

Evaluation of intervening role of health risk-related training and consultation on performance of High school students from Kermanshah suburban

Behrooz Hamzeh¹, Elahe Jahandideh^{1*}, Masood Amiri²

¹*Kermanshah University of Medical Sciences, Kermanshah, I.R. Iran;* ²*Social Health Determinants Research Center Shahrekord University of Medical Sciences, Shahrekord, I.R. Iran.*

Received: 20/Feb/2016 Accepted: 6/Sep/2016

ABSTRACT

Background and aims: The most important risk factors threatening health of young people include improper diet, inactivity, smoking, intentional and accidental damages, drugs, AIDS/HIV and psychiatric disorders. Considering increased risky behaviors among teens during 2 last decades, it was decided to evaluate the effects of education and consultation roles in relation to health risks on performance of teens from suburban areas within 4 months following interventions and to propose a model for health-based modification of teen's behaviors. The aim of this study was to determine the intervening role of health risk-related personal education and consultation on performance of high school students from suburban areas in Kermanshah province.

Methods: Research population consisted of 8534 high school students from suburban areas of Kermanshah province. School wise questionnaires were completed for all samples before and four months after holding personal education and consulting session.

Results: Performances of students on intentional/accidental damages, nutrition, physical activities and AIDS/HIV was improved 4 months after education consultation intervention ($P < 0.05$). No significant changes were observed with student's performance in the fields of smoking, addiction and psychiatric disorders in comparison with the time prior to the intervention.

Conclusion: These examination findings revealed positive effects of personal education and consultation on modification of teen's risky behaviors. It appears that a long-term planning is required for modifying behaviors regarding smoking, drugs usage and psychiatric disorders. Self-care education is particularly important because experience has proven that role of classic education pales over time while knowledge leading to acquired skills will be more permanent.

Keywords: Teens, Health risks, Consultation, Personal education, Suburbs.

Original article

INTRODUCTION

With increasing people's access to health care and therapeutic services, knowledge and

awareness of prevention of contagious diseases, and macro health policies, patterns of

***Corresponding author:** Elahe Jahandideh, *Kermanshah University of Medical Sciences, Kermanshah, I.R. Iran*, Tel: 00989183319124, E-mail: ejahan 92@yahoo.com

diseases have changed. those diseases caused by unhealthy life styles being put on top of the list of illness and mortality causes.¹ Research has shown that the most important risk factors of health include improper diet, inactivity, smoking, intentional/accident damages, drugs, AIDS/HIV and mental disorders.²

In recent decade, mentioned items have been considered as the most important risks of health among teens and young people.²⁸ like many other developing countries, in Iran, frequency of hazardous factors as well as suffering from non-contagious diseases was increasing while age of morbidity was decreasing. Behavioural risk factors continue from childhood through teenage to adulthood, and being associated with illness access during later life stages.¹⁸⁻¹⁹⁻²⁰ One of these risk factors is smoking leading to 5 million persons deaths per year worldwide, that vast majority of them began to smoke from teenage.³

Drug abuse or addiction is a social problem and a devastating phenomenon threatening the most valuable capital of each country: teens and young people.⁴ Results of studies show that drug abuse among young people has a progressive trend in Iran.⁶ Another factor threatening health is mental disorders which endanger young people and adults alike.⁶ On the other hand, AIDS/HIV is considered as a globally major concern since it is the most deadly and fastest active disease being transmitted through sexually unhealthy behaviours. Young people are the largest world group being at the risk of this disease.⁷ Warning of a decrease in the age of AIDS/HIV affliction as well as spread of psychotropic, especially among young people, Health department places emphasis on preventive programs necessary to further control over such threats in society.^{7, 8} On one hand, Children and teens do less and less physical activity, and their favourable nutrition have a tendency towards calorific and low value junk food. On the other hand, un favorable habits, life styles along with

