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A Descriptive Study Of School Children's Knowledge, Attitudes And Practices Regarding Smoking. *

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SUMMARY

The goal of this study is to explore different risk factors for smoking and look at the relationships between knowledge, attitudes, and behavioral intentions regarding smoking among schoolchildren, in order to reduce teenage smoking. To achieve this goal a self-administered questionaire regarding smoking was provided to schoolchildren in the 7th and 8th grades in one junior high school in Jerusalem.

The schoolchildren were exposed to 10-12 hours of a smoking prevention intervention program. The questionaire focused primarily on the personal characteristics, social environment, knowledge, attitudes, practices, and behavioral intentions of the children.

Crosstabs were performed on each variable to determine if significant associations exist among the different variables. The statistical computer package, SPSS PC, was used to manipulate the data along with Chi-square test.

The findings were as follows :

About 11% of the children aged 12-14 have ever smoked or are smoking currently, and about 24.0% of those who ever smoked started smoking at the age of 10. Boys smoke more($p<.01$), poorer students(by self-perception of school performance) smoke more, and those who had peers who were smokers were more likely to smoke($p<.05$).

The percentage of the children who reported that either father or mother smoked was about 30%, but no statistical association was found between parental smoking and children's smoking, although trends were noted in the expected direction, i.e. more smokers among children of smokers. Only 1.1% of the children intended to smoke in the future, and 98.0% of the children indicated that they can or they might be able to withstand social pressure.

Seventy percent of the children demonstrated medium to high knowledge about smoking, Males, 8th graders, better students, and those without friends who smoke had higher social pressure showed more negative attitudes($p<.01$). Those with non-smoking siblings showed more negative behavioral intentions regarding smoking($p<.01$),

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and better students showed more negative behavioral intentions. Those who had higher knowledge scores showed more negative attitudes towards smoking, but not significantly so. Those who had very negative behavioral intentions showed highly significant negative attitudes towards smoking($p<.01$).

I. INTRODUCTION

1. Introduction

Smoking is now recognized as one of the most damaging, health risking personal habits. The earlier one starts smoking, the greater the likelihood of subsequent adverse health consequences, such as heart disease and lung cancer(Brink et. al, 1988). Yet many young people are still beginning to smoke despite the obvious dangers to their health(Greenberg & Deputat, 1978). Adolescents adopt different patterns of behavior and life-styles, some of which are not conducive to their present or future health(Bewley, 1986).

Behaviors detrimental to health are embedded in a complex milieu of social forces that often overwhelms educated rationality. Increasing knowledge about the effects of life-style on health does not necessarily lead to changes in attitudes about the social significance of behaviors like smoking(McAlister, 1979) or to behavioral change.

Many interventions have attempted to reduce smoking in various populations(McAlister, 1979 ; Arkin et al, 1981 ; Best, 1988), and most of them emphasized the need to examine more fully the context in which some young people adopt the smoking habit. Experimenting with cigarettes and the subsequent adoption of smoking often begins during childhood or early adolescence(Coe et. al, 1982 ; McCaul et al, 1982 ; Nolte et al, 1983).

Because of the addictive nature of smoking it may be easier to persuade people not to take up the habit than to help them to break it(O'Connell et al, 1981). It is important to know at what ages children begin smoking, which children are most likely to acquire the habit and what forms of intervention are likely to be effective. Sound information on prevalence, knowledge, attitudes, and behavioral intentions provides an important platform for planning and monitoring programs of action.

2. General purpose

The goal of the study is to explore different risk factors for smoking initiation and look at the relationships between knowledge, attitudes, and behavioral intentions regarding smoking among schoolchildren, in order to plan better preventive program to reduce teenage cigarette smoking.

3. Specific objectives

1) To study the prevalence of smoking among schoolchildren by age, gender, grade, parental smoking patterns, sibling smoking, and peer smoking in a junior high school.
2) To determine whether children's degree of knowledge regarding smoking is related to their peer smoking, self perception of school performance, and smoking practices.
3) To determine whether children's attitudes regarding smoking are related to their self-perception of school performance, and self-rating of ability to withstand social pressure.
4) To determine whether children's behavioral intentions regarding smoking are related to their sibling smoking, and self-perception of school performance.
5) To determine whether there is relationships between knowledge, attitudes, and behavioral intentions regarding smoking.

4. Literature review

The survey undertaken during 1986 in Ten

countries of the WHO's European region included questions on smoking behavior covering present consumption and past experience with tobacco use. The survey included representative samples of 11, 13 and 15 year old children. Smoking prevalence among 11 year olds is low in most countries among both boys and girls and there were clear national or cultural differance such as Israel and Sweden reporting very low levels of smoking while others such as Switzerland,Spain, Hungary and Austria report relatively high rates of occational smoking, especially among the boys. Already by the age of eleven 30% of boys and 20% of girls have tried smoking and in most countries there is a dramatic increse in overall smoking prevalence between the ages of 11 and 13. The smoking prevalence rates for the 15 year old group shows 4 to 5 fold increse in habitual daily smoking compared with 13 year olds(WHO, 1989).

Israel has the lowest prevalence rate among 15 year olds when compared with the other Western European country, but these rates increase markedly when they reach the age of 18. The proportion of adult smokers over age 20 in Israel was 37% in 1989 which shows a gradual increase from 1987(Ministry of Health, Education, and Labor in Israel, 1989).

Cigarette smoking has been identified as the single most important source of preventable morbidity and premature mortality in each of the reports of the U. S. surgeon general produced since 1964(Fielding, 1989). Propose actions directed towards discouraging smoking stressed that smoking is one of the greatest health hazards of modern times and yet is avoidable (WHO, 1975). It has been estimated that an average of 5 1/2 minutes of life is lost for each cigarette smoked, on the basis of an average reduction in life expectancy for cigarette smokers of five to eight years. Cigarette smoking is the most important modifiable risk factor for coronary heart disease and also the most powerful risk factor predisposing to atheroscleotic peripheral-arterial occlusive disease. Smokers in the age range of 40 49 appear to have the greatest increase in stroke mortality as compared with non-smokers. There is an association with smoking and lung cancer, cancer of the larynx, oral cancer, carcinoma of the esophagus, cancer of the bladder and cancer of the pancreas(Fielding, 1989). Experimental evidence confirms the presence of carcinogens and irritants in tar from cigarette smoke. Pathological studies show precancerous changes in the bronchial epithelium of men who smoke and of experimentally exposed animals. The known harmful components of smoke include tar, nicotine, and carbon monoxide, and a reduction in the first two has been associated with decrased risk. There is an inverse association between smoking and birth weight. The infants born to women who smoke during pregnancy weigh an average of 200gm less than those born to non-smokers, due to the direct retardation of fetal growth. Infants of smoking mothers show marked decreses in length and in the circumference of the head, chest, and shoulder(Fielding, 1989).

