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EXPLORATION OF ISSUES SURROUNDING HEALTH EDUCATION IN YEREVAN'S SCHOOLS

A THESIS FOR SEEKING THE DEGREE OF MASTER OF PUBLIC HEALTH

PREPARED

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Abstract

Over the past decades chronic diseases of adulthood, which have been shown to be strongly correlated with unhealthy lifestyle, have become the leading causes of death in Armenia. While some

success is achieved in the treatment of these diseases, nothing is being done for early prevention of them. Meanwhile culturally appropriate school health education programs could, in part, solve this problem.

This paper presents the results of applied qualitative and quantitative research aimed at exploring issues surrounding health education in Yerevan's schools in order to gain insight into the current situation and the possibilities for future school-based health education project. The topics to be described included: unhealthy behaviours of adolescents, causes for their developing, and the knowledge of adolescents about them; the current situation with school-based health education in Yerevan; attitudes of people in community towards the necessity of health education programs in Yerevan's schools; the content of programs; feasibility of implementation of a program; and constraints for implementation.

Qualitative techniques included in-depth interviews with purposive sample of six adolescents, ten parents, three teachers, two school managers, two officials from the Ministry of Education, and two officials from the Ministry of Health, and rating exercises with ten adolescents and ten parents. Structured questionnaires were administered to 11 boys and 12 girls of 15 year of age in one of Yerevan's schools.

The following high-risk behaviours were identified by respondents for in-depth interviews: smoking, lack of physical activity, low level of hygiene, unhealthy eating patterns and unhealthy diet, alcohol drinking, violence and stress, drug abuse, and unsafe sex. Frequencies of such behaviours as smoking, alcohol drinking, and lack of physical activity, although felt by key informants as being prevalent among adolescents, were recorded by respondents of questionnaire as very low. One of possible reasons for this finding might be the low validity of the instrument.

Our data suggest, that there is a strongly perceived needs for health education in community as a whole and in schools especially. Among reasons for developing unhealthy behaviours were mentioned: peer pressure, traditions, economic conditions, tension in society, lack of health education campaigns, negative influence of advertisements and some TV programs, lack of knowledge, lack of interesting things to do, curiosity, and desire to look like "adult". At least some of them could be addressed by school health education programs. From the eleven topics for health education, formulated on the basis of identified high-risk behaviours, five, including physical activity, conflict solving, sexual development, hygiene, and drug abuse, were given the highest scores by adolescents and parents in rating exercises. However, although the need is clearly recognised, most conditions, such as availability of finances, manpower and time resources are found to be not favourable for introducing a health education program in Yerevan's schools.

INTRODUCTION

The health system in Armenia is facing major challenges in the 1990s and beyond because of a growing epidemiological diversity. While the infectious and parasitic diseases of childhood still remain a problem [1], the prevalence of chronic diseases among adults is increasing [2]. Chronic diseases and, to some extent, also infectious diseases are mostly the result of unhealthy lifestyle. It was shown in one study conducted in the United States, that 50% of years life lost before age 65 are due to lifestyle, and about 30% - due to environment [3]. This illustrates the importance of early health education in order to prevent the adoption of unhealthy behaviours.

This study presents data on health-related behaviours of adolescents as described by people from different levels in the community in Yerevan, and the perceptions and beliefs of these people about the necessity and feasibility of health education programs in Yerevan's schools. These data, collected using a combination of qualitative and quantitative methods can serve as a base of information which may be used in the planning of school-based intervention. The topics addressed in this study include:

1) identification of health-endangering behaviours of adolescents in Yerevan

2) identification of factors, which could contribute to development of unhealthy behaviours;

3) exploration of current situation regarding health education in Yerevan's schools

4) assessment of needs for health education in school curriculum

5)identification of topics, which might be included in school health education curriculum;

6) identification of appropriate forms for teaching different topics of health education program;

7) identification of people, who could teach or contribute to teaching (parents, peers) of a program;

8) identification of constraints to implementation of a program.

The study closes with a set of guiding principles for developing culturally appropriate school-based health education program for Armenia.

BACKGROUND

Health problems in Armenia and their relation to unhealthy lifestyle

Over the past decades the profile of diseases in Armenia changed significantly. According to the Report of World Bank experts, three leading causes of morbidity, which expose the greatest burden of disease, are cardiovascular diseases (CVD), cancer, and injuries [4]. Cardio-vascular mortality among adults has increased by 57% between 1980 and 1994 [5]. On the other hand, infectious and parasitic diseases of childhood remain a problem. The morbidity of diarrheal disease, acute respiratory infections, hepatitis A, viral hepatitis, tuberculosis, and brucellosis is relatively high and increased from 1995 to 1996 [6]. In addition, as a result of bad economic conditions, such diseases as pediculosis, rash and malnutrition re-emerged as a problem [7,8]. Per capita daily intake of diary products and total calories decreased in Armenia more than twice from 1987 to 1993 [8] . As a whole, the health status of population is continuing to deteriorate [5]. Average life expectancy at birth has decreased from 76 in 1992 to 70 in 1995 [5].

Very little baseline information exists about "adolescents" health, who are defined by WHO as persons in the 10-19 years age group [9]. The problem is, that there are two separate health statistics in Armenia - one for children under 14 years of age, and the other for adults, including adolescents above 14 years of age. There is no separate age-specific health statistics for adolescents. Meanwhile, this group of people has very specific and serious health problems, and WHO has given an increasing attention to them [9]. The reasons for this is mostly due to increase in health-related risks for adolescents. During the last years the prevalence of some health- related behaviours, such as alcohol and drug abuse, violence, and homicides increased among adolescents in Central and Eastern European countries[8]. Specific rates of STDs are highest among adolescents[10]. One-fifth of people world-wide with AIDS are in their 20

[11]. Taking into account the long latency period of AIDS, one can suggest, that they acquired the HIV during adolescence.

There are currently conditions in Armenia for spreading of problems linked to reproductive health [12,13]. Factors in Armenia such as increased migration of population, prostitution and drug abuse could contribute to the spreading of AIDS[14].

Most of the above mentioned health problems could be attributed to unhealthy lifestyle. For CVD, injuries, and cancer , risk factors include smoking, sedentary lifestyle, unproper diet, alcohol abuse, and violence. For infectious diseases lack of hygiene and sanitation can be a risk factor. For HIV/AIDS, STDs, and unwanted pregnancies high risk behaviours include unsafe sex. According to data from the literature, lifestyle is the most important factor, contributing to early death [3].

As it is mentioned in Armenian Human Development Report "...despite the lack of relevant statistical data it can be maintained that tobacco smoking and alcohol and drug abuse are becoming spread quite widely, especially among teenagers..."[5]. According to a survey conducted in 1996 among Yerevan's adolescents, by the age of 19 years old there were 38% sexually active boys and 3.4% girls [12]. Results of another survey have shown, that 30% of adolescents, who had sexual experience, reported having sex with random partners or prostitutes and only 8.5% reported always using condoms [13].