boldness and curiosity specific to teenage caused them to experience dangers, leading to occurrence of incidents, intentional / accidental violence and damages and drugs experience.²⁸ Given that age of prevalence of damaging behaviors decreased and that teenage is a sensitive age during which intellectual, value, social and emotional frameworks are shaped, there are some concrete necessities of taking a look at and special steps in order to identify behavioral damages and to determine level of teens, awareness of them.²⁴ In each society, schools are always important places since they are an appropriate environment to educate how to follow a healthy life style.²³ Health – centered intervention are important in order to enhance the students awareness and to strengthen healthy behaviors among them as a primary prevention of behavioral risk factors as well as of chronic diseases in adulthood.²⁴ In this direction, numerous studies performed in developed countries and have shown that school-based programs led to formation of healthy life styles successfully.²⁴ Present research was done on the basis of available evidence, which, after setting up mobile education and consultation bases, measured performance of teens from suburban areas (based on definitions by municipalities²² of Kermanshah province in terms of AIDS/HIV, addiction, smoking, low activity, incorrect diet, mental disorders, and intentional/accidental accidents in order to provide a model for modifying health-related behaviors of teens while presenting effective solutions. This research was done with the aim of determining the effects of intervening role of personal education and consultation on health risk-related performance of high school students from Kermanshah city.

METHODS

This study is an intervening education-consultation research, population of which

consisted of 8534 high school students (female/male) from suburban areas in Kermanshah province.²⁸

Suburbs were selected on the basis of definitions by municipalities, including towns and residential districts created or established around the main fabric of the city (in 4-fold geographical directions). Most residents of these districts are immigrants from rural areas and other divisions. Twenty two Schools located at the suburban areas of Kermanshah province were listed. Totally, 37 institutions with 8534 students were studied. sampling was not performed due to high dissipation, heterogeneity and diversity in such areas as well as to sensitivity of teen age group and reception by education organization, so all 8543 (4105 girls, 4429 boys) students in 4 high school grades (based on Iranian schooling system) from suburban high schools were tested.

From physicians and experts with bents related o educational topics (nutrition, physical activity, AIDS/HIV, smoking, intentional/accidental damages, mental disorders, addiction), 94 were selected as educators and 35 as consultants (mixed with some outsiders), whose number determination was performed on the basis of the number of learners and schools distribution. Schedule of teaching was set, with total 7 hours being specified in the form of school classes for teaching any groups of students. Teaching texts were determined and relevant package was prepared under auspices of educators and specialists from related disciplines. Having been approved in terms of its validity and reliability, school wise questionnaire was used. Having arrived of each school and explained the tasks to students, teaching team attempted to complete questionnaires consisting of 18 items regarding 7 educational subjects. Likert scale was used to respond to open-ended and closed questions. Questionnaires were completed by questioners through interviews and observations before

and 4 months after intervention targeted. Data were analyzed using SPSS software and measured using tests (R^2 ; χ^2) of descriptive statistics.

RESULTS

Performance of students on intentional/accidental damages, nutrition, physical activity and AIDS/HIV were completely improved 4 months following personal education-consultation interventions (Table 1). Given the value of $P < 0.05$, it can be concluded that such an intervention had a positive effect. Prior to intervention, 23.5% of students tested would fasten belts while being in the car. This rate increased to 29.7% in figure 4 months after intervention. Prior to education, 9.4% of students fastened car belts voluntarily and this rate reached 39.1% 4 months post intervention.

Prior to intervention, 13.6% of students never washed their hands while being at school. Four months later, this rate reached 10.4%. During that period, rate of not having breakfast decreased to 7% from 11% while drinking milk increased to 4.6% from 3%. In general, students showed improvement of their own eating habits, but intervention did not change nutrition patterns of families of tested subjects (Table 2). Number of students never doing exercise decreased to 29.5% from 33%, while some increases were observed in the number of those students who sometimes did exercise. Level of learning about AIDS/HIV and its prevention ways increased to 47 min per student from 1.5 min, with percent of visiting the educational web site on the AIDS/HIV prevention increasing to 33% from 4.7%. For smoking, drug use / addiction, and mental disorders, generally, no positive changes were observed compared to conditions prior to performing intervention. Given the value of $P > 0.05$, it can be concluded that our educational efforts had no positive effects. Some behavioural improvements were

observed for cold weapons caring, but not for taking tranquilizing and/ or psychotropic medications and smoking. Prior to education-consolation intervention, 1.1% of girls and 4.6% of boys had been smokers and these percent's remained unchanged 4 months after intervention. Number of students who smoke cigarette daily decreased while number of those who are smoking only in friend circles increased with some decreased being observed in times of smoking per day compared to pre-intervention period. Before intervention, 9.6% of students took psychotropic medication, which reached 8.4% within 4 months of intervention afterwards. In pre-intervention period, the percent of students

taking psychotropic medications was 9.6%, and reached 8.4% within 4 months.