The development of the smoking habit is related to environmental factors, social factors and personal factors. Young people's actions reflect the attitudes, values and norms of the society in which they live(Olds, 1988). According to Erikson, adolescents must establish their own identity or be caught in confusion regarding their role. As they approach adulthood ,teenagers will contend with establishing intimate relationships or remaining socially isolated. Decisions regarding life-style and vocation are most important. Peer and social spheres are expanding, and adult social and cognitive skills need to be developed. The development of the adolescent characterized by vacillation and ambivalence, family relationships supportive but tumultuous, peer relationships intense but unstable, development of skills in individual and group relationships, increasing involve-

ment with opposite sex, developing independence, self-image, becoming more responsible and discovering reality of the world(Stanhope & Lancaster, 1988). If young people see smoking as normal social behavior, with few environmental restrictions on where and when people can smoke, those who wish to behave as 'adults' could see smoking as one way of doing so. The influence of cigarette advertising campaigns and promotional strategies can associate smoking with fun, risk taking, and maturity. The portrayal of smoking in a positive way through the media might reinforce positive beliefs about smoking and encourage children to smoke(WHO, 1989).

A child or adolescent's peer group exerts the greatest influence on development. It is with and through the peer group that a variety of developmental tasks are accomplished. Peers permit the individual to try out and even fail in new skills, to validate thoughts, feelings, and concepts, and to receive acceptance and support as a unique person. Conversly, a peer group can place demands and pressure on the individual to conform that create feelings of being uncomfortable or even inferior. The alanced effect of this peer influence can be positive at times, negative at others, and almost always lasting(Stanhope & Lancaster, 1988). Adolescents are continually comparing themselves to their peer and making judgements of their own normality based on these observations. Adolescent feel most comfortable when they are just like their friends and age-mates(Whaley & Wong, 1987).

The concept of peer pressure has been consistently identified as a factor influencing smoking behavior among young people. Having a 'best friend' who smokes is a strong predictor of adolescent smoking. Young people who do smoke, usually 'smoke with friends' and smoking clearly represents a sociable activity for them(Perry et al, 1986 ; Olds, 1988). Many young people experiment with smoking in groups, and peer approval is an important mechanism for maintenance of the habit. For these reasons, helping young people develop the confidence and skills to resist social pressure to smoke could contribute to a reduction in smoking(McAlister, 1979 ; Finn, 1981).

The parent's influence is the first and most impressive throughout a child's life(Nemir and Schaller, 1975). The child needs parental love and support. Parental guidance, knowledge, and experiences continue to be used by childern as resources for verifcation of their own fast developing repertoire of behaviors. Parental values, ideas, and expectations become a springboard for adolescents to develop their own. Although adolescents may diverge or digress from parental points of view, the influence remains and eventually affects decisions and behaviors (Stanhope & Lancaster, 1988). Parental smoking behavior and parental attitudes to smoking have been consistently associated with smoking among young people. Children from homes where no adults smoke and/or where parents would disapprove are less likely to become regular smokers. Parental influence appears to be strongest during the transition from 'experimental' smoking to 'regular' smoking(WHO, 1989).

Smoking is an important part of self-image for young people. Among young children smoking may represent a tough, adult image. Contradicting the positive images of smoking, and helping young people develop their self-confidence and social skills would contribute to a reduction in smoking prevalence(WHO, 1989). One study found that boys and girls who socialized more often with those of the opposite sex were more likely to begin smoking or to increase the amount smoked(Bank et al, 1978). However, it appears that already in adolescence, smokers have a greater interest in the opposite sex and more success in establishing relationships with the opposite sex(Walron & Diane, 1989).

Knowledge and beliefs about smoking have been shown to be related to subsequent smoking behavior. Young people who do not smoke are

more likely to hold negative beliefs about smoking, and adolescents who smoke have less knowledge about the health risks of smoking(WHO, 1989). Bandura reports that belief in one's ability to perform a specific behavior is an important link between knowing what to do and actually doing it. Health education which simply provides health information, and increases an individual's desire to a particular behavior does not lead a behavior change(Lawrence & McLeroy, 1986).

Health education aims to motivate the person to take the information and do something with it to keep himself healthier by avoiding actions that are harmful and by forming habits that are beneficial. School health education aims to conserve or improve the health of schoolage youth and give them guidelines for healthful living all of their lives(Banks, 1978). School heath education seeks to provide learning experiences which will, favorably influence individual health behavior, and ultimately family and community as well (Waldron & Diane, 1989).

When examining health education campaigns and supporting materials from the 1960's, it is apparent they were based on a very simple understanding of adolescent health behavior which linked knowledge directly with behavior. They assumed that well-informed young people would respond in a medically rational way to information about future health risks. Whilst provision of information about the health risks of smoking my have helped confirm the intentions of some young people not to smoke, such approaches were not consistently shown to be effective in reducing teenage smoking(Tompson, 1978). Most of the educational activities of a smoking control programme are aimed at motivating people to stop smoking. Many smokers do wish to give up the habit but feel unable to do so by themselves. This means that they need either instruction or support in their efforts to stop smoking. The encouragement of young people not to take up smoking-as the one certain protection against the health hazards of cigarettes-is of vital importance(WHO, 1975). Health knowledge of some kind is probably necessary before a personal health action will occur, but the desired health action will probably not occur unless a person receives a cue strong enough to motivate him or her to act on the knowledge he or she has (Green, 1980). The most appropriate age of smoking intervention is the age in which smoking onset is greatest(from the sixth grade up)(Glynn, 1989). The subject should be presented clearly and effectively to children, as part of a health education component of the curriculum in schools. It is essential that teachers, parents, and members of the health professions should set a good exampleby refraining from smoking themselves. At the least, they should aviod smoking in the presence of children. The point that moking is an educational and social problem with health consequences does not appear to have gained adequate recognition(WHO, 1975). Health education programs must include kowledge of what to do, skills to do it, and incentives for doing it, in order to adondon the negative unhealthy behavior or adopt a healthy behavior (Lawrence & McLeroy, 1986).

