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HEALTH EDUCATION AND ITS RELATION WITH HEALTH KNOWLEDGE AMONG COLLEGE STUDENTS IN KUWAIT

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ABSTRACT: *College is considered one of the important means for health education attainment. Thus, having a profound impact on student's health, attitude, and behavior. In this study, we assesse and examine the relation of health education intervention with health knowledge and behavior, some these disruptive behaviors include smoking, drugs, injury, disease, individual abuse, stress, mental and emotional health among students of different colleges under PAAET (The Public Authority for Applied Education & training). These colleges are (college of Health Science's, Nursing, Technological Studies, Basic Education, Business Studies). Besides these colleges, there are numbers of training institutes such as: (The higher Institute of Telecommunication and Navigation, Nursing institute, Secretarial and Office Administration Institute). We also want to inspect the relation between health education, health behavior, and attitude of college students regarding, their age, sex, and education level. Never the less, to elevate health knowledge of these students, in giving them a better healthy lifestyle for their coming future.*

KEYWORDS: Health Education, Knowledge, Attitude, Behavior, Students

INTRODUCTION

Health education is an important domain in many industrial countries, where most priority has been given to young students approaching puberty, adolescent's, and students of many colleges and schools that are facing many choices about their behavior, when choosing an inappropriate choice by students, it could impair their health and even lead to their death. Health education is known as a combination of learning experiences, designed to help individual and communities to improve their health by increasing knowledge or influencing their attitudes, suggested by the World

Health Organization (WHO) [1]. Never the less, health education includes educational efforts to give a better lifestyle and improve health. Indeed, it teaches mental, physical. emotional and social health. In other words, health education motivates students to improve and maintain their health, by preventing disease spread, abuse prevention, and, reduce risky behavior [2]. However, to promote a healthy lifestyle, it is required to apply physical education to classes at colleges and universities, to support students in making informed decisions about their health and wellbeing

Never the less, through participation in physical education, students learn the key values of: Honesty, teamwork, fair play, adherence to rules, respect for themselves and others, they learn how to deal with competition, and learn how to cope with both loosing and winning situations. These learning aspects show the impact of physical education and sport on students social and moral development, in addition to physical skills and abilities. Subsequently, sport- based

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programmers improve learning performance and encourage school attendance with a desire to succeed academically [3]. Not only does health education increase health knowledge but, also it creates a positive attitude, and promotes healthy behavior. As a precursor to healthy lifestyle future, students need to be health- literate (Fetro, 2010; Nutbeam, 2008; Peeersson &Saunders,2009) [4][5][6]. Thus, healthy students are the best investment for the future and an understanding that school is a very significant setting for children's intellectual, physical, social and emotional development. More over health education is significantly correlated with health status, therefore, it is of great importance for every college to have a proper health education curricula, which participates in developing students' knowledge, learning skills and encouraging positive attitudes involved with their health choices throughout their life time. Thus, making positive changes in behavior that lowers risks of bad habits, including tobacco smoking, drugs, injury, mental and emotional health, physical activity prevention, diseases, nutrition and family life. There are a lot of research's that show that a systematic focus on social and emotional learning and wellbeing within educational settings is associated not only with reduced levels of disruptive behavior (Mahar, Murphy, Rowe, Golden, Tamlyn Shields, & Raedeke, 2006; Mahar, 2011; Howie, Beets, & Pate, 2014),[7] [8-10] better student engagement and improved academic achievement during the school years (Rasberry, Lee, & Robin, 2011),[11] but also better outcomes in adult life (Schweinhart, 2004; Australian Institute of Health and Welfare, 2011)[12]. Never the less, Research also was done, focusing on student's health habits, health attitudes, life styles, risk and problem behavior (Birnbaum et al.,2003; Cargo et al., 2003; Carver et al., 2003; Chen et al., 2003; Cooper et al., 2003; Dalle Grave, 2003; Gosin et al., 2003; Hyry- Honka &Maatta, 2012; Hyry- Honka et al., 2012; Rimpela et al., 2002). [13][14-23] Bad habits of students mostly start during the years of growing up and adolescent's.6 (Smith *et al*., 19 92)[24]. Larsson and colleagues (1991)[25] mentioned that health is affect by the frequency and intensity of daily hassles in life. Poverty is associated with the burden of chronic stress and predisposes people to make unhealthy lifestyle choices. However, education does not act on health alone; it relates to other factors, such as, income which interacts with education and has an influence on health.

[26]. It is well established that health is associated with increased labor productivity, subsequently it improves health outcomes of a given generation, leading to improvement in the health of the offspring (see Currie, 2011 and the literature she cites)[27] Not only does health education have a direct and positive impact on the earning of the individual, but also it influences productivity and earning through an improvement of health. Although wages and income are not health outcomes, but are closely linked with health outcomes because they provide access to health- related resources, such as healthy food, a safe environment, and healthcare. A recent analysis[29] of trends in US wages over more than 20 years finds higher wages consistently associated with higher educational attainment and a trend toward increasing differences in wages by educational status. In the causal chain, high educational attainment is antecedent to high wages or income.

Therefore, education has an influence in raising wages (Card, 2000) [28]. However, individuals with higher levels of education and more years of schooling tend to have better health, healthier behaviors and well- being of students than those individuals with lower levels of education. Furthermore, (Cutler and Lleras-Muney, 2008)[30] reported a correlation between education and mortality, heart disease, smoking, alcohol consumption, and poor health. The effect of increasing education by four years on these outcomes are comparable in magnitude to the gender gap in these outcomes document that individuals with higher level of education obtain more flu shots, vaccines and colonoscopies. Furthermore education is also correlated with the

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use of preventive care services; Cutler and Lleras- Muney (2007, 2008)[30].[31-32] It was noticed that, death rates are declining among the most educated Americans, accompanied by increasing death rates among the least educated[33].Thus, health education reduces the need for health care, the associated costs of dependence, lost earnings and human suffering. A study of women in the United States that enrolled in college and stayed for a minimum of two years decreased the probability of smoking during pregnancy by 5.8 %. This was a large effect given that on average only 7.8% of women in the sample smoked during pregnancy (Currie and Moretti, 2002)[34]. knowledge about health hazards of smoking has not always served to prevent students from smoking. Even though, some smokers have a low perception of the negative effects of smoking behavior on their health, many of them are unwilling to quit smoking[35] this attitude is the result of the unawareness of harm caused by tobacco, [36] hence their underestimation of the ill- effects of smoking.

