitudes are connected to how sensitive educators are towards their students' needs.[19]

The asynchrony between general knowledge on drugs and the less empathic attitudes displayed may lead us to the idealisation of knowledge as the main determinant of the attitudes and behaviour of a given individual, when, in fact, these determinants are of a multiple nature.[30] The disease-centred medical information model is still very present, not only in preventive intervention but also in what educators perceive as prevention.[1,7,13]

The inclusion of educators in strategies aimed at preventing drug use in schools is facilitated by their empathic attitude; however, there are significant barriers such as the feeling of impotence and the view - shared by some experts in the field - that the pure and simple transmission of technical and biochemical knowledge suffices, thus disconsidering the social and emotional aspects or the working conditions involved.

Conclusion

Educators have an average knowledge about drug use and display predominantly empathic attitudes. However, the relation between the two is inverse. The implications of these findings for the development of preventive actions against the abuse of drugs in the schools are: 1) empathic attitudes facilitate the establishment of bonds between students, family and the school, but 2) specific knowledge on drugs has generated intolerant attitudes which prevent the establishment of such bonds. The solution to this problem would necessarily involve the encouragement of empathic attitudes, including the knowledge on risk and protection factors, as well as the social contextualisation of specific knowledge on drugs.

1. Study limitations

The attitudes and knowledge displayed by educators were measured according to the opinions of Pedagogical Coordinators i.e. those who are in charge of the schools' teaching programs instead of directly according to professionals, thus possible limiting the study's accuracy.

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** Modest*
*** Significant*
**** Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.*
Note: UNIFESP = Universidade Federal de São Paulo; UNISANTOS = Universidade Católica de Santos; FAPESP = Fundação de Amparo à Pesquisa do Estado de São Paulo; CNPq = Conselho Nacional de Desenvolvimento Científico e Tecnológico.
For more information, see Instructions for authors.