Ⅱ. METHODOLOGY

1. Data collection

A short self-administered questionnaire regarding smoking was provided to 98 7th graders and 117 8th graders in one junior high school in Jerusalem(total 202 children). The questionnaire included demographics, parental smoking habits, smoking habits of siblings and peers, and children's behavioral intentions regarding smoking, as well as their feelings when they enter a room where there are smokers, and knowledge and attitudes towards smoking.

The schoolchildren were then exposed to 10−12 hours of the 'To Breathe Clean Air' smoking pre-

vention program. This program was designed for 7th and 8th graders and involves group work methods under the teacher's supervision.

2. Description of the intervention progam

General characteristics of the program are as follows :

The program includes five lessons , with each lesson consisting of 5 components :

- An explanation of the goals of the lesson.
- An explaination of the tasks to be done in the lesson.
- Detailed instructions on how to carry out the tasks, including preparation of materials needed for the class.
- Worksheet pages necessary to carry out the task.
- Background information pages.

Lesson 1. Beliefs and facts about smoking.
Lesson 2. Smoking and non-smoking adults.
Lesson 3. Advertisement of smoking.
Lesson 4. Health consequences of smoking.
Lesson 5. Social pressures and smoking.

3. Statistical Analysis

The analysis was done using the SPSS packaged program. First, the frequencies and percentages of each variable were determined. Then chi-square tests were done to assess the statistical differences between the independent variables age, gender, grade, respondents' smoking, parental smoking patterns, parent's occupation, sibling smoking, and peer smoking and their relationship to the dependent variables knowledge, attitudes and behavioral intentions of smoking.

The questionnaire contains 13 knowledge questions, with those giving correct answers getting 1 point and those giving incorrect answers getting no points, so when students correctly answered all the knowledge questions they got 13 points. In order to relate student knowledge to the independent variables, the knowledge scores were collapsed into 3 categories : low knowledge (0−8 points), medium knowledge(9−10 points), and high knowledge(11−13 points).

There were 4 attitude questions. Those who showed a negative attitude towards smoking got 1 point and those who showed a positive attitude towards smoking got no points. Thus when a student showed a negative attitude towards smoking on all attitude questions they got 4 points. To relate attitude to the independent variables, attitude was collapsed into 2 categories : very negative attitude(4 points) versus not so negative attitude(3 points or less).

There were 4 behavioral intention questions. Those who answered negatively got 1 point and those who answered positively got no points, so when the student showed very negative behavioral intentions with regard to smoking they got a total of 4 points. To analyze behavioral intention with the independent variables it was collapsed into 2 categories : very negative intention towards smoking(4 points) versus not so negative intention(3 points or less).

There were 7 questions related to satisfaction with specific aspects of the program. Three points were allocated to those who answered 'I learnt a lot', 2 points to those who answered 'I learnt some' and 1 point to those who answered 'I learnt a little'. The highest possible score was 21 points. To relate satisfaction to the independent variables, satisfaction was collapsed into very satisfied(15−21 points), and somewhat satisfied (0−14 points).

5. Limitations

The study population is a selected group in one school and may not be representative of the entire school population in Jerusalem, so it is unclear to what extent the results are generalizable.

There is no comparison group because there are two types of schools in Jerusalem which include 7th and 8th grades :

(a) elementary schools with 1st−8th grade students and

(b) high schools with 7th−12th grade students.

The intervention program for the prevention of smoking was introduced to 7th and 8th graders in all the elementary schools in Jerusalem that include 7th and 8th grades. If we had used comparable grade levels in a high school setting, it would not be appropriate because the younger students are very much influenced by the more senior students.

The reliability of the questionnaire was not tested and the degree of the accuracy of self-report is not known, although the questionnaire was purposely kept anonymous to minimize report bias(Martin & Newman, 1982).

Ⅲ. RESULTS

1. Description of the General characteristics of the study population.

In table 1, the findings show that 185 subjects were participated, and the age range was from 12years to 14 years old. Female subjects were slightly more prevalent and there were fewer 7th graders.

Table 1. Distribution of the Study Population by Age, Gender, and Grade.

		No	%
Age(yrs.)	12	38	21.0
	13	93	53.0
	14	46	26.0
Gender	Male	78	43.0
	Female	105	57.0
Grade	7th	88	48.0
	8th	97	52.0
Total		185	100.0

With regard to the childrens's rating of their ability to withstand social pressure the majority (53.0%) were sure they could withstand social pressure, 45.0% thought they might be able to withstand social pressure, while only 2.0% of them were not sure of being able to withstand social pressure(Table 2).

Table 2. Distribution of Schoolchildren's Self-Rating of Ability to Withstand Social Pressure (Self-efficacy).

	No	%
I don't think I can	4	2.0
I think I might be able to	82	45.0
I'm sure I can	97	53.0
Total	183	100.0

2. Smoking practices of the schoolchildren.

In table 3, 17.9% of the male children reporting having ever smoked or were smoking currently, versus 5.7% of the female children. There is a highly significant difference between prevalence of smoking in males and females($p < .01$). Of those reporting ever smoking, the age of smoking initiation was evenly divided among 10 year olds (24%), 11 year olds(18.0%), 12 year olds(29.0%), and 13 year olds(29.0%).

Table 3. The Prevalence of Smoking Among Schoolchildren by Gender.

Gender	Male		Female		Total	
Smoking	No.	%	No.	%	No.	%
Have ever smoked or smoking currently	14	17.9	6	5.7	20	10.9
Never smoked	64	82.1	99	94.3	163	89.1
Total	78	100.0	105	100.0	183	100.0
Chi-square=6.88153	D.F.1		p<.01			

Table 4 indicates that the vast majority of students in the study population have never smoked. Only 6.8% of the 7th graders and 14.4% of the 8th graders reported ever smoking or smoking currently(a non-significant difference).

However older graders have had double more experience than the younger graders.

Table 4. The Prevalence of Smoking Among Schoolchildren by Grade.

