

Smoking and substance exposure among preparatory school children

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Abstract

The present study deals with the problem of smoking and substance abuse among preparatory school children in an Egyptian sample. The prevalence of smoking was found to be 57% for boys and 22.2% for girls (smoked at least once). The prevalence of exposure to other substances was 52.3% in boys and 2.2% in girls. For girls, alcohol was the only substance used (beer), though not in a regular pattern, but for boys other substances tend to be also abused as Hashish, Benzodiazepines and volatile solvents. The age of starting either smoking or substance abuse was as below as 10 years of age in both sexes. The most common motives found behind both smoking and substance abuse were parent imitation, curiosity, peer group influence and imitating a star. The places where boys first smoked or abused other substances were more commonly outside home, but for girls, they usually start at home (whether their own home or that belonging to other friends). Both smoking and substance abuse were more prevalent among those who did not live with their parents together. For boys, smoking and substance abuse were more commonly found in rural and semi-rural areas with the reverse finding in the case of girls. Prevention programs and public policy measures are advised to start with school children, who represent the actual population at risk.

Introduction Smoking and substance abuse constitute one of the major health problems all over the world including Egypt. Recent researches related to these subjects suggest increased prevalence in younger age groups and children (*National institute on Drug Abuse, 1989*).

The morbidity of either smoking or substance abuse with other psychiatric and medical disorders is far out of discussion. As a great number of abusers as well as smokers start early in their life (at least experimental use), yet, greater emphasis of the problem in children and adolescents seems mandatory.

The recent advances in prevention program of addictive disorders start to take this point into much consideration (*Kumpfer & Hopkins, 1993*).

The aim of the present study was to evaluate the problem of smoking and drug abuse in preparatory school children, with special emphasis on the possible associated risk factors with the hope of early detection and hence better prevention.

Subjects and Methods A total number of 1323 children of different social classes were randomly selected from 12 preparatory schools (private and governmental) in the western educational zone of Giza (representing about 10% of the total student population of these schools) during the academic year 1992-1993. Every child was subjected to a semi-structured questionnaire consisting of 65 items including demographic data, family history as well as history of smoking and substance taking.

Regular substance takers and smokers were further assessed through Ain Shams University psychiatric case sheet; diagnosis of dependence syndrome was made according to the diagnostic criteria of ICD-10 (1992). The Chi square test was used for statistical analysis.

Results The sample consisted of 1323 children divided into male and female groups (675 and 648 children, respectively). The age ranged from 12 to 15 years old.

Table 1: The prevalence of smoking and substance use

	Boys		Girls	
	No.	%	No.	%
1) Smoking				
a) Never smoked	290	43	504	77.8
b) Smoked once	100	14.8	90	13.9
c) Occasional smoker	100	14.8	39	6
d) Regular smoker	185	27.4	15	2.3
-Non dependent	170	25.2	15	2.3
-Dependent	15	2.2	0	0
2) Other substances				
a) Never used	322	47.7	634	97.8
b) Once used	89	13.2	3	0.5
c) Occasional use	151	22.4	11	1.7
d) Regular use	113	16.7	0	0
-Non dependent	103	15.2	0	0
-Dependent	10	1.5	0	0

Table (1) shows that 385 out of 675 boys (57%) and 144 out of 648 girls (22.2%) had been exposed to smoking. 353 out of 675 boys (52.3%) and 14 out of 648 girls (2.2%) had been exposed to substances.

For the male group, 232 boys smoked and took other substances in addition, while 53 smoked only with no use of other substances and 32 took other substances only.

Table (1): Number of cigarettes smoked by regular smokers

Number of cigarettes / day	Boys		Girls	
	No.	%	No.	%
1	70	37.8	1	6.7
2	30	16.2	2	13.3
3	10	5.4	1	6.7
4	25	13.5	3	20
5	20	10.8	3	20
6	5	2.7	0	0
10	12	6.5	0	0
11-15	5	2.7	5	33.3
15-20	3	1.6	0	0
21-30	5	2.7	0	0
Total	185	100	15	100

Table (2) shows that 30 boys (16.2%) and 5 girls (33.3%) are heavy smokers (smoked 6 cigarettes or more / day).