References

1. Bucher R. A abordagem preventiva. In: Bucher R, organizador. *As drogas e a vida*. São Paulo: Pedagógica e Universitária; 1988. p.55-67.
2. Districted Nations Educational Scientific and Cultural Organization – UNESCO. *Records of the general conference seventeenth session.* Paris, 17 october to 21 november 1972.
3. Costa AC, Gonçalves EC. A sociedade, a escola e a família diante das drogas In: Bucher R, organizador. *As drogas e a vida*. São Paulo: Pedagógica e Universitária; 1988. p.47-54.
4. Districted Nations Educational Scientific and Cultural Organization – UNESCO. *Records of the general conference nineteenth session.* Nairobi, 26 october to 30 november 1976.
5. Moreira FG, Silveira DX, Andreoli SB. The drugs abuse related harm reduction in the health promoting schools. *Ciênc Saúde Coletiva*. 2006;11(3):807-16.
6. Tobler N. Meta-analysis of adolescent drug prevention programs: results of the 1993 meta-analysis. *NIDA Res Monogr.* 1997; 170:5-68.
7. Klitzner M, Fisher D, Moskowitz J, Stewart K, Gilbert S. *Report to the Robert Johnson Foundation on strategies to prevent the onset and use of addictive and abuseble substances among children and early adolescents*. Berkeley: Robert Johnson Foundation; 1991.
8. Cuijpers P. Effective ingredients of school-based drug prevention programs. A systematic review. *Addict Behav*. 2002;27(6):1009-23.
9. Ennett S, Tobler N, Ringwalt C, Flewelling R. How effective is drug abuse resistance education? A meta-analysis of Project DARE outcome evaluations. *Am J Public Health*. 1994;84(9): 1394-401.
10. Carlini-Marlatt B. Estratégias preventivas nas escolas. In: Seibel SD, Toscano Jr A, editores. *Dependência de drogas*. São Paulo: Atheneu; 2001. p.191-7.
11. Mukoma W, Flisher AJ. Evaluations of health promoting schools: a review of nine studies. *Health Promot Int*. 2004;19(3):357-68.
12. Rissel C, Rowling L. Intersectorial collaboration for the development of a national framework for health promoting schools in Australia. *J Sch Health.* 2000;70(6):248-50.
13. Carlini-Cotrim B. *A escola e as drogas: o Brasil no contexto internacional* [tese]. São Paulo: Pontifícia Universidade Católica de São Paulo; 1992.
14. Hallfors D, Vevea JL, Iritani B, Cho HS, Khatapoush S, Saxe L. Truancy, grade point average, and sexual activity: a meta-analysis of risk indicators for youth substance use. *J Sch Health*. 2002;72(5):205-11.
15. Gilvarry E. Substance abuse in young people. *J Child Psichol Psichiatry*. 2000;41(1):55-80.
16. Ellickson PL, Morton SC. Identifying adolescents at risk for hard drug use: racial/ethnic variations. *J Adolesc Health*. 1999;25(6):382-95.
17. Galaif ER, Newcomb MD. Predictors of polidrug use among four ethnic groups: a 12-year longitudinal study. *Addict Behav*. 1999;24(5):607-31.
18. Osler M, Nordentoft M, Andersen AM. Childhood social environment and risk of drug and alcohol abuse in a cohort of Danish men born in 1953. *Am J Epidemiol*. 2006;163(7):654-61.
19. Moreira FG, Silveira DX, Andreoli SB. Situations related to drug abuse in public schools in the city of São Paulo, Brazil. *Rev Saude Publica.* 2006;40(5):810-7.
20. Stratton P, Hayes N. *Dicionário de Psicologia.* Tradução de Esméria Rovai. São Paulo: Pioneira Thomson Learning; 2002. p.22-41.
21. Sanchez ZV, Oliveira LG, Nappo SA. Factors related to protection against drug abuse among adolescents – an emphasis on religiosity. *Ciênc Saúde Coletiva*. 2004;9(1):43-55.
22. De Micheli, Formigoni ML. Do the reasons for the first drug use and the family conditions predict the future use pattern? *J Bras Dependência Química*. 2001;2(1):20-30.
23. Noto AR, Moreira FG. Prevenção ao uso indevido de drogas: conceitos básicos e sua aplicação na realidade brasileira. In: Silveira DX, Moreira FG. *Panorama atual de drogas e dependências*. São Paulo: Atheneu; 2006. p.313-8.
24. Dias JC, Pinto IM. Substâncias psicoativas: classificações, mecanismos de ação e efeitos sobre o organismo. In: Silveira DX, Moreira FG. *Panorama atual de drogas e dependências.* São Paulo: Atheneu; 2006. p.313-8.
25. Carlini EA, Galduróz JC. *II levantamento domiciliar sobre o uso de drogas psicotrópicas no Brasil.* São Paulo: CEBRID – Centro Brasileiro de Informações sobre Drogas Psicotrópicas; 2005.
26. Galduróz JC, Noto AR, Fonseca AM, Carlini EA. *V levantamento nacional sobre o consumo de drogas psicotrópicas entre estudantes do ensino fundamental e médio da rede pública de ensino nas 27 capitais brasileiras*. São Paulo: CEBRID – Centro Brasileiro de Informações sobre Drogas Psicotrópicas; 2004.
27. World Health Organization – Substance abuse department: social change and mental health. *"Global status report on alcohol"*. Geneva; 1999. p.121-4.
28. Noto AR, Batista MC, Faria ST, Nappo SA, Galduróz JC, Carlini EA. Drug and Health on the Brazilian press: analysis of the published newspapers and magazines articles. *Cad Saude Publica*. 2003;19(1):69-79.
29. Gorgulho M. A influência da mídia na realidade brasileira do fenômeno das substâncias psicoativas. In: Silveira DX, Moreira FG. *Panorama atual de drogas e dependências.* São Paulo: Atheneu; 2006. p.451-6.
30. Gorgulho M. O papel da mídia da promoção do uso responsável de álcool. In: Buning E, Gorgulho M, Melcop AG, O'Hare P. *Álcool e redução de danos: uma abordagem inovadora para países em transição*. Brasília, DF: Ministério da Saúde; 2004.
31. Andrade TM, Friedman SR. Princípios e práticas de redução de danos: interfaces e extensão a outros campos da intervenção e do saber. In: Silveira DX, Moreira FG. *Panorama atual de drogas e dependências*. São Paulo: Atheneu; 2006. p.395-402.
32. Freire P. *Pedagogia da Autonomia: saberes necessários à prática educativa.* São Paulo: Paz e Terra; 1996. p.44.