Grade / Smoking	7th No.	7th %	8th No.	8th %	Total No.	Total %
Have ever smoked or smoking currently	6	6.8	14	14.4	20	10.8
Never smoked	82	93.2	83	85.6	165	89.2
Total	88	100.0	97	100.0	185	100.0

Chi-square=2.77479 D.F.1 p>.05

In table 5, 7.3% of the children with smoker fathers had ever smoked or were smoking currently, as opposed to 12.5% of children with non-smoker fathers. These differences did not reach statistical significance(p>.05).

Table 5. The Prevalence of Smoking Among Schoolchildren as Related to their Father's Smoking.

Paternal smoking / Child Smoking	Yes No.	Yes %	No No.	No %	Total No.	Total %
Have ever smoked or smoking currently	4	7.3	16	12.5	20	10.9
Never smoked	51	92.7	112	87.5	163	89.1
Total	55	100.0	128	100.0	183	100.0

Chi-square= 1.07983 D.F.1 p>.05

Table 6 shows pattern oppsite to the one in the previous table, with more children of smoking mothers having experienced smoking(17%) than children of non-smoking mothers(8.3%), although again the differences were not significant. Those with smoking mothers seem to have had more experience smoking than those with smoking fathers. Similar patterns to those of maternal smoking were noted with respect to sibling smoking habits(i.e. more smokers among those with sibling smokers, although statistically not significant)(data not shown).

Table 6. The Prevalence of Smoking Among Schoolchildren as Related to their Mother's Smoking.

Maternal smoking / Children smoking	Yes No.	Yes %	No No.	No %	Total No.	Total %
Have ever smoked or smoking currently	9	17.0	11	8.3	20	10.8
Never smoked	44	83.0	121	91.7	165	89.2
Total	53	100.0	131	100.0	185	100.0

Chi-square=2.93305 D.F.1 p>.05

Table 7 shows a significantly greater prevalence of smoking in schoolchildren among those whose friends smoke than in those without friends who smoke(p<.05).

Table 7. The Prevalence of Smoking Among School Children as Related to Friends Smoking.

With friends who smoke / Children smoking	Yes No.	Yes %	No No.	No %	Total No.	Total %
Have ever smoked or smoking currently	3	30.0	17	9.7	20	10.8
Never smoked	7	70.0	158	90.3	165	89.2
Total	10	100.0	175	100.0	185	100.0

Chi-square=4.03716 D.F.1 p<.05

Table 8 shows that children with very negative intentions regarding smoking have experienced significantly less smoking than children with not so negative intentions(4.7% vs. 19.0%)(p<.01).

Table 8. Distribution of Schoolchildren's Smoking Practices According to their Behavioral Intentions Regarding Smoking.

Behavioral Intentions / Smoking habit	Not so negative No.	Not so negative %	Very negative No.	Very negative %	Total No.	Total %
Have ever smoked or smoking currently	15	19.0	5	4.7	20	10.8
Never smoked	64	81.0	101	95.3	165	89.2
Total	79	100.0	106	100.0	185	100.0

Chi-square=9.56006 D.F.1 p<.01

Table 9 shows that attitudes towards smoking among those who have ever smoked or are smoking currently are less negative than those who have never smoked($p<.05$). Children's smoking practices and attitudes towards smoking are related.

Table 9. Distribution of Schoolchildren's Smoking Practices According to their Attitude Towards Smoking.

Attitudes / Smoking habit	Not so negative No.	%	Very negative No.	%	Total No.	%
Have ever smoked or smoking currently	10	18.5	10	7.6	20	10.8
Never smoked	44	81.5	121	92.4	165	89.2
Total	54	100.0	131	100.0	185	100.0

Chi-square=4.69866 D.F.1 $p<.05$

3. Schoolchildren's degree of knowledge regarding smoking.

Distribution of the knowledge scores regarding smoking showed that following a smoking intervention program, almost 1/3 had low knowledge scores, and the majority had medium and high knowledge scores. With regard to the relationship between friends smoking and children's knowledge about smoking, table 10 indicates that for the low knowledge group, 70% had smoking friends and 27.4% did not have smoking friends. In the medium and high knowledge groups on the other hand, the pattern was reversed with more non-smoker friends in the higher knowledge groups. There is a significant difference in the degree of knowledge regarding smoking between children with smoking friends and children without smoking friends($p<.05$), but the numbers in the first group are small.

Table 10. Distribution of Schoolchildren's Knowledge Regarding Smoking by Friends Smoking.

Friends smoking / Knowledge	Yes No.	%	No No.	%	Total No.	%
Low knowledge	7	70.0	48	27.4	55	29.7
Medium knowledge	2	20.0	72	41.1	74	40.0
High knowledge	1	10.0	55	31.4	56	30.3
Total	10	100.0	175	100.0	185	100.0

Chi-square=8.25859 D.F.2 $p<.05$

Table 11 shows a significant difference in the degree of knowledge between the better and poorer students($p<.05$). In general, the better students are more knowledgeable about smoking than the poorer students.

Table 11. Distribution of Schoolchildren's Degree of Knowledge Regarding Smoking by Self Perception of School Performance.

Performance / Knowledge	Better students No.	%	Poorer students No.	%	Total No.	%
Low knowledge	35	25.5	19	40.4	54	29.3
Medium knowledge	62	45.3	12	25.5	74	40.2
High knowledge	40	29.2	16	34.1	56	30.4
Total	137	100.0	47	100.0	184	100.0

Chi-square=6.29443 D.F2 $p<.05$

In table 12, it can be noted that there is a relationship between the children's degree of knowledge regarding smoking and their smoking practices. Ninety percent of those who ever smoked or are currently smoking had low to medium knowledge, whereas of those who never smoked, the equivalent subtotal is 67.3%. However, statistically, these differences were not significant($p>.05$).

Table 12. Distribution of Schoolchildren's Degree of Knowledge Regarding Smoking by Smoking Practices.

Smoking habit / Knowledge	Have Ever S. No.	%	Never S. No.	%	Total No.	%
Low Knowledge	6	30.0	49	29.7	55	29.7
Medium Knowledge	12	60.0	62	37.6	74	40.0
High Knowledge	2	10.0	54	32.7	56	30.3
Total	20	100.0	165	100.0	185	100.0

Chi-square=5.28681 D.F.2 $p>.05$

4. Schoolchildrens attitude towards smoking.

The great majority(71.2%) of schoolchildren had very negative attitude towards smoking, although 28.8% of them had a not so negative attitudes towards smoking. Table 13 indicates that the better students were more negatively disposed toward smoking than the poorer students(73% of the better students were very negative vs. 66% of the poorer students), but these differences did not reach statistical significance($p>.05$).