However, health education has an enormous effect in improving the knowledge of students towards the danger of cigarette smoking and its multiple health consequences, knowledge also changed student attitudes making them less likely to smoke, drink, or use illegal drugs.

In this study, we assesse and examine the relation of health education intervention with health knowledge and behavior, among students of different colleges and training institutes under PAAET (The Public Authority for Applied Education & training). We also inspect the relation between health education, health behavior, and attitude of students regarding, their age, sex, and education level. Never the less, to elevate health knowledge of these students, in giving them a better healthy lifestyle for their coming future.

METHOD

This study on health education and its relation with health knowledge was carried out among five different colleges, which are (college of Health Science's, Nursing, Technological Studies, Basic Education, Business Studies), and three different training institutes, (The higher Institute of Telecommunication and Navigation, Nursing institute, Secretarial and Office Administration Institute), in Kuwait.

A self-administered survey was distributed among 210 students, 100 of them were male students, and 110 were female students. The questionnaire was divided into three parts; part one; was the demographic characteristics, such as, age, gender, academic year, GPA, and college\ institute name. The second part; this part contained Yes or No questions, that assessed the students' knowledge in health education, and health behavior'. Part three, this part of the questionnaire was data on the relation of health education with health behavior, attitude and age, it consisted of 16 items with a 5-scale point between strongly agree, agree, don't know, disagree, and strongly disagree. The survey was written in Arabic and translated to English.

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The ethical clearance and permission to conduct this study was obtained from the College of health Sciences, the department of health sciences. Permission from the students was also undertaken, since the study was voluntary. The content of the questionnaire was explained, so that each question would be understood and genuinely answered.

Statistical Analysis of the Survey

Data Analysis

Descriptive statistics were used to describe participants' demographic characteristics, their scores of the statements of the survey applying five-measures of Likert scale. Percentages and frequencies were used for the categorical variables, while mean and standard deviations were calculated for the continuous variables. T and Chi-squared statistical tests were used to test the differences in the percentages and association (or relation) between variables respectively. All the significance values were set at $p < 0.05$. finally, all statistical analyses were performed using SPSS version 24.0 (SPSS Inc., Chicago, IL).

Demographic Profile of the Respondents

The personal characteristics including Gender, Age, Academic year, and Cumulative Grade Points Average (CGPA) are described in table 1 below and figures 1-4.

Table (1): Breakdown of Study place

Faculty/ Institute	n	Percentage
Faculty	105	50.0%
Institute	105	50.0%
Total	210	100%

The total number of the students who responded to the survey was 210. Of the 210 usable surveys, 105 (50%) were completed by students who were studied at the faculties of PAAET namely Faculty of Health Science's, and Faculty of Basic Education, while the remaining surveys were completed by students belonged to the institutes of PAAET namely The Higher Institute of Energy, and The Higher Institute of Telecommunication and Navigation.

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Table 2: Study place by Gender, Age, Academic year, and CGPA

Variable	Study place				Total	
	Faculty		Institute			
Gender	n	%n		%n		%
Male	55	52.4%	35	33.3%	90	42.9%
Female	50	47.6%	70	66.7%	120	57.1%
Total	105	100%	105	100%	210	100%
Age						
18-22	96	91.4%	68	64.8%	164	78.1%
23-27	8	7.6%	31	29.5%	39	18.6%
Above 28	1	1.0%	6	5.7%	7	3.3%
Total	105	100%	105	100%	210	100%
Academic Year						
First	80	76.2%	33	31.4%	113	53.8%
Second	21	20.0%	46	43.8%	67	31.9%
Third	4	3.8%	4	3.8%	8	3.8%
Fourth	0	0.0%	22	21.0%	22	10.5%
Total	105	100%	105	100%	210	100%
CGPA						
Less than 2 points	7	28.0%	8	11.1%	15	15.5%
2.00 - 2.50 points	6	24.0%	36	50.0%	42	43.3%
2.50-3.00 points	9	36.0%	13	18.1%	22	22.7%
Above 3.00 points	3	12.0%	15	20.8%	18	18.6%
Total	25	100%	72	100%	97	100%

Some others demographic information for the participants is summarized in Table (2). Females made between (47% to 67%) of the 210 students who responded to the question regarding gender across the two categories of study settings.

Of the 210 participants who responded to the question regarding age, 78.1% responded that they were between 18 and 22 years of age, followed by 39 students (18.6%) indicating that they were between 23 and 27 years of age, with the remaining students (3.3%) indicating that they were above 28 years of age at the time of the survey.

Of the 210 participants who responded to the question regarding academic year, majority of them (n= 113, 53.8%) responded that they were at first academic year at the time of the survey, followed by 67 (31.9%) were at the second academic year.

Up to 6 (24%) students in faculty settings and 36 (50.0%) in institute settings had obtained a CGPA of 2.00 - 2.50 points, with 9 (36%) students in faculty settings and 13 (18.1%) in institute settings had obtained a CGPA of 2.50 to 3.00 points. Three students had obtained

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above 3.00 points, while 15 (20.8%) had obtained above 3.00 points in institute settings, as shown in the table (2).