Thus, reviewing direct data of Armenian health statistics and indirect data from the available literature, one can conclude, that currently there are many health problems in Armenia that can be attributed to unhealthy lifestyle.

The impact of school-based health education programs for young children on the lifestyle choices of these children later in their lives

Creating effective programs which could positively influence the development of healthy behaviours is a constant challenge to PH officials and community leaders. Therefore health education is becoming

more and more important. It was recognised as the first of the 8 most important components of the primary health care at the Alma-Ata conference in 1979 [15].

Lifestyle habits associated with adult chronic disease are acquired early in life, which leads to the conclusion that the primary prevention of chronic disease must begin with children [16]. In early childhood when children are more perceptive to new knowledge, which contradicts to some extent to culture and traditions of their parents, it is easier to encourage positive health behaviours and discourage behavioural patterns that are linked to illness, disability, death.

School is the place, where children are accumulated and most perceptive to new knowledge. Several school-based health education programs have been shown to effect positive change in preventive behaviours. The Stanford Adolescent Heart Health Program - a school -based multiple risk reduction program - succeeded in getting more students exercising regularly and quitting smoking in intervention versus control schools In intervention school 5.6% of baseline experimental smokers graduated to regular smoking compared to 10.3% in control school[17]. In the "Know Your Body" school-based trials after 5 years of intervention significant favourable changes were found in dietary intake of fat and carbohydrates. Net reduction in the rate of initiation of cigarette smoking was also observed[18]. The Oslo youth study revealed that 2-year multiple risk factor intervention resulted in significant reduction in the onset of smoking [19]. In the pilot study conducted in northern Sydney, notable successes were observed in the areas of cigarette smoking (reductions as high as 13%), alcohol consumption (reductions up to 12%) and exercise (increase of 17.5%) [20]. The nutrition education, behaviour modification and physical activity program for obese children succeeded in getting 95% of children losing weight in intervention versus control school [21]. Dusseldorf anti-smoking intervention resulted in getting two times less smoking students in intervention compared to control schools[22]. Thus, school-based health education programs are shown to have positive effect on health-related behaviours.

Qualitative research in the design of health education programs

In designing health education programs both approaches qualitative and quantitative are very useful and they should be regarded as complementary rather than competitive[23,24]. Many quantitative studies were devoted to designing health education programs. They addressed such issues as baseline knowledge, attitude and practice concerning behaviours to be targeted [25-28]. However, in interventions, which have a large behavioural component, qualitative approach is most successfully used[29-32].

Up to this time there exist several theories or models of behaviour change [33]. Some of them consider as the most important factors, influencing behaviour change, external or environmental ones, other give the priority to personal factors [34 - 38]. However, most of investigators agree, that many of the models or even all of them operate simultaneously, and all factors -external or personal - are very important in behaviour adoption [34 - 38]. Therefore, school-based health behaviour change interventions, in order to be successful, should take into account all these factors. Qualitative research, due to its benefits such as 1)explorative flexibility; 2) going in depth; 3) validation of information, and 4) taking a holistic perspective [29-32, 39-42], might be very useful in identifying all these factors.

Numerous studies describe the importance of qualitative methods for primary prevention research.. It is not always apparent, which particular behaviours place population at increased risk for a health problem. Qualitative research can help the investigator to identify target behaviours to modify [29-32, 43, 44]. In addition, qualitative study seeks to describe the context in which these behaviours take place and to understand why people do what they do[45]. It can help to reveal the barriers for behaviour change[46, 47], and the factors, which can predispose, reinforce and enable development of healthy behaviours or positive behaviour change[38, 48]. Qualitative research is also very useful in needs assessment[49]. Qualitative data can provide information crucial for the definition of key variables .

Variables defined using qualitative information have high internal validity, because they represent or are constructed from categories which the study population consider important[50].

Thus planners using both qualitative and quantitative approach can better adapt programs to local conditions and can anticipate positive reactions from community.

In conclusion, it could be said, that in Armenia there exist many health problems related to unhealthy lifestyle and they might be addressed by school health education program, if an appropriate one could be developed and introduced. However approaches dealing with behaviour changes in schoolpupils of other countries may not be directly transferable to Yerevan's pupils. An understanding of the sociocultural context, in which Armenian children are raised, and in which this particular health education program should be implemented, is crucial for developing an appropriate one.

In order to explore issues surrounding health education in Yerevan's schools, the combination of qualitative and quantitative study was conducted. The importance of qualitative methods for such kind of research, which deals with fully unexplored area is that the researcher goes into depth, exploring both implicit and explicit aspects of people's beliefs and perceptions. Although he has specific topics to explore, he assumes that new and different questions will emerge and continually refines and modifies data collection techniques. Because information is gathered using multiple methods, this enhances data validity through cross-checks.

In order to get some idea about the extent of unhealthy behaviours among adolescents, it was decided to use also structured questionnaire. Although because of time and resource limitations, the questionnaire could not be administered to such sample of adolescents, which could be considered as representative of all Yerevan adolescents, it could provide some additional information, which could on one hand cross-check qualitative data, and on the other hand qualify how the instrument works. We limited in this study by administering the questionnaire to pupils of only one class of one of Yerevan's schools.

Research Questions

Primary research questions formulated to explore issues, surrounding health education in Yerevan's schools were as follows:

1. What are the behaviours of adolescents regarding healthy lifestyle?
2. What are the causes of adopting unhealthy behaviours?
3. What are knowledge and attitudes of adolescents and their parents regarding healthy lifestyle?
4. What is the current situation regarding health education in Yerevan's schools?
5. What are attitudes of officials from the Ministry of Education (MOE) and Ministry of Health (MOH), school managers, teachers, parents and adolescents towards the necessity of health education classes in Yerevan's schools?
6. What are topics, which are the most appropriate to be included in school health education program?
7. Is it feasible to implement health education program in Yerevan's schools (availability of human, financial and facility resources)?
8. What are political, social and economic constrains for implementing school health education curriculum?

METHODS

The study was conducted using qualitative and quantitative methods to get an idea about high-risk behaviours of adolescents, to assess needs for health education in Yerevan's schools and the feasibility of implementation of such kind of program in school curriculum.

Data collection

Data were collected from July to September 1997 by investigators trained in qualitative research methodology. Data collection methods included key informant interviews, rating exercises, and a quantitative self-administered questionnaire (see Table 1). Interviews were conducted in the main language of informants, either Armenian or Russian. Subjects for in-depth interviews were purposively selected respondents. For rating exercises respondents were selected in neighbourhood or workplace. Subjects for self-administered questionnaire were pupils of one class of one of Yerevan's schools.