Table (3): The types of substances used (other than tobacco)

Substance	Boys		Girls	
	No.	%	No.	%
Alcohol (beer)	107	30.3	14	100
Kinna	14	4	0	0
Methyl Alcohol	3	0.8	0	0
Hashish	68	19.3	0	0
Bango	8	2.3	0	0
Benzodiazepines	18	5.1	0	0
Cough mixtures	12	3.4	0	0
Inhalants (volatile solvents):	123	34.8	0	0
• Glue sniffing	58	16.4	0	0
• Benzene	24	6.8	0	0
• Samara (Chewing gum)	28	7.9	0	0
• Tanner	11	3.1	0	0
• Butagaz	2	0.6	0	0
Total	353	100	14	100

Table (3) shows that 34.8% and 30.3% of the boys were exposed to volatile substance and alcohol (beer) respectively whereas the substances used by the girls was alcohol (beer).

Table (4): The age of onset of smoking and substance use

Age of onset	Smokers				Substance users			
	Boys		Girls		Boys		Girls	
	No.	%	No.	%	No.	%	No.	%
	No.	%	No.	%	No.	%	No.	%
< 10 yrs.	76	19.7	21	14.6	75	21.2	2	14.3
10 yrs.	74	19.2	24	16.7	80	22.7	2	14.3
11 yrs.	72	18.7	21	14.6	50	14.1	1	7.1
12 yrs.	120	31.2	30	20.9	10	2.8	0	0
13 yrs.	23	7.3	24	16.7	83	23.5	8	57.1
14-15 yrs.	15	3.9	24	16.7	55	15.5	1	7.1
Total	355	100	144	100	353	100	14	100

➔ NB: In this work substance use means exposed to substances. - Regular smoking or regular use means at least smoked or took substance once per week. - Dependence syndromes were diagnosed according to ICD-10, 1992.

The most common age of onset for smoking and substance exposure was 12 and 13 years old respectively in either boys or girls.

Table (5): The motives for smoking and substance use for the first time

Motives	Smokers				Substance users			
	Boys		Girls		Boys		Girls	
	No.	%	No.	%	No.	%	No.	%
Peer group influence	105	27.3	18	12.5	141	39.9	2	14.3
Relief of dysphoria	18	4.7	0	0	36	10.2	0	0
Imitating a star	74	19.2	16	11.1	41	11.6	3	21.4
Imitating parents	109	28.3	56	38.9	42	11.9	5	35.7
Increase self confidence	15	3.9	0	0	19	5.4	0	0
Escape from personal problems	0	0	0	0	24	6.8	0	0
Curiosity (desire to try)	64	16.6	54	37.5	50	14.2	4	28.6
Total	385	100	144	100	353	100	14	100

The most common motives behind either smoking or substance taking were found to be parent imitation, curiosity, peer group influence, and imitating a star.

Table (6) The amount of pocket money per day in smokers and substance users compared to control

Pocket money / day	Controls		Boys Smokers		Substance users	
	No.	%	No.	%	No.	%
25 pt	47	16.2	55	19.3	53	20
26-50pt	143	49.3	142	49.8	115	43.6
51-100pt	77	26.6	65	22.8	55	20.8
1-5LE.	22	7.6	23	8.1	41	15.5
Total	290	100	285	100	264	100

Pocket money / day	Controls		Girls Smokers		Substance users	
	No.	%	No.	%	No.	%
25 pt	105	20.8	2	3.7	0	0
26-50pt	293	58.1	25	46.3	6	54.5
51-100pt	64	12.7	14	25.9	3	27.3
1-5LE.	42	8.3	13	24.1	2	18
Total	504	100	54	100	11	100

Regarding the boys there is insignificant difference ($p > 0.05$) between the smokers or the substance users and the controls but there is significant difference ($p < 0.001$) for girls.

