Effectiveness of an Education Program on Youth's Awareness towards Household Waste Control

تأثير برنامج تثقيفي على وعي الشباب تجاه السيطرة على النفايات المنزلية

Alaa N. Sarkees, PhD*
Mohammed F. Khalifa, PhD**

***Instructor, Department of Community Health Nursing, College of Nursing, University of Duhock**
****Professor, Department of Community Health Nursing, College of Nursing, University of Baghdad**

المستخلص:
الهدف: تحديد تأثير البرنامج التثقيفي على مستوى وعي الشباب تجاه السيطرة على النفايات المنزلية.
المنهجية: دراسة شبه تجريبية اختيرت فيها عينة حصصية (غير احتمالية) من (٨٠) شاب اختيروا من محافظة بغداد، تم شطرهم إلى مجموعتين متساويتين من ٤٠ شاب لمجموعة الدراسة والذين تم تعريضهم إلى البرنامج التثقيفي للسيطرة على النفايات المنزلية. أما الباقي كانوا مجموعة السيطرة والذين لم يعرّضوا إلى البرنامج التثقيفي. أنجزت عملية تحليل البيانات من خلال استخدام طرائق أسلوب التحليل الإحصائي الوصفي و الاستنتاجي للبيانات.
النتائج: أشارت نتائج الدراسة إلى أن مجموعة شباب الدراسة قد استفادوا من البرنامج التثقيفي تجاه السيطرة على النفايات المنزلية وقد حصل تغير في وعيهم تجاه السيطرة على مثل هكذا نفايات.
التوصيات: أوصت الدراسة إلى إمكانية تفعيل دور التلفزيون على وعي الشباب من خلال عرض البرنامج التثقيفي للسيطرة على النفايات المنزلية والذي قد يساعد على إيصال المعلومات إلى مناطق بعيدة ومن ثم زيادة وعي عدد أوسع من الشباب.

Abstract:
Objective: determine the effectiveness of an education program on youth's level of awareness towards household waste control.
Methodology: A Quazi-experimental study was conducted. Non-probability (quota sample) of (80) young persons is selected from Baghdad Governorate. They are divided into two equal groups of (40) subjects for the study group which is exposed to the household waste control educational program. The remaining is the control group which is not exposed to the educational program.
Results: The findings of the study indicated that youth of the study group have got benefits from the implementation of the educational program towards household waste control and change has occurred to their awareness towards such control.
Recommendations: The study recommends that the role of television upon youth's awareness can be activated through presenting the household waste control educational program which may facilitate to bring the information for long distance area and increase wide-range awareness of youth.
KeyWords: Youth's Awareness, Education Program, household waste Control.

Introduction:

The increase in the amount of wastes and the concomitant rise in the hazards which it poses are having a severe impact on global and local environments, natural resources, public health and local economies and living conditions, and in this way threatening the attainment of relevant Millennium Development Goals. Various diseases, including cancers, result from exposure to hazardous emissions, mainly from open burning and substandard incineration of wastes [(2)].

Before investigating the youth can play a role in addressing environmental issues, it is important to provide some background and establish a clear context by identifying the current state of the environment. The nature, extent and severity of environmental problems vary tremendously from one part of the world to another. It is perhaps most logical to begin with an overview of the state of the global environment, providing a snapshot of its present condition, as well as a more detailed and revealing assessment of past trends and likely future developments. This level of analysis is justified because certain issues—most notably global warming and ozone layer depletion are intrinsically global problems and therefore of concern to everyone in the world [(3)].

Environmental education (EE) evolved in the late 1960's when the conservation of resources did not seem to be sufficient to combat the complex factors associated with environmental degradation, such as disposing of toxic waste, disappearing biodiversity, and declining air and water quality. Citizen involvement was required to support legislation to guide industry and agencies, and education was needed to prepare citizens for this role [(4)].

Methodology:

A Quasi-Experimental design was conducted with application of pre and posttest approaches through the period of April 5th 2009 to August 5th 2010 in order to examine the research hypotheses.

A non-probability (Quota Sample) is conducted on (80) youth of Young Jesus Sodality have been recruited from Baghdad city with respect to the youth's age and sex distribution as being evidenced by Central Statistical System, Ministry of Planning [(1)]. Those who are involved in the educational program of household waste control at Parish of Saint Toma the Apostle Catholic Church. They are divided into two equal groups of (40) youth for the study group which is exposed to such program, the remaining is the control group which is not exposed to the educational program.

This program has been modified throughout the review of relevant programs which are applied in other countries in order to Increase the youth's awareness towards household waste control.

A pilot study was conducted to determine the validity and reliability of the education program and study's instrument which is used for measuring the effectiveness of the education program on youth's awareness towards household waste control.

Data collection is initiated from 12th of October to 7th of December 2009, and it was analyzed with descriptive statistical data analysis of (frequency and percentage) and Level of youth's awareness towards household waste control is determined through computation of minimum and maximum scores as Barely (49-85), well (86-122), Better (123-159), and Best (160-196). In addition Inferential Statistical Data Analysis approaches are performed in order to accept or reject the research hypotheses related to this study which include One-way analysis of variance test (ANOVA) and multiple comparisons (Least-Significant Difference).