Table 13. Distribution of Schoolchildren's Attitude Towards Smoking as Related to Self-Perception of School Performance

Performance / Attitude	Better students No.	%	Poorer students No.	%	Total No.	%
Not so negative	37	27.0	16	34.0	53	28.8
Very negative	100	73.0	31	66.0	131	71.2
Total	137	100.0	47	100.0	184	100.0

Chi-square=0.84460 D.F.1 $p>.05$

With regard to the relationship between attitude towards smoking and self-efficacy judgements regarding ability to resist social pressure, Table 14 shows an inverse relationship, the children who had the most negative attitudes towards smoking were for the most part sure they could withstand social pressure(81%), whereas a majority of the not so negative children were unsure of their ability to do so(75%). These differences were highly significant($p<.01$).

5. Schoolchildren's behavioral intentions regarding smoking.

With regard to sibling smoking, however, almost two-third of children with smoker siblings had less negative intentions towards smoking, while only 38.5% of those without smoker siblings did so(Table 15). There appears to be a highly significant inverse relationship between behavioral intentions among those with and without smoker siblings($p<.01$).

Table 14. Distribution of Schoolchildren's Attitude Towards Smoking as Related to Self-Rating of Ability to withstand Social Pressure(Self-Efficacy).

Self-efficacy / Attitude	I don't think I can No.	%	I think I might No.	%	I'm sure I can No.	%	Total No.	%
Not so negative	3	75.0	31	37.8	18	18.6	52	28.4
Very negative	1	25.0	51	62.2	79	81.4	131	71.6
Total	4	100.0	82	100.0	97	100.0	183	100.0

Chi-square=12.45642 D.F2 $p<.01$

Table 15. Distribution of Schoolchildren's Behavioral Intentions Regarding Smoking as Related to Sibling Smoking.

Sibling smokers / Intentions	Yes No.	%	No No.	%	Total No.	%
Not so negative	19	65.5	60	38.5	79	42.7
Very negative	10	34.5	96	65.5	106	57.3
Total	29	100.0	156	100.0	185	100.0

Chi-square=7.31609 D.F.1 $p<.01$

Table 16 indicates that 38.0% of the better students had not so negative behavioral intentions as opposed to 55.3% of the poorer students. 62.0% of the better students had very negative behavioral intentions, versus 44.7% of the poorer students. There is a significant difference in the behavioral intentions regarding smoking among the better and poorer students($p<.05$).

Table 16. Distribution of Schoolchildren's Behavioral Intentions Regarding Smoking as Related to Self-Perception of School Performance.

Performance / Intentions	Better students No. %	Poorer students No. %	Total No. %
Not so negative	52 38.0	26 55.3	78 42.4
Very negative	85 62.0	21 44.7	106 57.6
Total	137 100.0	47 100.0	184 100.0

Chi-square=4.31999 D.F.1 p<.05

6. Relationhips between the degree of knowledge and attitudes and behavioral intentions.

Table 17 shows that there is no relationship between the students knowledge regarding smoking and their attitudes towards smoking(p>.05). The same lack of relationship was noted between knowledge and behavioral intentions(p>.05-data not shown). This pattern held for childrens attitudes towards smoking as well(data not shown).

Table 17. Relationships between Schoolchildren's Degree of Knowledge and Attitude Towards Smoking.

Attitudes / Knowledge	Not so negative No. %	Very negative No. %	Total No. %
Low knowledge	19 35.2	36 27.5	55 29.7
Medium knowledge	18 33.3	56 42.7	74 40.0
High knowledge	17 31.5	39 29.8	56 30.3

Chi-square=1.64771 D.F.2 p>.05

Table 18, on the other hand, shows a relationship between behavioral intentions and attitudes, i.e., those who had more negative behavioral intentions showed more negative attitudes towards smoking. The differences were statistically significant(p<.01).

Table 18. Relationships between Schoolchildren's Behavioral Intentions and Attitude Towards Smoking.

Attitudes / Intentions	Not so negative No. %	Very negative No. %	Total No. %
Not so negative	32 40.5	47 20.8	79 29.2
Very negative	22 59.5	84 79.2	106 70.8
Total	54 100.0	131 100.0	185 100.0

Chi-square=8.54368 D.F.1 p<.01

7. Schoolchildren future intention to smoke.

Table 19 indicates that only a tiny percentage of the children intend to be smokers in the future, while one-third showed uncertain intention for the future.

Table 19. Distribution of Schoolchildren's Future intentions to Smoke.

	Intentions	No.	%
To be :	A smoker	2	1.1
	A non-smoker	123	66.5
	I don't know	60	32.4
	Total	185	100.0

8. Satisfaction with the intervention program.

In table 20, it can be noted that only 40.0% of the schoolchildren predicted that the intervention program they received will be highly effective in preventing smoking among their classmates, while 60.0% of them thought otherwise. Females found the program of significantly more interest than did the males(Table 21).

Table 20 Distribution of Schoolchildren's Prediction of the Effectiveness of the Intervention Program in Preventing Smoking Among Their Classmates.

	No.	%
High prediction	73	40.0
Low prediction	110	60.0
Total	183	100.0

Table 21. Distribution of Schoolchildren's Interest in the Smoking Prevention Intervention Program by Gender.

Level of Interest	Male No.	%	Female No.	%	Total No.	%
Very much	14	17.9	24	22.9	38	20.8
Much	29	37.2	47	44.8	76	41.5
Intermediate	19	24.4	27	25.7	46	25.1
Little	16	20.5	7	6.7	23	12.6
Total	78	100.0	105	100.0	183	100.0

Chi-square=7.99828 D.F.3 p<.05

Table 22 indicates that the 7th graders were generally more satisfied with the programme than the 8th graders(p<.01). There were no significant differences in overall satisfaction between girls and boys(data not shown).

Table 22. Distribution of Schoolchildren's Degree of Satisfaction with Smoking Prevention Intervention Program as Related to Grade.