Table (7): The absence of one or both parents

Absence	Controls		Boys Smokers		Substance users	
	No.	%	No.	%	No.	%
No	254	87.6	216	76.5	202	76.5
Mother	10	3.4	4	1.4	21	8
Father	22	7.6	56	19.7	38	14.4
Both	4	1.4	7	2.6	3	1.1
Total	290	100	285	100	264	100
Absence	Controls		Girls Smokers		Substance users	
	No.	%	No.	%	No.	%
No	481	95.4	47	87	8	72.7
Mother	8	1.6	2	3.7	1	9.1
Father	14	2.8	5	9.3	2	18.1
Both	1	0.2	0	0	0	0
Total	504	100	54	100	11	100

The difference between smokers and substance users on one hand and control group on the other is significant in boys ($p < 0.001$) and girls ($p < 0.01$).

Table (8): The places where the child smoked or took substance for the first time

Motives	Smokers				Substance users			
	Boys		Girls		Boys		Girls	
	No.	%	No.	%	No.	%	No.	%
In front of school	70	18	0	0	47	13.3	0	0
Cinema	71	18.4	0	0	58	16.4	0	0
Club	17	4.4	47	32.6	31	8.8	0	0
Coffee shop	21	5.5	0	0	33	9.3	0	0
Street	85	22.1	0	0	75	21.2	0	0
Home	40	10.4	50	34.7	23	6.5	5	35.7
Friend's home	57	14.8	47	32.6	60	17	9	64.3
At school	15	3.9	0	0	0	0	0	0
At work	9	2.3	0	0	26	7.4	0	0
Total	385	100	144	100	353	100	14	100

The places where the child smoked or took substances for the first time were more commonly outside the home for the boys, and at home for the girls (or a friend's home).

Table (9): The residence

Residence	Controls		Boys Smokers		Boys Substance users	
	No.	%	No.	%	No.	%
Rural and semi rural	72	24.8	172	60.4	126	47.7
Urban	218	75.2	113	39.6	138	52.3
Total	290	100	285	100	264	100
Residence	Controls		Girls Smokers		Girls Substance users	
	No.	%	No.	%	No.	%
Rural and semi rural	382	75.8	27	50	7	63.6
Urban	122	24.2	27	50	4	36.4
Total	504	100	54	100	11	100

The difference is significant ($p < 0.001$), as regards the distribution of the residence, between smokers and substance users on one hand and control group on the other hand in either boys or girls group.

Discussion The current psychiatric classifications (DSM-III-R, 1987 and ICD-10, 1992) include nicotine as a psychoactive substance (defined as one that, when taken into the body, can alter consciousness or state of mind). In spite of that in addition to its association with various serious medical illness, yet, there are no legal constrictions for its use and it is rather socially accepted.

The latter fact makes the problem of smoking a serious widespread one, that is hardly manageable. Although the overall percentage of smoking has decreased, yet the relative percentage of teenage smokers is rising.

According to the National Institute on Drug Abuse (NIDA) (1989), current use of cigarettes among teenage (aged 12 to 17) is 12%. The present study found 27.4% of boys and 2.3% of girls to be regular smokers, which means that smoking in school children is a real problem which should be seriously taken into consideration.

As regards the dangers of smoking in young age, cigarettes may be the beginning of a clear line followed by alcohol and / or marijuana, progressed to other illicit drugs (Kandel, 1980) ending by heroin; where the age group of major risk for initiation to heroin was 20-24 years (Okasha et al, 1990).

Regarding other substance intake in the present study, regular taking was found in 16.7% of boys compared to none in girls, with 1.5% of boys fulfilling the ICD-10 (1992) criteria of dependence. Alcohol (beer) was the substance taking among the girls; as regards the boys, the volatile solvents were the most common substance followed by alcohol (beer) and hashish, the same as found by Malhotra (1983) and Rojas & Salamanca-Gomez (1989). Kaplan and Sadock (1981) reported that glue sniffing and other volatile solvents are a favorite of the very young from teenage to children of 6 or 7 years.