Figure 1: Gender

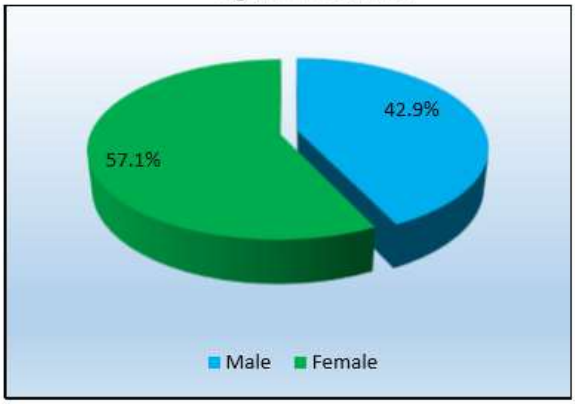

Figure 2: Age

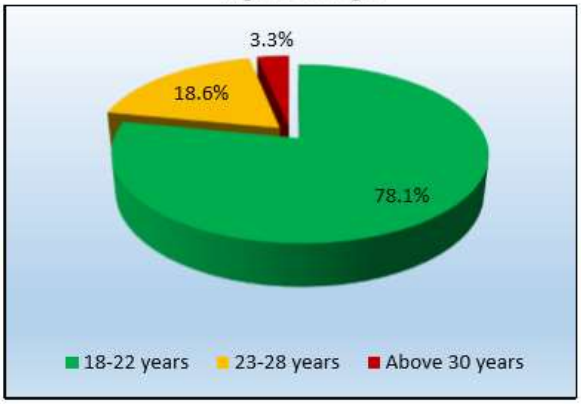

Figure 3: Academic Year

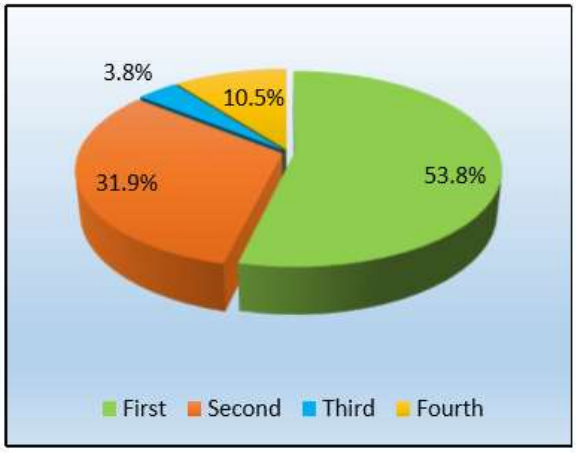

Figure 4: Study settings

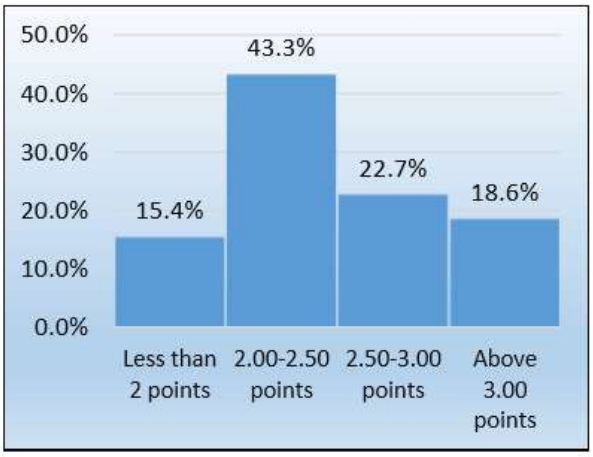

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Figure 5: CGPA

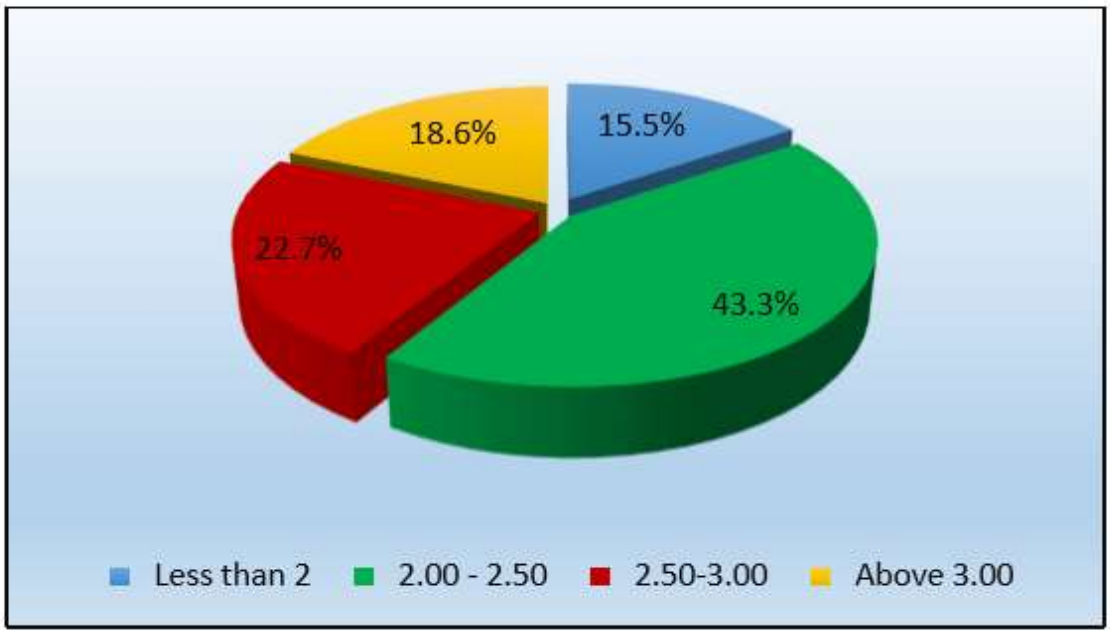

Table 3: Responses of surveyed students regrading establishing the course of health education by study settings

Questions	Study place				Total	
	Faculty		Institute			
Establishing the course of Health Education	n	%	n	%	n	%
Yes	89	84.8%	76	72.4%	165	78.6%
No	16	15.2%	29	27.6%	45	21.4%
Total	105	100%	105	100%	210	100%
If yes, kind of the course						
Optional	79	88.8%	60	78.9%	139	84.2%
Compulsory	10	11.2%	16	21.1%	26	15.8%
Total	89	100%	76	100%	165	100%

The two groups of students were asked about if they want to establish the course of health education and the kind of the course of health education if their answer was yes. Collectively their responses are shown on Table (3).