Table 1. Study methods and population

Method	Type of Respondents	Number of **male** respondents	Number of **female** respondents
In-depth interviews	schoolpupils	3	3
	parents	3	7
	teachers	1	2
	school managers	1	1
	officials from the MOE	2	0
	officials from the MOH	1	1
Rating exercises	schoolpupils	4	6
	parents	2	8
Structured questionnaire	schoolpupils	11	12

Study population

Study population included adolescents of 14-17 years of age, parents, teachers , school managers , and officials from MOE and MOH (see Table 1). Adolescents and parents were selected from different districts of Yerevan and from different socio-economic strata in order to get larger pool of opinions. Three of adolescents - respondents for in-depth interviews - were from central districts and three - from remote districts. Seven parents- respondents for in-depth interviews - had higher education (15 and more years studying)and three - lower (less than 15 years studying).

In-depth interviews

Types of respondents for in-depth interviews are presented in Table 1. In-depth interviews focused on identifying high-risk behaviours of adolescents, beliefs and perceptions about causes for adopting these behaviours, and knowledge of pupils about the harms of particular behaviours. Informants were also asked their opinion about the need for health education programs in Yerevan's schools, and the kinds of programs they would prefer., and the constraints for implementing a program. Interviews lasted from 1 to 2 hours and were conducted in places, which were convenient for key informants in order to make them to feel comfortable and open for expression of their opinion. One of the in-depth interviews was conducted with both the father and the mother of 16-year old girl simultaneously, and one in-depth interview was conducted with three women-parents simultaneously, because it was felt that in this case it would be more informative, than individual interviews.

Rating Exercises

Ten adolescents and ten parents were administered in different places (neighbourhood, workplace, library) a rating questionnaire. They were asked to rate on 5-point scale, in which 1 was the lowest and 5 - the highest score, 11 health education topics in terms of their appropriateness in school curriculum. Topics, which were included in the rating exercises were those identified through in-depth interviews.

Anonymous Structured Interviews

These were conducted with the pupils of one of 9th grades in one of Yerevan's schools. 11 boys and 12 girls of 15 years of age were asked about certain key high-risk behaviours (see Appendix B) . The questionnaire also included questions about peers' and family members' behaviours, and some knowledge questions. The purpose for conducting survey only in one class of one single school was not to generalise data for all Yerevan, but just to get an idea of how this instrument works and to cross-check the results of qualitative data.

Analysis

Data were entered on a computer as both text and numeric files. Textual data were coded and analysed by identifying answers to research questions and by repeated readings of texts.

Rating questionnaires were analysed separately as completed by parents and schoolpupils. The mean rate for each topic was calculated. The higher the mean rate, the more important was the topic considered for including in school health education curriculum.

Analysis of quantitative data consisted of calculating frequencies of behaviours, adopted by adolescents themselves, their friends, their family members, and the calculation of mean score of knowledge, regarding these behaviours. The score for knowledge about general harms of particular behaviour for overall health was calculated separately from the score of knowledge about specific harms of the same behaviours for different organs and functions (see Appendices c, E, F).

RESULTS

This section presents the results of qualitative and quantitative research to describe health-endangering behaviours of adolescents, perceptions, beliefs and knowledge about them, and issues surrounding health education in Yerevan's schools. First data will be presented regarding the categories of high-risk behaviours of adolescents, and perceptions and beliefs about the causes of adopting these behaviours, as reported by parents of adolescents, teachers, schoolmanagers, and officials from the MOE and MOH. The information will be structured according to separate behaviours, within each of which will be described potential causes of developing of that behaviour. Then data will be presented about the same issues but from the point of view of adolescents themselves. The data about adolescents' knowledge, regarding health-effect of some behaviours, will be added. Information gathered both from in-depth interviews with adolescents and from self-administered questionnaire, will be presented simultaneously for ease of comparison. Finally perceptions regarding the necessity of school health education programs, and to the content and feasibility of such programs, will be reported.

High- risk behaviours of adolescents from the point of view of parents, teachers, school managers, and officials from the MOH and MOE

Semi-structured in-depth interviews with parents, teachers and officials from the MOH and MOE generated some ideas about common, potentially dangerous health-related behaviours, and about the reasons for their existence or emergence. There was a great deal of similarity between all of the above mentioned respondents in describing health-related behaviours of adolescents and the reasons for these behaviours developing in adolescents. These results are summarised in Table 2. Table 2 presents also

Table 2 High-risk behaviours of adolescents

High risk behaviour	Causes of developing	Knowledge	Extent	Danger
Smoking	peer pressure traditionally accepted "manly" behaviour traditionally accepted as not dangerous desire to look like "adult" desire to look modern influence of advertisements and TV lack of health education campaigns	***	*****	***
Lack of physical activity • very much TV and computer games • unproper rotation of work and rest, of physical and mental activity • very much doing nothing	no physical activity classes in schools expensive bad conditions of gymnasiums no room for physical activity in houseyards traditions lack of health education campaigns lack of knowledge	****	*****	****
Hygiene	economic traditions lack of health education campaigns	***	****	****
Unhealthy eating patterns and unhealthy diet	economic lack of affordable and healthy food in school cafeteria	****	****	****
Alcohol drinking	short-term improvement of mood curiosity traditions desire to look like "adult" lack of interesting things to do	****	***	***
Violence and stress	tension in society lack of knowledge of how to cope with stress or solve problems without violence transition period self-confirmation lack of interesting things to do lack of organisations with interesting programs	**	****	*****
Drug abuse	location of country self-confirmation	**	*	*****
Unsafe sex	lack of knowledge curiosity TV programs, magazines, newspapers spreading of low quality commercial sex	**	**	*****

* - lowest level; ***** - highest level

some information concerning feelings of respondents about the extent of particular behaviours, about the potential danger of these behaviours for health, and about the knowledge of adolescents regarding harmful effect of these behaviours on health, assessed through in-depth interviews with them and through feeling of adult-respondents. High-risk behaviours will be presented one by one with description of how informants characterised them and causes for their developing mentioned by informants.

Smoking.

Smoking was mentioned to be common among boys of 13-17 years of age nearly by all adult key informants. Answer to the question : " At what age you think schoolpupils start to smoke?" was mostly: " At 13- 14 years of age almost all boys start to smoke. Girls as a rule start to smoke later, after finishing the school."

Causes for developing this behaviour were classified as follows:

1. peer pressure

   ...adolescents can not resist the pressure of their smoking peers. It refers especially to boys with weak will power..

2. traditionally accepted "manly" behaviour

   ...in Armenia men used to smoke forever. It is one of particular features, which makes them different from women...

3. traditionally accepted as not dangerous

   ... the history of smoking to be known as harmful is not very old . Traditionally it used not to be accepted so. And the tradition is stronger than new knowledge, especially because new knowledge is not being advertised properly...