Results:

Table 1. Distribution of Youth's Demographic Characteristics of the Study and Control Groups

Demographic Characteristics	Study Group		Control Group	
	f	(%)	f	(%)
1. Age (Years)				
15-19	20	50.0	20	50.0
20-24	20	50.0	20	50.0
Total	40	100.0	40	100.0
2. Gender				
Male	20	50.0	20	50.0
Female	20	50.0	20	50.0
Total	40	100.0	40	100.0
3. Education				
Unable to read and write	0	0	0	0
Able to read and write	3	7.5	3	7.5
Primary school graduate	11	27.5	11	27.5
Intermediate school graduate	14	35.0	14	35.0
High school graduate	7	17.5	7	17.5
Institute graduate	4	10.0	4	10.0
College graduate	1	2.5	1	2.5
Total	40	100.0	40	100.0
4. Residential Area				
Rural	12	30.0	12	30.0
Urban	28	70.0	28	70.0
Total	40	100.0	40	100.0
5. Type of Family				
Nuclear	32	80.0	24	60.0
Extended	8	20.0	16	40.0
Total	40	100.0	40	100.0
6. Occupation				
House maker	4	10.0	4	10.0
Unemployed	1	2.5	2	5.0
Student	20	50.0	21	52.5
Employed	15	37.5	13	32.5
Total	40	100.0	40	100.0
7. Socioeconomic status				
Low	3	7.5	3	7.5
Moderate	26	65.0	26	65.0
High	11	27.5	11	27.5
Total	40	100.0	40	100.0

f: Frequency, %:Percent

The table shows equal distribution of youth's age and gender of (50%) each. Most of the participants are intermediate school graduates and they are accounted as third of them (35%), Residents in urban area, are living with nuclear family, and Students.

Table 2. Levels of Youth's Awareness towards Household Waste Control for both groups

Levels of Youth's Awareness	Study Group		Control Group	
	f	(%)	f	(%)
Barely	0	0.0	0	0.0
Well	13	32.5	9	22.5
Better	26	65.0	29	72.5
Best	1	2.5	2	5.0
Total	40	100.0	40	100.0

f: Frequency, %: Per cent

Table (2) reveals that more than half of the participants have better awareness towards household waste control.

Table 3. Comparison between Mean Scores of the Pre, Post1 and Post2 Tests for the Study and Control Groups

Source of Variation	Study Group					Control Group				
	Sum of Squares	df	Mean of Squares	F	P	Sum of Squares	df	Mean of Squares	F	P
Between Groups	25.818	2	12.909	172.118	.000	.034	2	.017	.232	.794
Within Groups	8.775	117	.075			8.482	117	.072		
Total	34.593	119				8.516	119			

Sum of Squares: Summation of Squares, df: Degree of freedom, F: Statistical F, P: probability level at ≤ 0.05

The table indicates that there are significant differences between means of pre, post 1 and post 2 tests of study group. But there are no significant differences between means of such tests in control group.

Table 4. Multiple Comparisons between Mean Scores of the Pre, Post 1, Post 2 Tests for the Study and Control Groups

Tests		Study Group			Control Group		
		Mean Difference	Std. Error	p	Mean Difference	Std. Error	p
Pre	Post1	-.9883	.06124	.000	.0265	.06021	.660
	Post2	-.9796	.06124	.000	-.0138	.06021	.819
Post1	Pre	.9883	.06124	.000	-.0265	.06021	.660
	Post2	.0087	.06124	.888	-.0403	.06021	.505
Post2	Pre	.9796	.06124	.000	.0138	.06021	.819
	Post1	-.0087	.06124	.888	.0403	.06021	.505

Std. Error: Standard Error, P: probability level at ≤ 0.05

The table depicts that there are significant differences just between means of pre test and both post tests 1and 2, and vas-versus in study group. No significant differences are found between means of these tests in control group.

Discussion:

Throughout the course data analysis, the study and control groups are matched with regard to their education, residential area, and socioeconomic status. Findings of the distribution of these characteristics have indicated that most of the youth is intermediate school graduates, urbanized, and at moderate socioeconomic status (Table 1).

Relative to their education, the finding that emerged is due to the learning failure situations and discontinuance. This fact is reported by the study sample. With respect to the finding of residential area that reflects their civilization mobility is clear and obvious throughout seeking job-opportunity and social development. In addition, the short distance between urban and suburban that more likely to be urban ones. Support for this finding is presented by Onogawa and others (2006) who stated that almost three quarters of the world's population will live in cities by the middle of 21st century [5].

In regard to the participants' socioeconomic status. The finding has reflected that the predominant level of the status as moderate one which represents the nature of our society.

The study findings show that nuclear family is to be the most predominant one for all groups (Table 1). Relatively, this finding is reflecting the nature of the culture of the study population's families.

Relative to their occupation, approximately half of them are students (Table 1). This finding is supported by Census of Central Statistical System (1997) that presents the maximum numbers of the age group of 15-24 are students [1].

