

The Effect of the Impact of Health Promoting Program on Environmental Indicators in Elementary Schools of Tabriz in Academic Year 2013-2014

Mohsen Faraj Allah Bike Nouri¹, Poursan Raeissi^{2*}, Leila Riyahi¹

¹Department of Health Services Management, Science and Research Branch, Islamic Azad University (IAU) Tehran, Iran; ²Department of Health Services Research, School of Health Management and Medical Information Science, Iran University of Medical Sciences, Tehran, Iran

*E-mail: raeissi2009@yahoo.com

Abstract

Health promoting program take steps in eight levels toward improving school standards and 64 indicators are investigated in this program in schools. Based on the importance of environment and training of environmental issues since childhood, in this program seven environmental indicators in schools are mentioned. The impact of this program on environmental indicators is important for decision making. Method: this study was conducted as case-control among 128 schools. Data collection instrument was a 30-questions checklist that was completed by Environmental health experts in schools. The results indicated that there is no significant relationship between the indicators of green space, drinking water, toilet and bathroom, using clean fuels (for heating), conserving in uses of paper and conserving in uses of energy (power utilities e.g. electricity, water, fuel) in health promoting schools and non-promoting schools. There is a significant relationship between the indicators of location and space of school in terms of being away from environmental pollutants, sewage disposal system, collecting and disposal of solid waste in health promoting schools and non-promoting schools. Since the health promoting program is running aimed at improving the health and environmental indicators, it does not have the appropriate mechanism for raising infrastructural standards and environmental structures in schools.

Keywords: Environmental indicators, Health Promoting schools

Introduction

School is a social space where education and personality development of today's children, who are tomorrow's community builder, are established and operated under the proper training methods, appropriate physical space and suitable mental environment (Nouri, 1994). After the family, school has an important role in children's health. Students learn new behaviors and attitudes in addition to reading and writing skills. These behaviors have an important role in family and society health in addition to the personal health. For development of health students and school staff, families and total of community need to have schools with appropriate places. Children spend many hours in school, grow and evolve there. Today, investing the health of adolescents and youth in educational settings is discussed as one of the most important interventions in health systems, so that it has been recommended in terms of inclusive plan of health promoting schools" by the World Health Organization (Amir Khani et al, 2009).

In the program of health promoting schools, 64 indicators in 8 parts are reviewed as follows:

- Comprehensive program of health education in schools
- Providing clinical services at school
- Environmental of health at school
- Promotion of nutrition in schools
- Stimulation and physical activity in schools
- Improving the health of school staffs
- Mental health and counseling services in schools

- Participation of parent and community in health promoting programs at schools

Among these, 7 indicators address the state of environmental indicators at schools including green space, drinking water, toilet and bathroom, wastewater disposal system, disposal of solid waste, using clean energy (for heating) and saving paper and utility (water, electricity, fuel), and place and space of schools in terms of being away from environmental contaminants (Taghavi, 2002). United Nations as the center of Promoting the culture of sustainable development in the nineties has made strenuous efforts for environmental conservation program. This development means that to avoid the emergence of social debt for future generations, sufficient investment must be made in the environmental conservation (Vali Allahi and Maghsudi Mehrabani, 2010). Today, in all developed and developing countries, Environmental education and environmental protection ideas are drawn to schools and It is believed that if environmental ethics is institutionalized in children's minds and beliefs, many issues and problems will be solved (Mir Sanjari, 2010).

According to some studies, the school levels of elementary and pre-elementary are the most important age for Environmental Education, because educational activities in schools have three desirable features: First, in terms of cognitive and intellectual development, children are mentally prepared enough to learn anything new and pay much attention to their surroundings due to their inherent curiosity. Second, in terms of a uniform curriculum in schools, including material for the development of children's knowledge and attention to the environment around them and doing attractive and diverse activities is important. Third, this age group constitutes a high volume of Iran's population and their collective training at the national level through training schools, will certainly address the fruitful results (Alikhani, 2008). However, more than 30 percent of the population of the country is composed of students and informing the awareness of children and explaining ways to prevent energy loss for them can enhance the culture of saving. Also, providing the proper methods based on the climatic conditions of each region on the design of school buildings can reduce the energy consumption at the national training center resulting in foreign exchange savings. It can also be useful in the aspect of psychological comfort, providing their health, environmental protection and air pollution control, especially in dense urban areas. In this century due to incorrect use of natural and environmental resources, many countries are faced with many environmental problems. Global climate change and drought in large-scale, indiscriminate cutting of forests worldwide, acute water shortages, uncontrolled soil erosion, contamination of seas and oceans, the occurrence of natural disasters and many other problems include this issue (Asqari Lafamjani, 1999). Among the ignorance, low awareness and low levels of public culture are the causes of environmental destruction that can provide the environment of abuse in violation of God-given resources and national capital (Alizade Shuraki, Zarshahy, and Omidvar, 2011). In the effectiveness of health promoting schools the study of Kuchaki et al (2009) in Golestan Province entitled as "A review of the effectiveness of health promoting schools on mental health characteristics of students" and Fani (2011) as "the impact of health promoting schools on the health indicators of Amol city high school students in the academic year 2010-2011 have been found". Since health promoting program is a new program and does not run at all schools and because there is not any study to show the effect of this program on the promotion of environmental indicators of schools, this study was performed with the aim of determining the effect of health promoting program in promoting the environmental indicators of schools and comparing them in schools that do not perform this program.