Close to 85% and 72% of the surveyed students in faculty setting and institute setting respectively resort to response positively to the question whether they want to establish the course of health education in PAAET faculties and institutes. The percentage of positive responses shows a t result of over 1.96 and a significance level below 0.05, hence the difference of the percentage of positive responses is statistically significant (t=2.22, d.f.=208, sig.=0.0274).

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The other hand, up to 89% and 79% of those who answered 'Yes' to the question whether they want to establish the course of health education in PAAET faculties and institutes reported that the course must be optional. In addition, t-test-result of the difference of the proportion of the faculty students and the institute students who selected 'optional' shows a t result of over 1.96 and a significance level below 0.05, hence the difference of the percentage of agreement is statistically significant (t=1.99, d.f.=208, sig.=0.0479).

Table 4: Responses of surveyed students regrading requirement of health education to the students and college by study settings

Questions	Study place				Total	
	Faculty		Institute			
Do you acquire information about diseases prevention, health problems to promote health and wellness	n	%N		%n		%
Yes	98	93.3%	92	87.6%	190	90.5%
No	7	6.7%	13	12.4%	20	9.5%
Total	105	100%	105	100%	210	100%
Is health education require in your college						
Yes	87	82.9%	66	62.9%	153	72.9%
No	18	17.1%	39	37.1%	57	27.1%
Total	105	100%	105	100%	210	100%

According to the above table (4), up to 98 (93.3%) and 92 (87.6%) of faculty and institute students who participated in the survey answered 'Yes' to the question whether they acquire information about diseases prevention, health problems to promote health and wellness. T-test revealed that there was no statistical significant differences between the two groups of the students (t=1.41, D.F. =208, sig. =0.1600). We conclude that information about diseases prevention, health problems to promote health and wellness is acquired to large extent for the students regardless their colleges.

Majority of the surveyed students in faculty setting and institute setting (82.9% and 62.9% respectively) answered 'Yes' to the question whether health education is require in their college. The percentage of positive responses shows a t result of over 1.96 and a significance level below 0.05, hence the difference of the percentage of positive responses is statistically and highly significant (t=3.35, d.f.=208, sig.=0.0010).

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Table 5: Responses of surveyed students regrading health behavior and health awareness by study settings

Questions	Study place				Total	
	Faculty		Institute			
Is health behavior limited to individuals studying in the field of nutrition only?	n	%	n	%	n	%
Yes	16	15.2%	37	35.2%	53	25.2%
No	89	84.8%	68	64.8%	157	74.8%
Total	105	100%	105	100%	210	100%
Does health awareness increase with age?						
Yes	89	84.8%	91	86.7%	180	85.7%
No	16	15.2%	14	13.3%	30	14.3%
Total	105	100%	105	100%	210	100%
Does health education contribute to the dissemination of culture and the raise of health awareness?						
Yes	103	98.1%	94	89.5%	197	93.8%
No	2	1.9%	11	10.5%	13	6.2%
Total	105	100%	105	100%	210	100%

While 89 (84.8%) in faculty setting answered ‘Yes’ to the question whether health behavior limited to individuals studying in the field of nutrition only, up to 68 (64.8%) in institute setting resort to the same answer. The T test revealed that there was a high significant difference for percentage of positive responses due to study place (t=3.43, DF=208, sig. = 0.0007).

Of 105 faculty students surveyed, up to 89 (84.8%) of them responded positively to the question whether health awareness increase with age comparing with 91 (86.7) for the students surveyed at institute setting. Concerning this question, t test revealed that there was no significant difference between the percentages of answered ‘Yes’ for the students in this study due to study place (faculty/institute) since (t=0.394, DF=208, sig.>0.05).

Regarding a question in the survey whether health education contribute to the dissemination of culture and the raise of health awareness, noticeable percentage of (98.1%) in faculty students group answered ‘Yes’ to this question comparing with (89.5%) in institute students group. A high significant difference was found for ‘Yes’ responses due to study place (t=2.63, DF= 208, sig. =0.0094).

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Table 6: Responses of surveyed students regrading smoking by study settings

Questions	Study place				Total	
	Faculty		Institute			
Is smoking a habit or behavior?	n	%	N	%	n	%
Habit	58	55.2%	53	50.5%	111	52.9%
Behavior	47	44.8%	52	49.5%	99	47.1%
Total	105	100%	105	100%	210	100%
Are you smoker						
Yes	30	28.6%	31	29.5%	61	29.0%
No	75	71.4%	74	70.5%	149	71.0%
Total	105	100%	105	100%	210	100%
Do you have an idea about smoking hazard?						
Yes	97	92.4%	96	91.4%	193	91.9%
No	8	7.6%	9	8.6%	17	8.1%
Total	105	100%	105	100%	210	100%
Do you wish to quit smoking						
Yes	24	80.0%	21	67.7%	45	73.8%
No	6	20.0%	10	32.3%	16	26.2%
Total	30	100%	31	100%	61	100%
Why do people turn to smoking?						
Recreation	31	29.5%	32	30.5%	63	30.0%
Expression of Manhood	31	29.5%	16	15.2%	47	22.4%
Blind Tradition	20	19.0%	27	25.7%	47	22.4%
Other reasons	23	21.9%	30	28.6%	53	25.2%
Total	105	100%	105	100%	210	100%

Up to 58 (55.2%) and 53 (50.5%) in faculty and institute settings respectively reported that smoking is a habit (t=0.247, DF=208, sig.> 0.05), versus (44.8%) and (49.5%) of the surveyed students in the two settings respectively reported that smoking is a behavior t=0.683, DF=208, sig.> 0.05)

Of 105 of faculty students surveyed, up to 75 (71.4%) of them were non-smokers while 74 (70.5%) of students surveyed in institute setting were non-smokers. Of 30 students in faculty students who were smoker 24 (80.0%) of them wish to quit smoking, while 21 (67.7%) of students in institute setting who were smoker (n=31) wish to quit smoking. The overall percentage of respondents who wished to quit smoking is 73.8%.