No significant difference was observed between pre- and post-intervention performances of students on selection and number of intimate friends, of whom 4.1% had no friends prior to intervention and this figure was 3.6% after that.

Before and after 4 months of intervention, students' sleeping time (after 11:00 p.m.) did not change significantly, neither did long duration of computer activity (>3 hours per day). Prior to intervention, 15.9% and following intervention, 17.5% of tested students had a date (boyfriends, girlfriends).

Table 1: Comparison of the sidelines of Kermanshah optimum performance of high school students about health risks before and after training and counseling in person

Behavioral	Sex	% of optimal performance before intervention	% of optimal performance after intervention	P
Feeding	Boys	45.3	45.3	<0.05
	Girls	46	46	
Physical activity	Boys	50.6	50.6	<0.05
	Girls	43	43	
HIV/AIDS	Boys	54.3	54.3	<0.05
	Girls	63.6	63.6	
Intentional/accident damages	Boys	19.9	19.9	<0.05
	Girls	23.5	23.5	
Smoking	Boys	95.4	95.4	0.05>
	Girls	98.9	98.9	
Addiction	Boys	89.6	89.6	0.05>
	Girls	95.1	95.1	
Mental disorders	Boys	5.94	94.5	0.05>
	Girls	94.2	94.2	

Table 2: Comparison of the performance of high school students on the margins of Kermanshah dominant snack at school before and after training and counseling in person

Kind of snacks consumed	% of consumers before the intervention	% of consumers after the intervention
Beverage	19	11.2
Industrial fruit juice	17.4	14.9
Milk	5.2	9
Home mouthful	6	5.9
Fruit	11.2	19
Chips and snacks	13	9.1
Cake, cookie and biscuit	23.1	19.8
Pistachio, almond and ...	2.4	6
Nothing, just water	2.7	1.5

A significant difference was observed among girls scuffling with peers in a month prior to questioning in terms of scuffling times before and 4 months after intervention, indicating positive effect of intervention. For boys, the rate of scuffling with peers increased to 15% from 11.8%, while for the both sexes, scuffling more than

twice per month (the month prior to the onset of study) rate decreased to 22.5% from 36%. During a month prior to the study, 92.5% of all the students were injured/wounded from scuffling with peers, indicating no difference between pre- and post-education and consultation periods (Table 3).

Table 3: The kind of injuries in the quarrel of peers in High school students on the margins of Kermanshah school before and after training and counseling in person

The kind of injury	Girls		Boys	
	Frequency	%Frequency	Frequency	%Frequency
Suffered a head injury	2	6.9	7	15.2
Scratches and superficial wounds	11	37.9	21	45.7
Knife corrosion	1	3.5	3	6.5
Severe scarring that leads to hospital	1	3.5	4	8.7
Fracture	4	13.8	4	8.7
Bruising	10	34.4	7	15.2
Total	29	100	46	100

DISCUSSION

In the last 2 decades, world health organization (who) and international scientific societies placed emphasis on necessity of prevention of chronic adulthood diseases via modifying children's and teen's life style, considering level 0 and 1 preventions important in this direction.²⁸

The present research studied health risks among 8534 students from suburban high schools, which is unprecedented in terms of its sample size. Selected areas were various in comparison to similar investigations in that most studies performed across country placed emphasis on urban and rural areas, paying less attention to suburbs. Despite that they are increasingly growing and expanding vigorously having unique features due to migration of people from other urban and rural areas to suburbs of cities. A nation-wide study titled "Analytic 2009-2010 school year report" has investigated health-related behaviors among 5570 urban/rural students, results of which showed that in some cases, teens' life style put them at the risks of chronic adulthood diseases, as evidenced by results of numerous studies performed in Iran and other Asian countries.²⁷ Findings of that study indicated rates of 5.7% and 9.4% for smoking cigarette and using psychotropic drugs (medications), respectively, among teens prior to relevant intervention. Research into risky behaviors among Tehran junior and senior high school students showed that 12% and 2% of them were on cigarette and heroin, respectively.