4. in order to look like "adult"
5. in order to look modern (This refers especially to girls, because men, as was mentioned, have always smoked. But girl's smoking is something new and is considered by many as "modern").
6. the influence of advertisements and some TV programs(This was mentioned by most parents)

   ...when boys see all these good-looking strong-looking men advertising different "firm" cigarettes in nice packs, they can't help to smoke especially those cigarettes. It is considered to be prestigious to smoke them. One looks rich and advantaged, when smokes them...

7. the lack of health education campaigns

...the reason for such high prevalence of smoking is the lack of health education campaigns. I know, that in developed countries there is a real brainwashing about smoking and it is very powerful...

Lack of physical activity

Most parents complained that their children are not involved in regular physical activity. It was obvious from interviews, that many children spend much time just doing nothing, watching TV, or playing computer games. Some of parents mentioned the lack of proper rotation of work and rest , or of mental and physical activity. Most parents seemed to be concerned with this, saying that "it is not the way it should be".

The reasons for lack of physical activity as identified by in-depth interviews, could be classified into following categories:

1. There are no physical activity classes in schools.
2. It is very expensive to engage in particular physical activities such as swimming, tennis, aerobics etc. outside of school.
3. The conditions in most of the available or affordable places for physical activity are very bad in terms of sanitary-hygienic rules, quality of equipment, trainers, and classes provided.
4. Schoolyards and houseyards are occupied with individual garages, leaving no room for physical activity.
5. Traditions.

   Adult respondents admitted, that they themselves rarely engage in physical activity, which surely influences their children. They also expressed a widely accepted opinion, that it is not even easy for adults , especially for women to engage in some types of physical activity, because for example if woman jogs or plays in yard she is accepted as maverick

   ...physical activity in Armenia used not to be accepted as something necessary or important to engage. It is considered as sort of doing nothing, or entertainment...

6. Lack of advertisement and health education campaigns

...in order to change our mentality about health-related behaviours, we need a real brain-washing, like in developed countries. But nobody does it - there are few enthusiasts, who lack money and the government seems to have more important things to do...

7. Lack of **knowledge**

...it is generally accepted by adults and to some extent by children that physical activity is beneficial for health. However there is very low knowledge about benefits of particular types of physical activity for particular cases, about particular harms, that can cause the lack of physical activity...

Hygiene

The lack of hygiene was mentioned by many parents, teachers, and officials from the MOH and MOE

...who could imagine, that after eradicating of pediculosis and rash, they will re-emerge?

...Schools are in very low hygienic conditions. You smell toilets from the entrance. There is no water during the day and pupils can not even wash hands...

Reasons for lack of hygiene were formulated as follows:

1. Economic.

   Respondents mentioned that as far as for 5 years most of population have not had hot water and enough money to heat the apartments, it limited the hygienic procedures very much. Sometimes these limits are far away from rules, required for health.

2. Traditions.

   Some of respondents tried to explain the low level hygiene historically. Being Christians, we used to live in Orient , surrounded by Muslim nations. We used not to follow the rules of hygiene, prescribed by Muslim religious faith, but we did not follow also European hygienic traditions, because we were far from them and most of population did not have access to them.

3. Absence of health education campaigns

Respondents insisted, that people should be taught how to keep hygienic rules in extreme situations, which we have had during the latter five years, because it is not easy to switch from those conditions,

which we had throughout 20-30 years - central heating, hot water, cheap electricity and water, cheap washing and cleaning means - to current conditions, when most of necessary means are either not available, or not affordable. People should be taught to use domestic or natural cleaning means, which used to be used by our grandparents and which we do not know about now. It was also mentioned, that in some cases people especially children, even do not know, what kind of health effect can have not following hygienic rules. People should know, that the hygiene is not just the matter of aesthetics, but the matter of health.

Unhealthy eating patterns and unhealthy diet

This was mentioned as a serious problem by many parents, and by officials from MOE. Parents were complaining that children go to school very early, when they do not want to eat anything, spend there 7-8 hours, eating nothing, then on their way home they eat a hamburger or hot dog, and come home not hungry. They eat at home only in the evening and this was considered to be very unhealthy.

According to respondents, the most important **reason** for this problem was *economics* In most families the most affordable food items are potatoes and pasta, which were considered as unhealthy. Most parents complained, that they can not buy fruits even in summer, they can not offer their children diary products, meat, eggs, which are the main sources of protein and calcium. The economic problem affects not only the home environment, but also the school. MOE officials reported that schoolcafeteria do not provide affordable and healthy food. The MOE has marked this problem as a high priority. Officials described their desire to find a way for providing hot lunches in schools, but since it is not possible currently, they decided to contract any private enterprises , producing for example “piroshki” or “bulki” in order them to sell these products cheaply in schools.

Alcohol drinking

This behaviour was mentioned by some parents as common, but not dangerous, because the quantity of alcohol being consumed is small. It is widely felt that alcohol drinking is not very much of a problem

in Armenia. Although traditionally it is usual that during each party some amount of alcohol is being drunk, but it is being done mostly for toasting, for telling each other pleasant things, but not for becoming drunk. What is interesting, that although smoking is known to be more harmful for health, than alcohol, consumption of excessive amount of alcohol traditionally was considered to be worse, than smoking. What is more important here is not the consideration of its effect on health, but rather loosing of self-control. A person, who looses control on himself after alcohol consumption could not be respected by surrounding, by own children or parents and in Armenia respect has been meant very important thing.

However, some parents consider alcohol drinking to be a problem. Especially they mention it to be a problem for children , when the latter are involved in bad companies. In such cases they can start by one reason or another to abuse alcohol.

The following **reasons** were mentioned for alcohol drinking:

1. it improves mood, it creates conditions for good contacts during social events;
2. curiosity;
3. traditions;
4. desire to look like “adults”; and
5. lack of interesting things to do

Violence and stress

Some parents, especially those having sons, mentioned that they were afraid for their sons, because they could be involved in a fight somewhere even if they did not want to. Parents felt, that fighting is common among schoolpupils to release tension and stress.

The **reasons** for stress and violence were classified as follows:

1. The transition period in Armenia

   ...each revolution is accompanied by increase of stress and violence, and we are living in revolutionary time...

2. Adolescence, as a transition period.

Respondents mentioned, that many risky behaviours start to develop at 12 -13 years of age and considered this as natural, although "difficult" period. Violence and stress are among the most common behaviours during this period.

3. Lack of knowledge

   There was strong feeling, that children in transition period need some psychological education to cope with stress or solve problems without violence

4. Self-confirmation.
5. Lack of interesting things to do.
6. Lack of organisation, which could offer some interesting program

   Respondents recalled, that during their childhood they have many interesting things to do connected with pioneer and then with komsomol organisations. Now these organisations do not exist and there is nothing to substitute.