Concerning youth's awareness towards household waste control, data analysis reveals that large number of participants have better awareness towards household waste control (Table 2). As they have stated that the television environmental programs have an important role in increasing their awareness towards household waste control. The relationship between awareness and the household waste is supported through that awareness of both kinds of pollution (local pollution and global pollution), among other things, that has led to the environmentalism movement, which seeks to limit the human impact on the environment [6]. Aside from having a greater stake in the more distant future, young people are especially well-placed to promote environmental awareness simply because they often have better access to information about the environment than do their elders.

In parts this is a matter of having being exposed to more environmental education in schools, at least in the developed world and perhaps more sporadically elsewhere. Aside from exposure in formal education, youth have lived all their lives in an era in which environmental issues have loomed large. Established anti-ecological ways of thinking and behaving are not ingrained in young people, and they can introduce fresh ideas and outlooks to issues [3].

Determination the effectiveness of an educational program on youth's awareness towards household waste control is employed through the application of one-way analysis of variance between means of the Pre, Post1, Post2 tests for both groups. In regard to such analysis the findings that emerged shows the effectiveness of an educational program on youth's awareness of study group (Table 3).

In order to be confident about this findings multiple comparisons, Least Significant Difference (L.S.D) of one-way analysis of variance approach is applied to determine the significant deference between each pair of test in both study and control groups. The outcome presents that the education program raise youth's awareness throughout post tests and post test II (Table 4). Lucas and Gilles (2003) support such evidence through their reports that the objective of the health education is to make people value health as a worth while asset, with a desire to live long and feel well; and with the support of health personnel, to learn what they can do as individuals, families and communities to protect and improve their own health. The more people value health, the more they will be willing to make the appropriate allocation of resources to promote safeguard their own health [7]. United Nations Educational Scientific and Cultural Organization (1997) stated that the environmental education is an incentive for sustainable development.

Also education is critical for promoting sustainable development and improving capacity of people to address environment and development issues [8]. Environmental education has an important role to play in the promotion of environment awareness. Environmental education is the first step in enhancing this knowledge base [3].As the project progressed, youth programs were expanded and replicated beyond the project area. Throughout the project, more than 2,000 youth increased their awareness and knowledge about urban nonpoint source pollution, sources and prevention through these education programs [9].

Good environmental education (EE) programs are based on a strong foundation of nature awareness and conservation education, and evolve to prepare older youth to analyze issues and choose responsible environmental behaviors [4]. Office of Compliance Assistance and Pollution Prevention (1997) mentioned that the other barriers will be eliminated through education, partnership initiatives and a strong commitment to pollution prevention. As a society, we can accomplish the most in preventing pollution by educating ourselves and working cooperatively [10]. Such data analysis results are supported by Lucas and Gills (2003) who report that the assessment of the success of health education should be

related to the objectives of the program that may increase awareness of relevant health issues, and knowledge that is based on credible information and behavioral responses [7].

Recommendations: The study recommends that the role of television upon youth's awareness can be activated through presenting the household waste control educational program which may facilitate to bring the information for long distance area and increase wide-range awareness of youth.

References:

١. توزيع السكان حسب العمر والبيئة والجنس، جمهورية العراق- مجلس الوزراء- هيئة التخطيط- الجهاز المركزي للإحصاء- نتائج التعداد العام للسكان لسنة 1997، محافظة بغداد، صفحة(70-74)، جدول(20).

2. Governing Council of the United Nations' Environment Programme (GCUNEP): **Policy Issues: Environment and Development Waste Management,** Tenth Special Session of the Governing Council, Global Ministerial Environment Forum, Monaco, 2008, P.P. 5-7.
3. Economic and Social Council (ECOSOC): **Youth and the Environment,** World Youth Report, United Nations, USA: New York, 2003, P. 131, 139, 143.
4. Monroe, M.: **Just Say YES to Youth Environmental Stewardship**, University of Florida, Gainesville, USA, 2009, P.P. 2-3, 7.
5. Onogawa, K.; Mohanty, C.; Joshi, A. and Popovics, P.: **Engaging Civil Society for Promoting Environmentally Sustainable Cities in Asia – from the Perspective of Cleaner Transport and Waste Management**, United Nations Centre for Regional Development, USA: New York, 2006, P. 19.
6. Farlex Incorporation: **Encyclopedia Article about Environmental Pollution,** Hutchinson Encyclopedia, Columbia, 2005, P. 1.
7. Lucas, A. and Gilles, H.: **Short textbook of Public Health Medicine for the Tropics,** 4th ed, London: Arnold, 2003, P. 360.
8. United Nations Educational, Scientific and Cultural Organization (UNESCO): **Educating for a Sustainable Future,** a Transdisciplinary Vision for Concerted Action, 1997.
9. Vendrell, P. and Teague, K.: **Mud Creek Urban Non-point Source Demonstration,** Final Report, Arkansas Water Resources Center, University of Arkansas, Fayetteville, USA: Arkansas, 1998, P.P. 4, 8.
10. Office of Compliance Assistance and Pollution Prevention (OCAPP): **What is Pollution Prevention?**, USA: Ohio Environmental Protection Agency, 1997, P.P. 1-6.