Most of the students surveyed in faculty and institute settings (92.4% and 91.4% respectively) reported that they had an idea about smoking hazard. No significant difference was found for the positive responses due to study place (t=0.266, DF= 208, sig. > 0.05).

According to the above table (6), 31 (29.5%) and 32 (30.5%) in faculty and institute settings reported that people turn to smoking for recreation, while 31 (29.5%) in faculty setting and 16 (15.2%) in institute setting indicated that people turn to smoking because it is an expression of

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manhood. A t-test revealed that there was significant difference found in proportion of those who answered 'expression of manhood' due to study place (t=2.52, DF=208, sig.=0.0125). Moreover, 20 (19.0%) and 27 (25.7%) in faculty and institute settings respectively reported that people turn to smoking because it is a blind tradition. A t-test revealed that there was no significant difference found in proportion of those who answered 'blind tradition' due to study place (t=1.17, DF=208, sig.> 0.05).

Table 7: Responses of surveyed students regarding sports by study settings

Questions	Study place				Total	
	Faculty		Institute			
Is sport a habit or behavior?	n	%	N	%	n	%
Habit	78	74.3%	77	73.3%	155	73.8%
Behavior	27	25.7%	28	26.7%	55	26.2%
Total	105	100%	105	100%	210	100%
Do you practice sports						
Yes	85	81.0%	76	72.4%	161	76.7%
No	20	19.0%	29	27.6%	49	23.3%
Total	105	100%	105	100%	210	100%
Does sports affect psychic of the students?						
Yes	91	86.7%	90	85.7%	181	86.2%
No	14	13.3%	15	14.3%	29	13.8%
Total	105	100%	105	100%	210	100%

Up to 78 (74.3%) and 77 (73.3%) in faculty and institute settings respectively reported that sports is a habit (t=0.165, DF=208, sig.> 0.05), versus (25.7%) and (26.7%) of the surveyed students in the two settings respectively reported that sports is a behavior t=0.164, DF=208, sig.> 0.05)

Majority of the students surveyed in faculty and institute settings (81.0% and 72.4% respectively) reported that they practice sports. No significant difference was found for the positive responses (i.e. 'yes' responses) due to study place (t=1.48, DF= 208, sig. > 0.05).

Of 210 students in both settings (faculty and institute) up to 91 (86.7%) in faculty setting and 90 (85.7%) in institute setting reported that sports affect psychic of the students. A t-test revealed that there was no significant difference found in proportion of those who answered 'yes' in this question due to study place (t=0.210, DF=208, sig.> 0.05).

Table 8: Responses of surveyed students regarding assessment of their health in general

Responses	n	Percent
Weak	6	2.9%
Good	61	29.0%
Very good	88	41.9%
Excellent	55	26.2%
Total	210	100%

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Of the 210 usable surveys, 61 (29%) reported that their health 'good' in general, while 88 (41.9%) resort to 'very good' when they asked to assess their health in general.

Figure 5: Responses of surveyed students regarding assessment of their health in general

Table 9: Mean and Standard Deviation of each statements in descending order

Statement	Mean	SD
Following health systems helps reduce disease.	4.52	0.62
Communities and families must be educated regarding health education.	4.45	0.69
Health education is important for daily life.	4.37	0.64
Health education is essential for adolescence and young adulthood.	4.34	0.77
Health behavior affects both the mental and physical aspects.	4.33	0.75
Students need to protect themselves from disease and health problems in a updated educational style.	4.31	0.73
Acquisition by individuals towards new concepts of health and illness reinforces the goals of health education.	4.26	0.7
Various media (T.V., newspaper, Radio, ….) have the ability to raise the level of health in a community.	4.25	0.86
Personal conduct of the individual (fitness, nutrition, disease control, safety, security, smoking control and drugs) falls within the concept of health education.	4.24	0.82
Health education is essential from childhood.	4.22	0.86

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Personal health, fitness and environmental health are from the important topics of significant interest to health education.	4.18	0.80
Health education is closely linked to health behavior.	4.17	0.82
Health education makes the students apply more health behavior.	4.08	0.91
Studies have proven that there is a relationship between health behavior and age.	3.90	0.94
Studies have proven that there is a relationship between health behavior and educational levels.	3.75	1.03
Frequently out looking in being updated on the internet content and latest gadgets reinforces the implementation of health education.	3.69	1.11

SD= Standard Deviation

The above table shows that the statement (following health systems helps reduce disease) comes first with mean 4.52 and standard deviation of only 0.62 and percentage of agreement of 94.3%, followed by the statement (communities and families must be educated regarding health education) with mean 4.45 and standard deviation of 0.69 and percentage of agreement of 91.5%. The statement (health education is important for daily life) comes third with mean 4.37 and standard deviation of 0.64 and percentage of agreement of 91.9%.