Drug abuse and unsafe sex were behaviours mentioned by adults as very dangerous. They felt that although these behaviours are not currently common, the conditions are such that these behaviours may increase in the near future and their health effect was strongly perceived as being very negative.

Drug abuse

This was considered as more of a problem than cigarette smoking, because, as was mentioned by respondents, nicotine-dependence is not as strong as narcotics-dependence. It is possible to affect smoking by different anti-smoking programs - it is more hard to quit drug abuse.

Reasons given for potential increase of this problem were :

1. Opening the borders of the country.

   This one was felt to have not only positive results. Location of a country is very convenient to serve as a transit point, and criminal organisations use it for transporting and storing of illegal

merchandise, involving drugs. And the government is not going to prohibit this action , because it is one of scarce sources of money.

2. Self-confirmation

   Some of children have excessive amount of money - some of them from parents, other - earned themselves. They should do something with money in order to be distinguished. Drugs are one of the ways.

Unsafe sex

This was the most sensitive topic discussed with parents. Most of parents indicated, that they know very little about the sexual development and sexual life of their children. They thought, that most of young people keep traditions, which require to be moderate in sexual life, devoted to spouses and families, and do not start sexual life too early. Boys were thought to engage in sexual life partly during schoolperiod, but mostly after it. And girls as a rule start sexual life after marriage. However, there was much concern connected with potential increase of this problem.

The reasons for increase of this problem were felt by adult respondents to be the followings:

1. Information coming from TV programs, films, magazines and newspapers.

   In opinion of respondents children can get hypersensitised from the scenes of sex or even pornography, and something should be done with these emotions.

2. Spreading of commercial sex

   Getting excited, adolescents start to look for something to release the excitement and can resort in commercial sex, which is increasing now, and the quality of it, regarding safety, is very low.

3. The lack of knowledge

   It was mentioned, that children do not have correct information about sexual development and safer sex. And it was strongly felt that somebody should talk to children about these topics - parents themselves admitted, that they did not feel comfortable discussing these topics with their children.

But many parents indicated, that they do not even imagine, how this topic could be taught in school and to what extent. Questions about these issues were not included in the self-administered questionnaires, because some of the parents expressed, that they would not like their daughters to be asked these kind of questions unless the parents approved them.

Interviews with adolescents

The high-risk behaviours of smoking, alcohol drinking, lack of physical activity, and violence were mentioned as common by adolescents in in-depth interviews However, for some behaviours such as *smoking*, none of the respondents reported that he/she personally smoked. Everybody referred to their friends and classmates. The same pattern was identified by the self-administered questionnaire (see Appendix C). None of the 11 boys and 12 girls interviewed recorded that he or she currently smokes. But 81% of the boys and 16% of the girls mentioned that from 2 to 10 of their 10 best friends smoke. 8% of the girls and 55% of the boys recorded, that they tried cigarettes in the past. Strong correlation was indicated between having tried to smoke and having smoking friends - OR=39 (27.4 ---- 50.6) (see Appendix D). 82% of all adolescents recorded, that their fathers smoke, and 100% - that their mothers do not. This correlates with the findings of in-depth interviews with adult respondents, which indicates that smoking is traditionally accepted as "manly" behaviour.

The level of correct knowledge about the general harmful effect of smoking was 100%, as recorded by boys, and 92% , as recorded by girls. The knowledge about specific harms for different organs and functions was 74%, and 50% respectively. And the knowledge about harmful effect of passive smoking was only 45% and 50% respectively.

Adolescents did not record regular *physical activity* in in-depth interviews. However, in self-administered questionnaires pupils recorded pretty high level of engagement in physical activity (see Appendix E). 15 of 23 pupils interviewed recorded regular physical activity (at least three times a week

at least 20 minutes each time in average), 4 recorded engaging in physical activity in average 2 times a week, 2 recorded engaging in physical activity only once a week, and only 2 recorded never engaging in physical activity. However, adolescents recorded spending too much time at computers and watching TV - 13 of 23 recorded 4 and more hours daily watching TV and playing computer games. The level of knowledge about health-benefits of regular physical activity was 54% as recorded by boys and 67% - by girls. Knowledge about specific effects was 89% and 63% respectively.

Concerning *alcohol drinking* respondents described how they tried alcohol, and that it is usual for adolescents to drink some alcohol during parties. However, the self-administered questionnaire results show, that only 6 of 11 boys ever tried alcohol, and none of the girls (see Appendix F).

The level of knowledge about general harmful effect of excessive alcohol consumption was 64% as recorded by boys and 100% - by girls. Knowledge about specific effects was 80% and 47% respectively.

In self-administered questionnaire there were questions, regarding drug abuse. The level of knowledge about general harmful effect of drug abuse was 74% as recorded by boys and 92% - by girls. Knowledge about specific effects was 76% and 47% respectively (see Appendix F).

Among the **reasons** for developing unhealthy behaviours adolescents mentioned

1. peer pressure;
2. lack of interesting things to do;
3. lack of proper conditions in playgrounds and gyms; and
4. curiosity

Assessment of Needs for Health Education in Yerevan's Schools

Attempt was made to assess through in-depth interviews which elements of health education exist currently in school curriculum. It was found, that some health-related topics are in the curriculum of 8th grade as part of human anatomy, physiology, and hygiene. Some of elements exist in physical education

curriculum. However, physical education classes in most of Yerevan's schools are not hold at all, or are hold poorly due to some of the following reasons:

a) lack of facilities;

b) lack of proper conditions in gyms; and

c) lack of teachers

Classes of anatomy, physiology, and hygiene are also hold poorly due to overall deterioration of whole education system. Thus, most of health education topics remain uncovered.

All respondents felt the need for health education to be introduced in Yerevan's schools, and felt that all these topics could be taught in school to pupils of different age in different depth and way.

In order to understand, which high-risk behaviours were considered as the most important and which of them children and parents preferred to be taught or discussed in school, pupils and parents were administered to a lists of topics and asked to rate them. The results of analysis of rating are shown in Table3. Five priority topics mentioned both by parents and adolescents, although in different order, were physical activity, conflict solving, sexual development, hygiene, drug abuse.

There was no definite opinion about how these topics should be taught, but everybody indicated that it had to be different from the normal, "boring" classes, and that it should be attractive in order to be effective. There were also opinions, that there should be careful thought about the way in which such sensitive topic as sexual development and sexual life could be taught.