Based on the findings of research done by Kellishadi et al, for urban students, 45% worked with computer 2 hours or more per day, 50% scuffled with peers, and 10.4% were on drugs.²⁸

In the study of primary addiction prevention in student environments, it was noted that somethings are important to maintain sequences and training in the field of risky behaviors and relevant issues

internationally by using such active teaching techniques as brainstorming, group discussions, group activities, planning questions, playing roles (role play), and behavior practice. The present study used personal education and consultation, results of which indicate effectiveness of education in improving teens' performance. Case consultation has drawn attention for recent years, being performed generally privately for many reasons such as stating problems, asking questions, and making comments.

CONCLUSIONS

In present design, it was attempted to attract teen students' attention and trust, to make them familiar with unhealthy behaviors and their harmful consequences while providing true information about damaging behaviors in order to enhance appropriately correct behaviors among them and, eventually, to direct them, who account for a high proportion of society population towards a healthy life. Education effectiveness in correcting behaviors of difference age, sex and social groups is visible, but the approach education takes is what making its role and effectiveness more or less obvious. Certainly, it will be more effective if an approach is taken appropriately commensurate with needs, conditions, possibilities and potentials of audience.

To correct health-related behaviors, it is required accurate models planning, monitoring, controlling, designing and implementing that must be matched with tested and opinions of target groups. Self-care education is of considerable importance because experience has proven that the role of classic education plays will faint over time. Awareness will be more persistent in case it results in acquired skills.

Results of this study reflect unhealthy life styles among seemingly healthy teens,

suggesting necessity of continuous education, of pursuit and provision of tools and situations to express opinions and tastes, and about attraction of this age group in order to change and/or to correct behaviors. Rapidly changing behavioral patterns call for performing multiple investigations necessarily and, subsequently, for taking timely actions to prevent adulthood diseases primarily.

CONFLICT OF INTEREST

The authors declare that there was no conflict of interest.

ACKNOWLEDGEMENTS

We gratefully thank Kermanshah province education for their sincerely cooperation with researches, and health assistance of Kermanshah University of Medical Sciences and its school of health unit experts. We express our gratefulness to the health centers from 14 Kermanshah province divisions for their empathetic collaboration.

REFERENCES

1. Marcoux BC, Shope JT. Application of the theory of planned behavior to adolescent use and misuse of alcohol. *Health Educ Res.* 1997; 12(3): 323-31.
2. Monshi Tosi T. Children behavioral disorder. Mashhad: Astenghodse Razavi pub; 2003.
3. Park K. Concept of health and disease. Park's text book of preventive and social medicine. 2005; 20: 12-48.
4. Report on the first phase of the National Plan Surveillance and prevention of non-communicable diseases in children and teenagers. Directorate General of Health Services, Ministry of Health and Family Welfare, 2007.