Grade / Satisfaction	7th No.	%	8th No.	%	Total No.	%
Somewhat satisfied	25	30.5	52	54.2	77	43.3
Very satisfied	57	69.5	44	45.8	101	56.7
Total	82	100.0	96	100.0	178	100.0

Chi-square=10.10217 D.F.1 p<.01

Ⅳ. DISCUSSIONS

Efforts to prevent smoking among adolescents have increased due to the recognition of the relationship between cigarette smoking and the risk of many diseases, and the fact that for a majority of smokers, smoking begins at an early age(Rodney, 1982). This study was designed as a cross-sectional descriptive study to generate some variables which influence initiation of smoking and to find out the relationships between smoking practices and knowledge, attitudes and behavioral intentions regarding smoking among schoolchildren. Some interesting results were found.

In this study, a significant difference in smoking prevalence was noted between boys and girls (p<.01), which supports Bewley's(1986) findings that 6.9% of the boys and 2.6% of the girls in Great Britain, and a higher proportion of boys experimented with cigarettes. However, our results contrast the WHO report that there is only a small difference in prevalence between boys and girls.

The development of health behavior among young people cannot be fully understood without considering the social context of behavior (Nutbeam, 1989). The social environment is the single most important determinant of smoking onset(Best, 1988). In the current study we found that children were significantly more likely to smoke if their close friends smoke(p <.05). In Bewley's(1986) study, 55% of the boys stated that they had smoked their first cigarette with their friends. The smoking onset process has been viewed as a series of stages evolving from preparation and anticipation(knowledge, values, beliefs, attitudes) to intentions, experimentation, regular smoking, and adult smoking. From these stages experimentation is strongly influenced by the presence of smoking peers(Best, 1988). This suggests that the impetus to start smoking among children may come from the peer group and that smoking intervention program should have a social component.

The percentage of children who reported that either father or mother smoked was approximately 30%. This is less than the 42% found in McAlister's(1979) study. Alexander(1983) mentioned parental smoking was significantly related to adoption rates of smoking among their children. In addition, in the study by Nolte(1983), it was mentioned that parental attitude and behavior affected adolescent smoking behavior. In this study parental smoking showed some association with children's smoking practice, but the data did not reach statistical significance, perhaps due to the small number of smokers in the child population.

O'Connell et. al.(1981) mentioned that sibling smoking was the variable most strongly related to smoking prevalence among schoolchildren and Alexander(1983) found children whose siblings smoked were twice as likely to adopt the habit as children whose siblings did not smoke or who had no siblings. In this study however, sibling smoking appeared to show an association with children's smoking practice, but this did not reach statistical significance. Those who had never smoked showed significantly more negative behavioral intentions($p<.01$), as well as more negative attitudes($p<.05$) than those who had ever smoked or were smoking currently.

Only 1.1% of the children expressed an intention to smoke in the future which supports O'Connell's(1981) study. However, 32.4% of the children answered they did not know whether they would be a smoker or non-smoker. This implies an ambivalent attitude about future smoking among a significant propotion of this propotion, a fact which justifies further interventions in the future.

In general, it has been found that many children living in an environment in which adults or older children smoke begin experimenting with smoking at a fairly early age(WHO, 1975). In this study, of those who had any smoking experience, 24% started smoking at the age of 10. Zoller's(1983) study in Haifa showed most Israeli children start smoking at the age of 14(+1), with boys starting at a younger age than girls. In O'Connell's(1981) study many regular smokers reported that they had had their first cigarette at the age of 6, and Alexander(1983) found that children's adoption rate at 5-6years was 10.0% in boys and 7.5% in girls. In 1982, a national study in Great Britain of boys and girls aged 11-16years found that half of the boys and a third of the girls had tried their first cigarette by the age of 11(Bewley, 1986). This suggest that the very young need to be told about smoking and that health promotion activities which are designed to discourage children from starting smoking need to be undertaken before they light their first cigarette.

Perceived self-efficacy is a judgement individuals make about their ability to adopt a particular behavior(Lawrence & McLeroy, 1986). In 1980, WHO decided on smoking as the theme of the world health day and set the slogan "SMOKING OR HEALTH, THE CHOICE IS YOURS". This leaves the responsibility to the individual to decide whether to smoke or not. The current study showed that 98.0% of the children think that they can or they might be able to withstand social pressure, so it gives us the potential of a bright future prospect. In the study of McAlister et. al.(1979), the schoolchildren themselves report that what influences their decision to experiment with tobacco is peer pressure. So there is the need to reinforce health education in this aspect.

In general, academic achievement is negatively associated with smoking, i.e. children who do less well at school smoke more than children who do well at school(McAlister et. al, 1979). This study also showed that better students smoke less than poorer students, but showed no statistically significant difference.

Most of the smoking prevention programs have generally attempted to dissuade schoolchildren from smoking by providing factual information about the dangers of cigarette smoking. The underlying premise was that if schoolchildren were adequately informed of the adverse effect of tobacco use, they would simply choose not to smoke(Botvin & Williams, 1980). Whilst provision of information about the health risks of smoking may have helped confirm the intentions of some young people not to smoke, it was consistently shown to be ineffective in reducing teenage smoking(Thompson, 1978).

In our study, 70.0% of schoolchildren demonstrated medium to high levels of knowledge about smoking. In Uri Zollar et.al.'s(1983) study

of Haifa children, however, 99.2% of schoolchildren had heard about the health risks associated with smoking. Boys obtained slightly higher knowledge scores but not significantly so, whereas O'Connell et. al.(1981) found boys obtaining higher knowledge scores. Eighth graders had higher knowledge scores but not significantly so. Children not exposed to peer smoking showed statistically higher knowledge scores than those exposed to peer smoking($p<.05$). With respect to self-perception of school performance, the better students demonstrated higher knowledge scores than poorer students($p<.05$). However Gilchrist et.al.(1985), stated that being informed about dangers of smoking is not enough. Adolescents must repeatedly make the decision not to smoke and must effectively make the decision in the face of social and peer pressure to do otherwise.

Our study showed that children's attitudes towards smoking were related to their sex, father's smoking, self perception of school performance and self-efficacy. Boys showed more negative attitudes, and those whose fathers were non-smokers had more negative attitudes also. Self-rated better students showed more negative attitudes towards smoking, but not significantly so. In self-efficacy, those who were sure that they could withstand social pressure showed statistically more negative attitudes($p<.01$). Children with non-smoking siblings had statistically more negative behavioral intentions than children with smoking siblings($p<.01$). Also, children who perceived themselves as better students had statistically more negative behavioral intentions than poorer students($p<.05$).