Table 3

RATING OF TOPICS FOR HEALTH EDUCATION PROGRAM BY ADOLESCENTS AND PARENTS

	Adolescents		**Parents**	
Rank	**Topic**	**Average score**	**Topic**	**Average score**
1	Physical activity	4.1	Conflict solving	4.5

2	Conflict solving	4.1	Sexual development, sexual life	4.4
3	Sexual development, sexual life	4.1	Drug abuse	4.3
4	Hygiene	4.0	Smoking	4.2
5	Drug abuse	3.9	Physical activity	4.0
6	TV and computer - harms and benefits	3.9	Hygiene	4.0
7	Smoking	3.8	TV and computer - harms and benefits	3.8
8	Alcohol abuse	3.7	Alcohol abuse	3.7
9	Eating patterns, healthy diet	3.7	Eating patterns, healthy diet	3.5
10	Stress	3.7	Stress	3.4
11	Rotation of work and rest, of physical and mental activity	3.7	Rotation of work and rest, of physical and mental activity	3.3

Feasibility of Health Education Program in Yerevan's Schools

Respondents felt that it would be difficult for existing teachers to teach a health education course. In their opinion, a new person in school should do this. Some parents felt that a psychologist could teach these classes. There was no clear understanding of how parents could help or contribute to teaching of these topics. In the opinion of one teacher, parents are so indifferent to school, that sometimes it is impossible to ask them even to come at school to talk about their children. However, some of the parents

said, that if they knew that something interesting or important was going on in school, and that the school needed their help, they would not refuse.

The questions about the availability of class time, facilities and financial resources for implementing such kind of program were answered negatively by school teachers, managers and officials from the MOE. Although the need is clearly recognised, most conditions are not favourable for introducing such a program.

DISCUSSION

The data suggest that in the study community the adolescents have some high risk behaviours. In prioritising these behaviours, respondents based their answers on two criteria. One of them was the perceived prevalence of the behaviour , and the other was the perceived health effect.

Some discordance was revealed between the prevalence of such behaviours, as smoking, alcohol drinking, engaging in physical activity as perceived by respondents and those recorded by adolescents as adopted by them personally. Adolescents did not record, that they personally have high-risk behaviours. However both adolescents and adults think, that these behaviours are common. Such discordance between in-depth interviews and self-administered questionnaires on one hand and between behavioural patterns, which adolescents record about themselves and others on the other hand is difficult to interpret. One possible reason for this is that adolescents interviewed as respondents were not the same as those that filled out questionnaires, and these two groups might be different in behaviours. However, when 100% of the adolescents recorded, that they did not smoke whereas some of their friends did, it could be suspected that adolescents may have recorded what they thought of as the correct behaviour.

This study was not able to answer the question about the real burden of behaviours of interest. This is a limitation of qualitative data; it can only define the problem but not its magnitude. Conducting the survey with the sample of 23 adolescents, which was neither large nor representative enough was also

not adequate to define the magnitude of the problem. The aim of the survey was just to test the instrument in a small sample and to cross-check some findings from the qualitative research. However, the internal validity of this instrument designed and administered as in our study was pretty low. External validity was not even supposed to be high because of sampling design and sample size. For future study in order to quantify the burden of behaviours of interest it could be recommended to develop more valid instrument and to conduct survey in random sample of adolescents representing the whole population of Yerevan.

Some behaviours, such as drug abuse and unsafe sex, although perceived as not prevalent currently were considered by adult key informants as very dangerous because of some reasons. One of them is a strongly perceived extremely harmful health effect of these behaviours. And the other is that there are currently favourable conditions in the country for expanding of these problems. This is consistent with findings in the literature [8, 10,14].

Our data also suggest, that there is a strongly perceived need in health education in community as a whole and in school especially. Among reasons for developing unhealthy behaviours very often were mentioned the lack of health education campaigns, advertisements, the lack of knowledge about harmful effects of some behaviours, traditions. All these gaps could be filled at least partly by health education. The data from the literature show that in many countries school health education programs proved to be successful in prevention of some unhealthy behaviours [17-22].

In deciding what topics should be included in school health education curriculum, if one might be introduced, some approaches could be used. One of them is community approach - to set priorities as perceived by representatives of the community. Our data suggest, that key informants consider all health education topics relevant to be taught in school to pupils of different ages and in different forms. However, priority, as assessed by means of rating/ranking exercises was given to the following topics: physical activity, conflict solving, sexual development, hygiene, drug abuse.

Other approaches which are usually used in setting priorities are: epidemiologic approach, economic approach, primary health care approach [51]. In this study, in our opinion, the combination of all these approaches should be applied. Including a particular topic in school health education curriculum, one should take into account such criteria as:

a) burden of particular behaviour

b) health effect of behaviour

c) changibility of behaviour

d) economic feasibility of change of behaviour

For example, drug abuse and unsafe sex, although not representing a problem currently are considered very dangerous from the point of view of their health effect. Food problem, although considered as very important, hardly could be solved by school health education program unless schools would be able to provide lunches and people would improve their economic status. Smoking, although very dangerous and prevalent, is a difficult behaviour to change.

In order to consider all relevant criteria multi-variable decision matrices as a priority setting technique could be very useful[51]. It could be recommended for future study to involve experts from different fields who could prioritise topics according to set criteria, which represents the field of their expertise, and then the results could be summed and the most relevant topics selected.

Decisions on teaching methodology cannot be reached using data from this study because most respondents did not have any clear idea, how this could be done. They mentioned that it should be different from the normal, “boring” classes and attractive in order to be effective. One point which should be taken into account is that such sensitive topics as sexual development and sexual life, should be taught carefully with the opinion of parents regarding content and methodology taken into consideration.

In order to decide the methods for teaching health, the data from the literature could be helpful Some approaches used in school health education programs, described in literature, could be tried to

implement as a pilot project in one of Yerevan's schools after making relevant changes according to findings of our study. As guidelines for developing a program could be used such elements of some of programs described in literature as: 1) classroom-based, teacher-delivered [18]; 2)peer- delivered [24] ; 3)including parents education [18]; 4) offering healthy food in school [18, 52]; use of personal behaviour change notebooks [17]; role playing [24]; video materials [17] (see Appendix G). Teacher staff development was the main feature of most of the programs [17, 18, 52]. Among the main objectives of programs were:

a) to provide the motivation and capability required for favourable voluntary behaviour change [17, 18];

b) to address predisposing, reinforcing and enabling factors within the school environment [52];

c)to develop assertive behaviour skills[17, 52]; and

d) to develop self-efficacy through knowledge, skill mastery and positive role modelling [17,52].

Guiding by the results of health education programs, successfully conducted elsewhere, in addition to findings of our study can help in developing a culturally appropriate health education program for Yerevan's schools.