Materials and Methods

This study is quantitative-analytical and was conducted as case-control in 2013. The population in this study was 427 elementary schools (girls - boys) in Tabriz and among them 220 schools had health promoting program in six areas of education in Tabriz in the academic year 2013-2014.

In the present study, 30% of the total schools of Tabriz was selected as sample size, namely 124 schools were selected as the sample and 64 schools were selected as the case among the health promoting schools and 64 schools were selected as the control among the non-promoting schools. Data were collected by using checklist including 30 questions by environmental health experts of health centers of Tabriz.

To determine validity of checklist was taken the following steps were taken:

1. All the questions of checklist were adjusted to the Environmental Health Regulations and national standard No 2086.

2. Based on scientific sources relevant to the study objectives, the necessary corrections of questions were made. Considering that the data collection tool was a checklist Grading coefficient of agreement is calculated. Therefore, the coefficient of agreement in scoring the questions, two researchers simultaneously asked the questions and the coefficient of agreement was 95%. Finally, the questionnaire and checklists were completed by Environmental health experts with attending at schools and objective observation, asking students and manager of schools and see the present documentation in schools. After collection data, Statistical analysis was run conducted using SPSS software (e.g. paired t-tests).

Results

In this study, seven major environmental indicators, expressed in the plan of health promoting schools, were studied.

Table 1. Mean and frequency of six indicators of environmental health in health promoting elementary schools and non-promoting elementary schools of Tabriz

Maximum	Mean and percentage of index in non-promoting schools	Mean and percentage of index in health promoting schools	Environmental Health Indicator
3	2.1559 71.5%	2.2028 73%	Access to drinking water
1.75	1.3031 74%	1.3031 74%	Access to toilet and bathroom
1	0.3594 35%	0.3125 31%	Green Space
0.75	0.6328 84%	0.7441 99%	Sewage disposal
0.5	0.3574 71%	0.4473 89%	The quantity of solidwaste bin and quality of solidwaste disposal
2	1.3697 68%	1.5676 78%	The location of school in terms of being away from environmental contaminants
1	0.8375 83%	0.8875 88.5%	Environmental activities

Table 1 shows that the health promoting schools had higher average than the control group (non-promoting schools) in three indicators of environmental. Accordingly, the most important results of the above indicators are expressed as follows: Indicator of access to drinking water in health promoting schools does not have a significant difference with the drinking water of non-promoting schools ($P= 0.686$). Indicator of access to toilet and bathroom in health promoting schools does not have a significant difference with the indicator of toilet and bathroom in non-promoting schools ($P= 1$). Also, Indicator of Green space in health promoting schools does not have a significant difference with the Index of Green space in non-promoting schools ($P= 0.578$). Sewage disposal index in health promoting schools has a significant difference with the sewage disposal index in non-promoting schools ($P= 0.001$). Indicator of collection and disposal of solid waste in health promoting schools has a significant difference with the indicator of collection and disposal of solid waste disposal in non-promoting schools ($P= 0.001$). Index of environmental activities in health promoting schools does not have a significant difference with the index of Environmental activities in non-promoting schools ($P= 0/135$). Index of school location in terms of being away from environmental contaminants in health promoting schools has a significant difference with indicator of school location in non-promoting schools. ($P= 0.001$).