Relationships between knowledge and attitudes about smoking showed that those who had very negative attitudes towards smoking had more knowledge than those with less negative attitudes, but not significantly so. In addition, this study showed that those who had less negative behavioral intentions had more knowledge than those who had very negative behavioral intentions(not significantly so). Most people are aware that smoking is harmful to health, but many continue to smoke, so there remains a discrepancy between behavior and attitudes(Bewley, 1986). Relationships between behavioral intentions and attitudes towards smoking showed that those who had very negative behavioral intentions had more negative attitudes($p<.01$). This supports the study of Alexander et.al.(1983) in which changes in smoking behavior were accompanied by substantial changes in attitude scores.

Results of this study might be utilized in the further development of the content, methodology and strategy of anti-smoking educational programs, including improving the "TO BREATH CLEAN AIR" program with emphasis on smoking behavior which is influenced by peer smoking, sibling smoking, school performance, and self-efficacy judgements of the children.

V. CONCLUSIONS AND RECOMMENDATIONS

1. CONCLUSIONS

Most of the previous intervention programs emphasized the need to examine more fully the context in which some young people adopt the smoking habit. This study was carried out to explore different risk factors for smoking and look at the relationships between knowledge, attitudes, and behavioral intentions regarding smoking among schoolchildren.

Although this study involved limited hypotheses applied to a relatively small sample, it supports some previous findings in the literature. Specifically, it supports other study findings that if a child has close friends who smoke there is a greater likelihood that he will begin smoking, and if either one of his parents smokes the child is more likely to smoke. Since some of those who ever smoked started smoking from the age of 10, if the prevention program is to be effective, efforts must be made during early adolescence.

During the school years, students are exposed to peer influences and role models that encourage smoking initiation.

The data suggest that there is a relationship between sibling smoking habits and behavioral intentions regarding smoking, student performance in school and behavioral intentions regarding smoking, and self-efficacy to withstand social pressure and attitudes towards smoking. The study also indicates that relationships exit between smoking practices and behavioral intentions regarding smoking, and attitudes towards smoking and behavioral intentions regarding smoking.

2. RECOMMEMDATIONS

1) There should be a more intensive and thorough study regarding how to teach children to withstand social pressures, especially peer pressures to smoke.
2) A longitudinal study should be designed to see the changes concerning smoking over time, for example future intentions to smoke, self-efficacy, attitudes, and behavioral intentions
3) A smoking prevention health education program should be developed which adopts self-efficacy theory.

Ⅵ. REFERENCES

Alexander, H. M., et.al.(1983). Cigarette smoking and drug use in schoolchildren : Ⅳ-Factors associated with changes in smoking behavior, Internal Journal of Medicine, Vol. 12, No. 1, 59-65.

Arkin, R. M., et.al.(1981). The Minnesota smoking prevention program : A seventh-grade health curriculum supplement, Journal of School Health, Nov. 611-616.

Banks, M. H, et.al.(1978). Long-term study of smoking by secondary school children, Archives of Dis. Child, 53 : 12-9.

Best, J. A., et.al.(1988). Preventing cigarette smoking among Schoolchildren, Ann. Rev. Public Health 9:161-201.

Bewley, B.(1986). The epidemiology of adolescent behavior problems, British Medical Bulletin, Vol. 42, No. 2, 200-203.

Biglan, A., et.al.(1987). Do smoking prevention programs realy work? Attrition and the internal and external validity of an evaluation of a refusal skills training program, Journal of Behavioral Medicine, Vol. 19, No. 2, 159-171.

Botvin, G. J., et.al.(1980). Preventing the onset of cigarette smoking through life skills trainning, Preventive Medicine, Vol. 9, 135-143.

Brink, S. G. et.al.(1988). Developing comprehensive smoking control programs in schools, Journal of School Health, Vol. 58, No. 5, 177-180.

Clarke, J. H., et.al.(1986). Reducing adolescent smoking : A comparison of peer-led, teacher-led, and expert interventions, Journal of School Health, Vol. 56, No. 3, 102-106.

Coe, R. M., et.al.(1982). Patterns of change in adolescent smoking behavior and results of a one year follow-up of a smoking prevention program, Journal of School Health, Vol. 52, No. 8, 348-353.

Fielding, J. E.(1989). Smoking : Health effects and control, Vol. 59, No. 1, Jan. 13-17.

Finn, P.(1981). Institutionalizing peer education in the health education classroom, Journal of school Health, Feb., 91-95.

Germer, P. and Miller, R. E.(1984). How peers perceive the female adolescent smoker, Journal of School Health, Vol. 54, No. 8, 285-287.

Gilchrist, L. D., et.al.(1985). The relationship of cognitive and behavioral skills to adolescent to tobacco smoking, Journal of School Health, Vol. 55, No. 4, 132-134.

Glynn, T. J.(1989). Essential elements of

school-based smoking prevention program, Journal of School Health, Vol. 59, No. 5, May, 181-188.

Gordon, L. V. and Haynes, D. K.(1981). Smoking-related attitudes and behaviors of parents of fourth grade students, Journal of School Health, Aug., 408-412.

Green, L. W., et.al.(1980). Health education planning-A diagnostic approach, May field publishing comp.

Greenberg, J. S. Ed. D., Deputat, J. Ed. M (1978). Smoking intervention : Comparing three methods in a high school setting, Journal of School Health, Vol. 48, No. 8, 498-502.

Kandal, et. al(1984). Patterns of drug use for adolescent to young adulthood : Periods of risk for initiation, continued use and discontinuation, American Journal of Public Health, 74(7) : 660-665.

Katz, R. C. and Singh, N. N.(1986). Reflexions on the ex-smoker : Somefindings on successful quitters, Journal of Behavioral Medicine, Vol. 9, No. 2, 191-202.

Lawrence, L. and McLeroy, K. R. (1986). Self-efficacy and health education, Journal of school health, Vol. 56, No. 8, Oct. 317-321.

Martin, G. L. and Newman, I. M.(1982). Randomized response : A technique for improving the validity of self-reported health behaviors, Journal of School Health, Vol. 52, No. 8, 222-226.

McAlister, A. L., et. al.(1979). Adolescent smoking onset and prevention, Pediatrics, Vol. 63, No. 4, Apr., 650-658.

McCaul, K. D., et. al.(1982). Predicting adolescent smoking, Journal of School Health, Vol. 52, No. 8, 342-346.