RECOMMENDATIONS

1. To develop a valid questionnaire and to conduct it in representative sample of Yerevan's adolescents in order to quantify the real burden of behaviours of interest

2. To write a proposal for one-year pilot health education program having as a base the results of this research

3. To conduct a one-year pilot health education program in one of Yervan's schools in order to test a program

4. After proving the program to be successful to recommend to the MOE to implement it in a larger scale.

CONCLUSION

Qualitative and quantitative methods were applied to explore issues surrounding health education in Yerevan's schools. In-depth interviews with people from different levels in the community in Yerevan allowed to describe risky behaviours of adolescents and reasons for their developing. With self-administered questionnaire, although conducted with a small sample of adolescents, it was found, that adolescents lacked knowledge, regarding harmful effect of some behaviours. Our data suggest, that there is a strongly perceived needs for health education in the community as a whole and in school especially. Topics, which adolescents and parents would prefer to be addressed by school health education program were selected through rating exercises as follows: physical activity, conflict solving, sexual development and sexual life, hygiene, and drug abuse. However, although the need is clearly recognised, most conditions, such as availability of finances, manpower and time resources are found to be not favourable for introducing a health education program in Yerevan's schools.

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Appendix A

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Apendix B

Self-administered Questionnaire

Health education in Yerevan's schools

School #----------
Data of interview ----------
Interviewer ---------- Data entry #----------

The questionnaire will be self-administered one. The pupils should be provided by detailed explanation of how to fill it correctly. No one of school teachers or other staff should be present at the procedure of filling questionnaires. Pupils should feel comfortable in sense that nobody will see their answers during the procedure and afterwards.

Introduction

I am from the Public Health department of the AUA. I conduct the research concerning knowledge, attitudes and practice of schoolpupils regarding some health-related behaviours. The research work is conducted with the final goal to create a health education program for Armenian schools. Your individual experience will help us to understand the real needs of Armenian pupils in such kind of program and to create it as appropriate as possible to local conditions. The questions are provided below. You should not write your name or address in questionnaires, so nobody can identify you. The information will be kept confidentially. You are free to refuse to participate in this survey without any explanation.

Chapter 1. General information

1. Age ----------

2. Gender ----------
3. Educational level of mother
    1. 8 years
    2. 10 years
    3. College
    4. Higher education
    5. Post graduate
4. Educational level of father
    1. 8 years
    2. 10 years
    4. Higher education
    5. Post graduate
    3. College

Chapter 2. Smoking

5. Check the box that describes your smoking habits
    1.never smoked
    2.tried to smoke before but do not smoke now
    3.currently smoke

6. How old were you when you first smoked? □

7. How many cigarettes per day do you smoke?
    1.never smoked
    2. 0- 5
    3. 5-10
    4. >10

8. How many of your 10 closest friends do smoke? □

9. Which members of your family smoke? (Circle the numbers of those who smoke)
    1. Father
    2. Mother
    3. Grandparents
    4. Brother
    5. Sister
    6. Other

14. Below there are some statements regarding smoking. Underline those, which you think are correct (you can underline more than one statement)
    1.Cigarette smoking is bad for one's health
    2.Cigarette smoking is good for one's health
    3.Cigarette smoking is indifferent for one's health
    4.It is bad for one's health if somebody smokes in the room where one is
    5.It is indifferent for one's health if somebody smokes in the room where one is
    6.Smoking causes lung cancer
    7.Smoking contributes to coronary heart diseases
    8. Smoking worsens physical and mental development

9.Smoking improves digestion
10.Smoking is addictive
11.Other

Chapter 3. Alcohol drinking

15. Have you ever tried alcohol?

16. How old were you when you first tried alcohol? □

17. How many times during the last month did you drink alcohol beverages? □

18. Have you ever been drunk?

19. Are there drunkurds among people, whom you know?
1.father
2.mother
3.grandfather
4.grandmother
5.brother
6.sister
7.friends
8.relatives
9.others

20. Below there are some statements regarding alcohol abuse. Underline those, which you think are correct (you can underline more than one statement)
1. Alcohol abuse is bad for one's health
2.Alcohol abuse is bad for one's health
3.Alcohol abuse is indifferent for one's health
4.Alcohol abuse causes cirrhosis of kidney
5.Alcohol abuse contributes to CVD
6.Alcohol abuse worsens physical and mental development
7.Alcohol abuse diminishes will power
8. Alcohol is addictive
9.Other

Chapter 4. Drug abuse

21. Have you ever tried any drugs?

22. How old were you when you first tried drugs? □

23.Are you currently using any drug?

24. How often do you use any drug?
1. every month
2. every week
3.every day
4. other

25. 19. Are there drug users among people, whom you know?

1.father
2.mother
3.grandfather
4.grandmother
5.brother
6.sister
7.friends
8. relatives
9.other

26. . Below there are some statements regarding drug abuse. Underline those, which you think are correct (you can underline more than one statement)

1. Drug use is bad for one's health
2. Drug use is bad for one's health
3.Drug use does not affect one's long term health
4.Drug use diminishes will power
5.Drug use worsens physical and mental development
6.Drug in small quantities can relieve pain
7.Other

Chapter 5. Physical activity

27. What type of physical activity do you prefer?

1. Morning exercises
2. Aerobics
3. dancing
4. gymnastics
5. swimming
6. running
7. light athletics
8. heavy athletics
9. tennis
10. volleyball
11. basketball
12. football
13. eastern sport
14. playing in yard
15. other

28. How many times a week do you engage in physical activity? □

29. For each time you engage in physical activity, approximately how many minutes do you do this activity? □

30. Below there are some statements regarding physical activity. Underline those of them which you think are correct (you can underline more than one statement)

1. Physical activity is good for one's health
2.Physical activity is bad for one's health

3.Physical activity is indifferent for one's health
4.Physical activity improves lung's function
5. Physical activity improves function of cardiovascular system
6. Physical activity contributes to better physical and mental development
7. Physical activity improves digestion
8. Other

31. How many hours per day do you watch TV or play computer games? □

Appendix C

Results of answers to smoking-related questions for adolescents

Variable	**Boys** **n (%)**	**Girls** **n (%)**	**Total** **n (%)**
Smoking status			
1. Smokes currently	**0 (0)**	**0 (0)**	**0 (0)**
2. Tried to smoke before but do not smoke now	**6 (55)**	**1 (8)**	**8 (30)**
3. Never smoked	**5 (45)**	**12 (92)**	**92 (74)**
Smoking habits of peers			
1. None of closest friends smoke	**2 (19)**	**10 (84)**	**12 (52)**
2. 1-5 of closest friends smoke	**5 (45)**	**1 (8)**	**6 (26)**
3. 6-10 of closest friends smoke	**4 (36)**	**1 (8)**	**5 (22)**
Smoking habits of family members			
1. father smokes	**9 (82)**	**10 (83)**	**19 (82)**
2. mother smokes	**0 (0)**	**0 (0)**	**0 (0)**
3. other family member smokes	**5 (45)**	**2 (17)**	**7 (30)**
Correct knowledge about smoking			
1. general harmful effect of smoking*	**11 (100)**	**11 (92)**	**22 (96)**
2. harmful effects of passive smoking	**5 (45)**	**6 (50)**	**41 (48)**
3. specific harmful effects of smoking (mean number of correct answers to 5 questions)	**3.7 (74)**	**2.5 (50)**	**3.1 (61)**