Continuing to the above, there are three statement gained low means and low percentage of agreement. These statements are:

- Studies have proven that there is a relationship between health behavior and age (mean=3.90, SD=0.94, percentage of agreement=67.7%)
- Studies have proven that there is a relationship between health behavior and educational levels (mean=3.75, SD=1.03, percentage of agreement=63.3%).
- Frequently out looking in being updated on the internet content and latest gadgets reinforces the implementation of health education (mean=3.69, SD=1.11, percentage of agreement=64.3%).

Results of Chi- squared test for the association between Gender and health education, health behavior, and attitudes of the students is summarized in Table 10.1 below.

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Table 10.1: Chi- squared test for the association between Gender and health education, health behavior, and attitudes of the students

Independent variable	Dependent variable	Chi-Square Tests		
		Value	DF	Sig.
Gender	Health Education	0.047	2	0.977
	Health Behavior	6.343	2	0.042
	Attitudes of the Students	7.272	2	0.026

The table above shows that there is no association between Gender and health education(^{2} = 0.047, = 2, . > 0.05). The distribution of responses regarding health education across gender is the same. When reflecting the responses regarding Health Behavior with gender, chi-squared test revealed that these two variables were associated (^{2} = 6.343, = 2, . < 0.05). Females tend to be more positive health behavior than males. Moreover, there was a relation between gender and attitudes of the students towards health Education and health Behavior (^{2} = 7.272, = 2, . < 0.05). Females tend to be more positive attitudes towards these two factors than males.

Results of Chi- squared test for the association between Age and health education, health behavior, and attitudes of the students is summarized in Table 10.2 below.

Table 10.2: Chi- squared test for the association between Age and health education, health behavior, and attitudes of the students

Independent variable	Dependent variable	Chi-Square Tests		
		Value	DF	Sig.
Age	Health Education	2.528	4	0.640
	Health Behavior	0.419	4	0.981
	Attitudes of the Students	5.197	4	0.268

The table above shows that there is no association between Age and health education(^{2} = 2.528, = 4, . > 0.05), health behavior(^{2} = 0.419, = 4, . > 0.05), and attitudes of the Students towards health Education and health Behavior (^{2} = 5.197, = 4, . > 0.05). The distribution of responses regarding health education, health behavior, and attitudes towards health education and health behavior across age categories is the same.

Results of Chi- squared test for the association between Education level and health education, health behavior, and attitudes of the students is summarized in Table 10.3 below.

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Table 10.3: Chi- squared test for the association between Education level and health education, health behavior, and attitudes of the students

Independent variable	Dependent variable	Chi-Square Tests		
		Value	DF	Sig.
Education level	Health Education	15.196	6	0.019
	Health Behavior	2.760	6	0.838
	Attitudes of the Students	2.568	6	0.861

The table above shows that there is a significant relationship between education level and health education(^{2} = 15.196, = 6, . < 0.05). Students who were at first year of their academic life reported that health education is important to them rather than the others levels. The distribution of responses regarding health behavior, and attitudes towards health education and health behavior across education level categories is the same, since there is no association between education level and health behavior (^{2} = 2.760, = 6, . > 0.05), and attitudes towards health education and health behavior (^{2} = 2.568, = 6, . > 0.05). The distribution of responses across education level categories is the same.

Distribution of the level of knowledge about health education by study settings

When reflecting level of knowledge about health education by the study settings (faculty/institute), up to 95 (90.5%) and 90 (85.7%) of the students in faculty setting and institute setting were high knowledge about health education, while (8.6%) and (13.3%) of the students in faculty setting and institute setting were had moderate knowledge about health education. No statistically significant association was observed between study settings and the level of knowledge about health education(^{2} = 1.22, = 2, . > 0.05). The level of knowledge about health education across the study settings tend to be the same.

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Table 11: Level of knowledge about health education by Study settings

Study settings		level of knowledge about health education			Total
		Low knowledge	Moderate	High knowledge	
Faculty	n	1	9	95	105
	%	1.0%	8.6%	90.5%	100%
Institute	n	1	14	90	105
	%	1.0%	13.3%	85.7%	100%
Total	n	2	23	185	210
	%	1.0%	11.0%	88.1%	100%

Regarding health behavior, crosstabulation analysis revealed that 84 (80.0%) and 85 (81.0%) of the students in faculty setting and institute setting has positive health behavior, while (16.2%) and (18.1%) of the students in faculty setting and institute setting were average level of health behavior. No statistically significant association was observed between study settings and health behavior subcategories (^{2} = 1.92, = 2, . > 0.05).

Relationship between health education and health behavior

In order to investigate the relationship between level of knowledge about health education and health behavior, a Chi-squared test ran and the results illustrated in table 0000 below.

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Table 12: Health behavior by Level of knowledge about health education

level of knowledge about health education		Health behavior			Total
		Negative health behavior	Average	Positive health behavior	
Low knowledge	n	1	1	0	2
	%	50%	50%	0%	100%
Moderate	n	2	11	10	23
	%	8.7%	47.8%	43.5%	100%
High knowledge	n	2	24	159	185
	%	1.1%	13.0%	85.9%	100%
Total	n	5	36	169	210
	%	2.4%	17.1%	80.5%	100%

Spearman's correlation coefficient indicated that there was a statistically significant positive correlation between Level of knowledge about health education and Health behavior (R=0.424, p <0.01). When the Level of knowledge about health education is increased, positive health behavior also increased. When cross-tabulating level of knowledge about health education with respect to health behavior, we observed that none of the participants with low level of knowledge reported positive health behavior (0% participants), when moving to the other levels of knowledge, the proportion of participants on the high level of health behavior increased, as shown in table 12 above.

Finally, a chi-squared test revealed that health behavior depended on the level of knowledge about health education(^{2} = 46.19, = 4, . < 0.01).