Mettlin, C.(1976). Peer and other influences on smoking behavior, Journal of School Health, Vol. 46, No. 9, 529-536.

Murray, D. M., et. al.(1987). The prevention of cigarette smoking in children : Two and Three year follow-up comparisons of four prevention strategies, Journal of Behavioral Medicine, Vol. 10, No. 6, 595-611.

Nemir and Schaller(1975). The school health programme 4th edi. saunders.

Newman, I. M. and Ward, J. M.(1989). The influence of parental attitude and behavior on early adolescent cigarette smoking, Journal of School Health, Vol. 59, No. 4, 150-152.

Nolte, A. E., et. al.(1983). The relative importance of parental attitudes and behavior upon youth smoking behavior, Journal of School Health, Vol. 53, No. 4, 264-271.

Nutbeam, D., et. al.(1989). Understanding children's health behavior : The implications for health promotion for young people, Soc. Sci. Med.,Vol. 29, No. 3, 317-325.

O'Connell, D. L.,et. al.(1981). Cigarette smoking and drug use in schoolchildren : II-Factors associated with smoking, International Journal of Epidemiology, Vol. 10, No. 3, 223-231.

Olds, R. S.(1988). Promoting child health in a smoke-free school : Suggestions for school health personnel, Journal of School Health, Vol. 58, No. 7, Sep. 269-272.

Perry, C. L., et. al.(1986). A process evaluation study of peer leaders in health education, Journal of school health, Vol. 56, No. 2, Feb., 62-67.

Reek, J. V., et. al.(1987). The influence of peers and parents of the smoking behavior of school-children, Journal of School Health, Vol. 57, No. 1, 30.

Stanhope & Lancaster(1988). Community Health Nursing : Process and practice for promoting health, 2nd Edi., Mosby, 442-474.

The ministry of health, the ministry of education, and the ministry of labor in Israel(1989). Teacher's guide book of 'To Breathe Clean Air'.

Thompson, E. L.(1978). Smoking Education Programs 1960-1976, American Journal of

Public Health, Vol. 68, No. 3, Mar., 250-257.
Waldron, I. and Lye, D.(1989). Family roles and smoking : American journal of Preventive Medicine, Vol. 15, No. 3, 136-141.
Whaley and Wong(1987). Nursing care of infants and children, 3rd Edi., Mosby.
WHO Technical report series No. 568(1975). Smoking and its effects on health, WHO, Geneva.
WHO chronicle(1980). Smoking or health, the choice is yours, 34 : 127-130.
WHO chronicle(1982). Tobacco against youth : International warnings, 36(2) : 73-74.
WHO(1989). Smoke-free Europe : 6-Planning for a smoke-free generation, WHO, Geneva.
Zoller, U. and Maymon, T.(1983). Smoking behavior of high school students in Israel, Journal of School Health, Vol. 53, No. 10, 613-617.

-Abstract-

주요개념 : 청소년, 흡연, 사회적 영향

중학생들의 흡연에 대한 지식, 태도, 그리고 행동에 관한 기술적 연구

박 인 혜*

본 연구는 이스라엘 보사교육부가 중학생을 위하여 개발 실시한 흡연예방 교육프로그램의 효과를 분석하고자 실시되었다. 이스라엘은 15세 미만의 청소년 흡연율이 다른나라 청소년들의 흡연율에 비해 가장 낮음에도 불구하고 18세가 되면서부터 청소년 흡연율은 현저하게 증가되고 있다. 이를 이스라엘 정부에서는 청소년들이 만 18세가 되면 2년간의 국방의무를 수행해야 하기 때문인 것으로 분석하고 있다. 때문에 이스라엘 정부는 청소년들이 흡연을 시작하기전에 흡연을 예방하고자 'To Breathe Clean Air'라는 흡연예방 교육프로그램을 계획하였다.

본 연구는 단일군 사후 설계로 대상은 중학교 1, 2학년생(7-8graders) 185명이었으며, 연령은 12-14세로 11%가 흡연 경험이 있거나 흡연중이었고, 이들중 24%는 이미 10세때부터 흡연을 시작했었다. 흡연하는 남학생이 여학생보다 유의하게 많았으며($p<.01$), 학교성적이 스스로 열등하다고 생각하는 군이 그리고 친한 친구중에 흡연자가 있는 군이 흡연을 많이 하는 것으로 나타났다($p<.05$). 부모중에 한분이상이 흡연하는 학생이 30%를 차지하였는데, 부모님이 흡연시 그 자녀의 흡연률이 높았으나 통계적으로 유의한 차이는 아니었다.

흡연에 대한 지식정도는 70%의 학생이 중이상의 지식정도를 가지고 있었는데, 남학생일수록, 학년이 높을수록, 학교성적이 우수한 학생일수록, 그리고 친한 친구중에 흡연자가 없을수록 흡연에 대한 지식정도가 높게 나타났고, 이들중 성별과 학년은 유의한 차이를 보였다($p<.05$). 흡연에 대한 태도는 남학생일 때, 부친이 흡연을 하고 있을 때, social pressure를 잘 견딜수 있다고 한 군에서 더 부정적인 태도를 보였다($p<.01$). 형제들 중 흡연자가 없는 군, 그리고 학교성적이 우수한 군이 흡연에 대한 부정적인 행동의도를 가지고 있었다($p<.01$). 흡연에 대한 지식정도가 높을수록 흡연에 대해 더 부정적인 태도를 보였고, 흡연에 대한 부정적인 행동의도를 가진 학생들이 흡연에 대해 더 부정적인 태도를 보였다($p<.01$).

흡연예방 교육프로그램 실시후 40%의 학생들이 이 프로그램이 흡연 예방에 효과가 있을 것임을 예측했고, 프로그램에 대한 관심정도는 여학생들이 높았으나($p<.05$), 프로그램에 대한 만족정도는 남학생들에서 더 높게 나타났다($p<.01$).

이상에서 친한친구나 부모중에 흡연자가 있을 때 학생들은 흡연을 쉽게 배운다고 나타나 청소년 흡연에는 동료나 부모의 영향과 함께 사회적 압력을 견뎌내어낼 수 있는 자기효능감이 중요함을 알 수 있었다. 또한 이미 10세 이전에 흡연을 시작하는 학생이 있어 흡연예방 교육프로그램은 초기청소년기에 실시되어져야 한다고 본다.

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