***** correct knowledge score about general harmful effect of smoking was assessed as percent of adolescents who recorded smoking being harmful for health

Appendix D

Correlation between smoking status of adolescents and smoking habits of peers

	Tried to smoke, but do not smoke currently	Never smoked	Total
At least one of ten friends smoke	6	3	9
Nobody of ten friends smoke	1	13	14
Total	7	16	23

OR= 39 (27.4 -----50.6)

Appendix E

Results of answers to physical activity-related questions for adolescents

Variable	Boys n (%)	Girls n (%)	Total n (%)
Times a week engaging in physical activity at least 20 min			
• 0	1 (9)	1 (8)	2 (9)
• 1	2 (18)	0 (0)	2 (9)
• 2	1 (9)	3 (25)	4 (17)
• 3>	7 (64)	8 (67)	15(65)
Number of hours spent at computer or TV watching			
• 0	1 (9)	0 (0)	1 (4)
• 1	0 (0)	0 (0)	0 (0)
• 2	1 (9)	2 (17)	3 (13)
• 3	2 (18)	4 (33)	6 (26)
• 4>	7 (64)	6 (50)	13 (57)
Correct knowledge about physical activity			
1. general beneficial effect *	6 (54)	8 (67)	14 (61)
2. specific beneficial effects (mean number of correct answers to 4 questions)	3.5 (89)	2.5 (63)	3.0(75)

* correct knowledge score about general beneficial effect of physical activity was assessed as percent of adolescents who recorded physical activity being beneficial for health

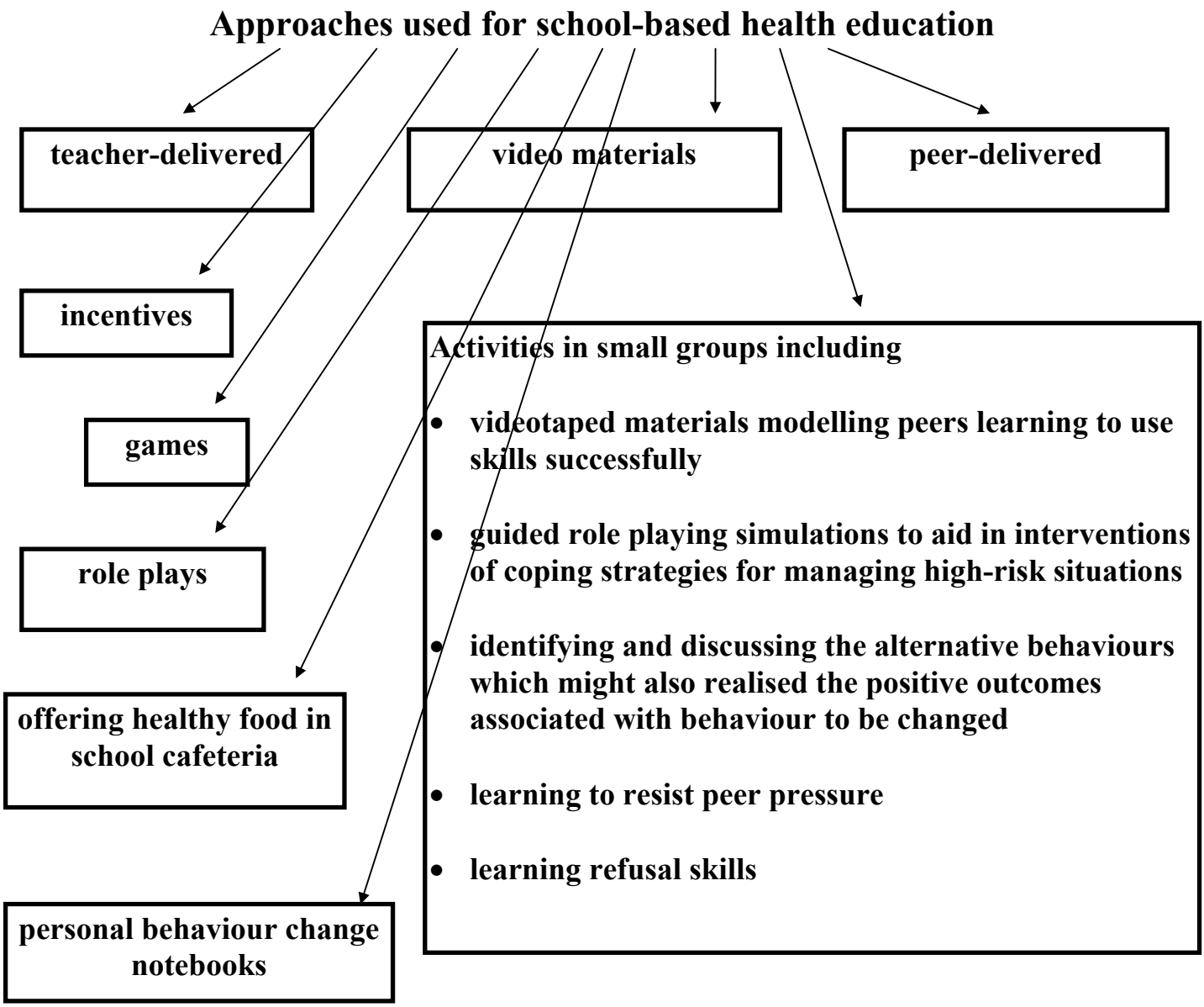
Appendix F

Results of answers to alcohol- and drug-abuse related questions for adolescents

Variable	Boys n (%)	Girls n (%)	Total n (%)
Ever tried alcohol	**6 (55)**	**0 (0)**	**6 (26)**
Correct knowledge about alcohol drinking			
1. general harmful effect of alcohol abuse *	**7 (64)**	**12 (100)**	**19(83)**
2. specific harmful effects of alcohol abuse (mean number of correct answers to 5 questions)	**4.0 (80)**	**2.3 (47)**	**3.1(67)**
Correct knowledge about drug abuse			
1. general harmful effect of drug abuse *	**8 (74)**	**11 (92)**	**19(83)**
2. specific harmful effects of drug abuse (mean number of correct answers to 3 questions)	**2.3 (76)**	**1.4(47)**	**1.8(61)**

***** correct knowledge score about general harmful effect of alcohol (drug) abuse was assessed as percent of adolescents who recorded alcohol (drug) abuse being harmful for health

Appendix G


Approaches used for school-based health education
teacher-delivered
video materials
peer-delivered
incentives
games
role plays
offering healthy food in school cafeteria
personal behaviour change notebooks
Activities in small groups including
videotaped materials modelling peers learning to use skills successfully
guided role playing simulations to aid in interventions of coping strategies for managing high-risk situations
identifying and discussing the alternative behaviours which might also realised the positive outcomes associated with behaviour to be changed
learning to resist peer pressure
learning refusal skills