Discussion

This study was conducted to evaluate the effect of health promoting program on indicators of environmental health of schools and the results showed that from seven study index, three of them (location of school in terms of being away from environmental pollutants - collection and disposal of solid waste system - Sewage disposal system) have higher average in health promoting schools. The benefits of vegetation in the area of school have been scarcely considered. While the presence of grass or any other vegetation is effective in cooling the surrounding air. According to the conducted studies, a common lawn area of 1012 square meters is effective in cooling the surrounding air with 2 million Btu per day. This amount is equal to the coolness of an air conditioner with 20 hour work per day for 10 rooms (Khani and Abdollahi, 2003). But it seems that this issue is not paid attention in schools and educational environments although based on school's environmental health regulations and national standards of school health, half a meter of green space has been postulated for each student. As the findings show the index of green space is very low in schools and the health promoting program could not be effective in the current status. However, in this study, the mean index of green space in non-promoting schools is relatively higher than the health promoting schools. Being away from environmental pollutants has been expressed in school's Environmental Health Regulations on the proper place for the construction of schools. Research has shown that noise can increase stress and decrease the accuracy and the learning level (Adegbenro, 2007).

The findings show that the elementary health promoting and non-promoting schools (boys - girls) of Tabriz are in a good status in terms of proper place to build and to be away from environmental pollution (noise, pollution, etc.). And, almost 70% of the schools studied are based on existing standards from environmental pollutants health promoters program has been able to improve these indicators in primary schools in Tabriz affect this indicator mean the schools rather than schools in non-promoters is better ($p= 0.001$). According to the findings of this study on other indicators, it seems that health promoting program on health indicators and standards for school infrastructure has been little impact and high average index (distance of schools, environmental pollutants) in health promoting schools and non-promoters is being built at the beginning of the school building has been given to this topic regulatory programs and deterrence because the schools

cannot establish the underlying index to improve the effectiveness of schools. In surveying the status of drinking water and sanitary of elementary schools in Tabriz city, it became clear that the program has failed to improve schools; health promoters' indicators (drinking water and sanitary services) schools were to be effective, Statistics status indicators in primary schools in Tabriz health promoters and non-promoters is relatively favorable. This indicates that the country's basic health and environmental consideration is important. In the event that in the study of Adgbnero, only 50% of schools in Nigeria had access to drinking water resources [12] This indicates that the health promoters program is not sensitive enough to elevate the status of these indicators among elementary school principals in Tabriz. The increasing production of solidwaste such as paper and cardboard and the disposal of its non-compliance to the environment without regard to the concept of recycling, in addition to the national capital waste causing the loss of natural resources. Carried out researches in the country shows that just 25% of recycled paper and cardboard waste generated in the year can be product 100000 tons recycled paper annually. This activity means survival 1.7 million trees per year (Abdoli, 2005). The findings revealed that the environmental standards of the schools have studied well.

The purpose of environmental standards including the type of fuel and paper consumption as well as saving them. Given that these indices are not significantly different schools promoters and the story of the failure of the environmental impact of the program in promoting school health promoters. However, both promoters and non-promoters of Tabriz school are desirable. It seems that given the country's recent policy to save on school supplies affected and make all schools more than the savings in regular schools act. According to the solidwaste disposal and sewage disposal systems in average index rates of school health promoters and non-promoters is relatively in good condition and health programs in the schools studied promoters are able to improve these indicators, due to the fact that urban schools are public schools and studied urban sewage and garbage disposal standards and principles are respected more and in addition, the following can be said in respect of these standards can be effective in raising the level of these indicators:

- Proper culture of disposal of sewage
- Periodically visiting of environmental health experts and supervising the implementation of administrators and practitioners in schools and their sensitivity to enforce more stringent regulations on environmental health
- Monitoring bodies including proper municipal sewage disposal

The program promotes a new step in improving the health and environmental standards and health indicators in school environment. School administrators can be an effective step towards the promotion of good management program schools has environmental standards. According to research findings, visiting the continuous monitoring and environment affect health experts in order to comply with environmental standards for school administrators and authorities. Urban and rural health centers and experts assure the environmental health and inspection of school officials and school administrators to compliance with environmental and health standards in their schools. With the implementation of the program as well as programs that promote school and engage with the gift of the stars and show managers, and establish standards of competition in various environmental causes to the health and environmental standards in schools will be in the observance of more to be held. Given that this school has been constructed and is ready to face the hosts of this program, school administrators and health professionals and it has the ability to reform schools mechanisms and infrastructure reform schools also require adequate funding. This program is creating good relationship between health and education has an important role and has created an environment

where those involved in education and training in relation to environmental issues and to improve health and to think and then make decision

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