5. Moldrup C. The use of the terms 'lifestyle medicines' or 'lifestyle drugs'. *Pharm World Sci.* 2004; 26(4): 193-6.
6. Ann JA, Spradly BW. Community health nursing. 6th ed. Philadelphia: Lippincott Williams and Wilrins; 2005.
7. Guideline for controlling and monitoring the Tobacco Epidemic. WHO; 2003. Available from: <http://www.WHO.Int/FCTC/index.Html>. 2014.
8. Akbari M, Sedagat A. Activities report about HIV/AIDS in Republic Islamic of Iran. Tehran, Iran: Seda Pub; 2007.
9. The Right to Highest Attainable standard of Health: Office of High Commissior for Human Right; 2000.
10. Sovd T, Mmari K, Lipovsek V, Manaseki-Holland S. Acceptability as a key determinant of client satisfaction: lessons from an evaluation of adolescent friendly health services in Mongolia. *J Adolesc Health.* 2006; 38(5): 519-26.
11. Richter MS, Mfolo V. The perception of South African adolescents regarding primary health care services. *Sci World J.* 2006; 6: 737-44.
12. Baraitser P, Pearce V, Blake G, Collander-Brown K, Ridley A. Involving service users in sexual health service development. *J Fam Plann Reprod Health.* 2005; 31(4): 281-4.
13. McGill HC, McMahan CA, Zieske AW, Tracy RE, Malcom GT, Herderick EE, et al. Association of coronary heart disease risk factors with microscopic qualities of coronary atherosclerosis in youth. *Circulation.* 2000; 102(4): 374-9.
14. Pate RR, Baranowski T, Dowda M, Trost SG. Tracking of physical activity in young children. *Med Sci Sports Exerc.* 1996; 28(1): 92-6.
15. Parsons TJ, Power C, Logan S, Summerbell CD. Childhood predictors of adult obesity: a systematic review. *Int J Obes Relat Metab Disord.* 1999; 23(8): S1-107.
16. Janz KF, Dawson JD, Mahoney LT. Tracking physical fitness and physical activity

- from childhood to adolescence: the muscatine study. *Med Sci Sports Exerc.* 2000; 32(7): 1250-7.
17. Nicklas TA, von Duvillard SP, Berenson GS. Tracking of serum lipids and lipoproteins from childhood to dyslipidemia in adults: the Bogalusa Heart Study. *Int J Sports Med.* 2002; 23(1): S39-43.
18. Magarey AM, Daniels LA, Boulton TJ, Cockington RA. Predicting obesity in early adulthood from childhood and parental obesity. *Int J Obes Relat Metab Disord.* 2003; 27(4): 505-13.
19. Freedman DS, Khan LK, Dietz WH, Srinivasan SR, Berenson GS. Relationship of childhood obesity to coronary heart disease risk factors in adulthood: the Bogalusa Heart Study. *Pediatrics.* 2001; 108(3): 712-8.
20. Reilly JJ, Jackson DM, Montgomery C, Kelly LA, Slater C, Grant S, et al. Total energy expenditure and physical activity in young Scottish children: mixed longitudinal study. *Lancet.* 2004; 363(9404): 211-2.
21. Thompson OM, Ballew C, Resnicow K, Must A, Bandini L, Cyr H, et al. Food purchased away from home as a predictor of change in BMI z-score among girls. *Int J Obes.* 2004; 28(2): 282-9.
22. Aadahl M, Jorgensen T. Validation of a new self-report instrument for measuring physical activity. *Med Sci Sports Exerc.* 2003; 35(7): 1196-202.
23. Zaree B. Demographic, economic, social. 2006; 11-32
24. Guidelines for school health programs to promote lifelong healthy eating. Centers for Disease Control and Prevention. *MMWR Recomm Rep.* 1996; 45(RR-9): 1-41.
25. Nicklas TA, Webber LS, Johnson CC, Srinivasan SR, Berenson GS. Foundations for health promotion with youth: A review of observations from the Bogalusa heart study. *Health Educ J.* 1995; 26(2): S18-S26.
26. Barikani, A. Behaviors full of danger in teenagers of guidance schools and highschools of city in Tehran. *Iran J Psychiat Clin Psychol.* 2008; 53: 192-198.
27. Mohamkhani S. Prevention of bad consumption of substances by education of life skills: Theory, methods and experimental findings. *Quarterly periodic Consult Message.* 2008; 7.
28. Motlagh Z, Mazloomi-Mahmoodabad S, Momayyezi M. Study of health-promotion behaviors among university of medical science students. *Zahedan J Res Med Sci.* 2011; 13(4): 29-34.

How to cite the article: Hamzeh B, Jahandideh E, Amiri M. Evaluation of Intervening Role of Health risk-related training and consultation on performance of High school students from Kermanshah suburban. *Int J Epidemiol Res.* 2016; 3(4): 363-370.