The habit is dangerous for two reasons: first, there is a risk of tissue damage. Second, young people intoxicated on these solvents are more aggressive and impulsive and at the same time have impaired judgement.

The age onset of either smoking or substance taking was found to be as low as below 10 years of age in both boys and girls, a matter which should be taken into consideration in establishing prevention programs and addressing the population at risk, as suggested by Kozlowski et al (1989), Balley (1989) and Hoover et al (1990).

✦ N.B.: In tables 4.5 and 8 the smokers and the substance users are those who smoked or used substance once, occasional and regular.

N.B.: The controls are the examined children who had neither smoked or took substance at any time of their life. In tables 6, 7 and 9 the substance users are those who smoked or used substance occasional and regular.

The most common motives behind either smoking or substance taking were found to be parent imitation, curiosity, peer group influence, and imitation of a star, which emphasizes the importance of modelling and peer reinforcement as stressed also by Soueif et al. (1982), who described the great influence of mass media in drug abuse.

Newcomb et al (1983), Lerner & Vicary (1984) and Demerdash et al. (1992) found that pocket money may be considered as a "facilitator" for experimenting with drugs. In the present study, regarding the boys, we could not find a significant difference between the smokers or the substance takers and the controls as regards the pocket money as the substance takers took cheap substances (volatile substance). This does not lessen the importance of pocket money but it signifies the importance of the other risk factors. Regarding the girls, there is significant difference; a possible explanation may be the fact that smoking and alcohol drinking by females is often accepted behavior in the higher social classes with subsequently more pocket money.

Regarding associated family factors, both smoking and substance taking were found to be significantly more prevalent among those who did not live with their parents together. Such a finding has been also observed by others as Bry (1983), Fahmy, M. (1989), Runeson (1990), El-Mahallawy & Seif El-Dawla (1992).

The common places chosen for the first time to smoke and take substance were in the street, front of school, "cinema" or "friend's home" for boys, whereas for girls the club or home were the commonest places. Such a difference might be attributed to choice of places with the least social restriction and where peers can meet together.

Regarding the residence, smoking and substance taking were found to be more prevalent in rural and semi-rural areas than in urban areas, in case of males, with the reverse finding in females. A possible explanation might be that smoking and drinking beer are an unacceptable social behavior for even adult females in rural areas, thus, there will be less chance for "modelling" or imitation by young females or female children. So, the male children are exposed to smoking and substance taking in rural and semi-rural areas earlier than those in urban areas.

Findings in the present study recommend that prevention programs and public policy measures to combat smoking and substance abuse should start with special focus on school children, who represent the actual population at risk.

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التعرض للتدخين وسوء استخدام المواد بين أطفال المدارس الإعدادية

في عينة مصرية من أطفال المدارس الإعدادية بنين وبنات، وجد أن ٥٧٪ من البنين و٢٢,٢٪ من البنات يدخنون السجائر، ٥٢,٣٪ من البنين مقابل ٢,٢٪ من البنات يستخدمون المواد. وكانت البنات يستخدمن الكحوليات (بيرة) فقط وتؤخذ بطريقة غير منتظمة.

وقد وجد أن بداية التدخين واستخدام المواد كانت قبل سن العاشرة بالنسبة للبنين والبنات. وقد وجد البحث أن دوافع هؤلاء الأطفال للتدخين واستخدام المواد تشمل تقليد الآباء، حب الاستطلاع، تأثير أصدقاء السوء، تقليد بعض النجوم. وكانت أكثر انتشاراً عند الأطفال الذين لا يعيشون مع الأبوين، وأن المكان الذي يدخنون ويستخدمون المواد فيه بالنسبة للأولاد يكون خارج المنزل. أما بالنسبة للبنات فيكون داخل منازلهن أو داخل منازل أصدقائهن. ووجد أيضاً أن التدخين وسوء استخدام المواد كان أكثر انتشاراً في الريف عنه في الحضر بالنسبة للأولاد والعكس صحيح بالنسبة للبنات.