DISCUSSION

According to the statistical analysis of data obtained from 210 students (females and males) studying at The Public Authority For Applied Education & Training (PAAET) testing their knowledge of the health education, 84% of female students and 72.4% of male students desire to study a course on the health education at the PAAET colleges and institutes. 84.2% of the sample stated that this course should be elective (or optional). Probably this is due to the students' fear of the effect of the course on their Cumulative Grade Points Average (CGPA) or due to the inability to attend the lecture because of their family affairs, in particular for those who are married.

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Around 91% of the sample shows that the students need information about how prevent from diseases and health problems and how to promote health and wellness. In addition, 73% of the sample (83% of colleges' students and 63% of institutes' students) agree that the health education is required at their colleges and institutes, particularly at colleges more than institutes (Sig. <0.01). The reason of this arises from the general attitude of students regarding their need for such course that can adjust their health behavior and attitudes through providing them with health information.

Up to 75% of the sample do not agree with that the health behavior is limited to individuals studying in the field of nutrition only. Therefore, they pointed to the importance of the healthy behavior for all students regardless their majors because the health behavior is a way of life and it is more than a temporary studying course.

The study shows that 85.7% of the students consider the health awareness increases with age. There are no statistical difference (sig.> 0.05) noticed at the place of the study (college or institute), so the students' knowledge on the importance of health awareness with the age is growing. In addition, the health education helps to disseminate the culture and raise the health awareness according to the majority of students' views (94% of general sample), 98% of the colleges' students and 89.5% of the institutes' students. There is an obvious statistical difference (sig.< 0.01) in favor of the college's student because the health education highly affects the health behavior of individuals, including health services and tips that are given to the people by medical, nursing and supporting services bodies, in addition to giving expertise to people who work at a farm, a factory or a store.

Moreover, 55.2% of the colleges' students and 50.5% of the institutes' student consider smoking as a habit, without any statistical differences between the two percentages (sig.> 0.05). This means the cognitive development of the students is not completed since they are not able to distinguish between the habit and the behavior.

The results of statistical data analysis show that the majority of the students are generally aware of the dangers of smoking (91.9%) and its vital diseases. 28.6% (N=30) of the colleges' students and 29.5% of institutes' students (N=31) are smokers. Only 7.6% of these smokers at the colleges (N=6) and 8.6% of the smokers at the institutes (N=9) state that they do not wish to give up smoking. Therefore, the role of the health education is important in change the known health information into healthy behaviors at the level of individuals and communities. The health education helps them to adjust their health behaviors and attitudes.

Concerning the reasons of smoking, 30% of the sample said that the recreation is the first reason while 29.5% of the colleges' students and 15.2% of the institutes' students consider smoking as a way of express their masculinity. There are statistical differences in the response percentage in favor of the college's students (sig. <0.05).

On other hand, 74.3% of the college students and 73.3% of the institute students consider sport as a habit. There are no statistical differences between these percentages in this aspect. Up to 86.2% of the sample in general agree that practicing sports affects psychic of the students without clarify the type of the effect (whether negative or positive) although 81% of the college students and 72.4 %of the institute students practice sports. According to the general evaluation of student's health, 71% of the students think their health is good or very good.

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Up to 95 (90.5%) and 90 (85.7%) of the students in faculty setting and institute setting were high knowledge about health education. No statistically significant association was observed between study settings and the level of knowledge about health education (. > 0.05). The level of knowledge about health education across the study settings tend to be the same.

Regarding health behavior, crosstabulation analysis revealed that 84 (80.0%) and 85 (81.0%) of the students in faculty setting and institute setting has positive health behavior. No statistically significant association was observed between study settings and health behavior subcategories(. > 0.05).

Spearman's correlation coefficient indicated that there was a statistically significant positive correlation between Level of knowledge about health education and Health behavior (R=0.424, p <0.01). When the Level of knowledge about health education is increased, positive health behavior also increased. A Chi-squared test revealed that health behavior depended on the level of knowledge about health education(. < 0.01).

CONCLUSION

To expand this study and add more demographic variables such as:

Level of education of parents, Marital situation and number of children.

To determine the factors of health education as a course, required by The Public Authority for Applied Education & Training.

RECOMMENDATION

Study the distribution of those who have no desire to give up smoking with their academic level.

REFERENCES

A. Fawibe and A. Shittu, "Prevalence and characteristics of cigarette smokers among undergraduates of the University of Ilorin, Nigeria," Nigerian Journal of Clinical Practice, vol. 14, no. 2, pp. 201-205, 2011.

Birnbaum, A., Lytle, L. A., Hannan, P. J., Murray, D. M., Perry, C. L., & Forster, J. L. (2003). School functioning and violent behavior among young adolescents: a contextual analysis. *Health Education Research, 18* (3), 389-403. doi: 10.1093/her/cyf036

Card, D. 2000. "The Causal Effect of Education on Earnings," in The Handbook of Labor Economics, Vol. 3, Orley Ashenfelter and David Card, eds. New York: North Holland.

Cargo, M., Lévesque, L., Macaulay, A. C., McComber, A., Desrosiers, S., Delormier, T., Potvin, L., & The Kahnawake Schools Diabetes Prevention Project (Ksdpp) Community Advisory Board. (2003). Community governance of the Kahnawake school diabetes prevention project. *Health Promotion International, 18* (3), 177-187. doi:

ISSN 2056-3620(Print), ISSN 2056-3639(Online)

Carver, V., Reinert, B., Range, L., & Campbell, C. (2003). Adolescents' attitudes and self-perceptions about anti-tobacco advocacy. *Health Education Research, 18* (4), 453-460. doi: 10.1093/her/cyf030

Chen, X. et al. (2003). Secular trends in adolescent never smoking from 1990-1999 in California: An age-period-cohort analysis. *American Journal of Public Health, 93* (12), 2099-2104. doi: 10.2105/AJPH.93.12.2099.

Cooper, W., Lutenbacher, M., Faccia, K., & Hepworth, J. (2003). Planning of youth violence. Prevention programs: Development of a guiding measure. *Public Health Nursing, 20* (6), 432-439. doi: 10.1046/j.1525-1446.2003.20603.x.

Culter David, Lleras-Muney Adriana. Education and Health: Evaluating Theories and

Currie, J. 2011. "Inequality at Birth: Some Causes and Consequences." NBER WP No.16798.

Currie, J. and E. Moretti (2002), "Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings and Longitudina lData", Working Paper 9360, NBER.

Cutler David, Lleras-Muney Adriana. Understanding Differences in Health Behaviors by Education. UCLA, Dept. Econ; 2007. Manuscript.

Dalle Grave, R. (2003). School-based prevention programs for eating disorders: achievement and opportunities. *Disease Management and Health Outcomes, 11* (9), 579-593.

Evidence. In: House J, Schoeni R, Kaplan G, Pollack H, editors. Making Americans

Fetro, J.V. (2010). Health literate youth: evolving challenges for health educators. *American Journal of Health Education, 41*(5), 258-264.

Gosin, M., Dustman, P., Drapeau, A., & Harthun, M. (2003). Participatory Action Research: creating an effective prevention curriculum for adolescents in the Southwestern US. *Health Education Research, 18 (*3), 363-379. doi: 10.1093/her/cyf026

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Healthier: Social and Economic Policy as Health Policy. New York: Russell Sage Foundation; 2008.

Healthy development of children and young people through sport

Howie, E. K., Beets, M.W., & Pate R.R. (2014). Acute classroom exercise breaks improve on-task behaviour in 4th and 5th grade students: A dose-response. *Mental Health and Physical Activity, 7*(2), 65-71.

http://www.education.nh.gov/instruction/school_health/health_coord_education.htm New Hampshire, Department of Education, Why Health Education Is Important.

http://www.slideshare.net/harjindal/health-education-37280424 Health Education, DR HAR ASHISH JINDAL JR

https://www.sportanddev.org/en/learn-more/education-and-child-and-youth-development/healthy-development-children-and-young-people

Hyry-Honka, O. (2008). *Terveyspääoma kouluyhteisössä seitsemäsluokkalaisten käsitysten valossa* [Health Capital in a school community as described by seventh graders]. (PhD Diss., University of Lapland, Rovaniemi, Finland.)

Hyry-Honka, O., & Määttä, K. (2011). Health capital in the opinions of the young in a school community in Finland. *International Review of Social Sciences and Humanities,*

Hyry-Honka, O., Määttä, K., & Uusiautti, S. (2012). The role of health capital in health promotion. *International Journal of Health Promotion and Education, 50* (3), 125-134. doi:10.1080/14635240.2012.661967

Jemal A, Ward E, Anderson RN, et al. Widening of socioeconomic inequalities in U.S. death rates, 1993–2001. PLoS ONE 2008;3(5):1–8.

ISSN 2056-3620(Print), ISSN 2056-3639(Online)

Larsson, G., Starrin, B., &Wild, B., (1991). Contribution of stress theory to the understanding of helping. *Scandinavian Journal of Caring Sciences*, 5, 79-85.

Leon Feinstein, Ricardo Sabates, Tashweka Anderson, Annik Sorhaindo and Cathie Hammond, Institute of Education,

Leon Feinstein, Ricardo Sabates, Tashweka M. Anderson, Annik Sorhaindo and Cathie Hammond∗ 4. WHAT ARE THE EFFECTS OF EDUCATION ON HEALTH? – 171

Lleras-Muney A. The Relationship Between Education and Adult Mortality in the United States. Review of Economic Studies. 2005; 72:189–221.

Mahar, M.T. (2011). Impact of short bouts of physical activity on attention to task in elementary school children, *Preventive Medicine, 52* (Supp. 1), S60-S64.

Mahar, M.T., Murphy, S.K., Rowe, D.A., Golden, J., Tamlyn Shields, A., & Raedeke, T.D. (2006). Effects of a classroom-based program on physical activity and ontask behaviour. *Medicine and Science in Sports and Exercise, 38* (12), 2086.

Murnane RJ. Improving the education of children living in poverty. Future Child. 2007;17:161–182.

National Health and Hospitals Reform Commission – Final Report (2009). Retrieved

Nutbeam, D. (2008). The evolving concept of health literacy. *Social Science and Medicine, 67*, 272-278.

OECD's Centre for Educational Research and Innovation (CERI), in Copenhagen on 23rd and 24th March 2006.

Pate, R.R., Trost, S.G., Felton, G., Ward, D.S., Dowd, M., Saunders, R. (1997). Correlates of physical activity behavior in rural youth. *Research Quarterly in Exercise and Sport*, 68 (Supp.) 241-248.

Peerson, A. & Saunders, M. (2009). Health literacy revisited: What do we mean and why does it matter? *Health Promotion International, 24*(3), 285-296.

Rasberry, C.N., Lee, S.M., & Robin, L. (2011). The association between school-based physical activity, including physical education, and academic performance: a systematic review of the literature. *Preventive Medicine, 52* (Supp.1), S10-S20.

Rimpelä, A., et al. (2002). *Nuorten terveystapatutkimus 2001. Tupakoinnin ja päihteiden käytön muutokset 2001* [Youngsters' Health Survey 2001. Changes in smoking and substance abuse in 2001]. Tampere: Statistics Finland.

Schweinhart, L.J. (2004). *Perry preschool study through age 40: Summary conclusions and frequently asked questions*. Washington, USA: High/Scope Educational Research Foundation.(Australian Institute of Health and Welfare, 2011)

Smith, C., Roberts, C.,Nutbeam, D., and MacDonald, G. (1992); The health promoting school; progress and future challenges in Welsh secondary schools. *Health Promotion International*, 7, 171-179.

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W. H. Organization, WHO Report on the Global Tobacco Epidemic, 2011: Warning About the Dangers of Tobacco, 2011.

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