

RESEARCH COMMUNICATION

Turkish University Students' Nutritional Habits Regarding Cancer Prevention and Healthy Lifestyles

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Abstract

Aim: Chronic disorders have been increasing over the past century, and the relationship with nutrition has been widely discussed. The present study was carried out in order to determine health school students' nutrition styles, health lifestyle behavior, and their interactions. **Method:** With a cross-sectional design, data from 79 students in the Nursing School were collected via a socio-demographic data collection form, a nutrition form, and a Health Promotion Life-Style Profile (HPLP) questionnaire. Percentages, McNemar data, Independent-sample t-test and paired-samples t-test were used in data assessment. **Results:** No significant differences were observed between the number of students with healthy nutrition and mean healthy lifestyle scores, pre and post-training. There was also no influence of presence of a family member with cancer and weight perception. However, there was a significant difference between HPLP scores before the training and six months following training ($p=0.049$) and the mean healthy lifestyle scores increased. **Conclusion:** Students with poor nutrition who were trained in cancer prevention and healthy diets, demonstrated increase in their HPLP, yet this did not make a difference to their healthy nutrition behavior.

Keywords: Healthy nutrition - university students - cancer and nutrition - healthy lifestyle behavior

Asian Pacific J Cancer Prev, 11, 1347-1350

Introduction

The infections which resulted in mass deaths in the past have been replaced with chronic disorders like hypertension, obesity, diabetes, coronary heart disorders and cancer, which can be decreased with changes in lifestyle (Williams, Williams and Weisburger, 1999; Go et al., 2001; Garibağaoğlu et al., 2006). Nutritional disorders underlie many of these chronic disorders' etiologies; especially 35% of the cancer cases are estimated to be related to nutrition (Williams et al., 1999; Go et al., 2001). Research has demonstrated that the rate of obesity has been increasing and the nutritional disorders vary depending on the culture and groups. It has been determined that the cancer cases have been increasing in groups and cultures where the rate of obesity and nutritional disorders is high (Williams et al., 1999; Go et al., 2001; Ainsworth, 2003; Elmubarek et al., 2005). It has been acknowledged that wrong nutritional behaviors increase with age and especially the 6-19 age group children and adolescents form a serious risk group in terms of malnutrition. The increase of wrong nutritional behaviors in these groups leads to significant increases in the number of cancer cases at the same time (Williams et al., 1999; Go et al., 2001; Rimer and Gierisch, 2005). Therefore, equipping the

young with behaviors towards protecting and improving health is important in order to decrease cancer cases. World Health Organization defines health development as "increasing individual's control over their health". In this respect, students' acquisition of healthy nutritional behaviors will be a significant factor in decreasing the rate of cancer (Hill and Smith, 1990; Edelman and Mandel, 1998; Ewles and Simnett, 1999). The majority of the youth group comprises university students. It has long been known that the location of major universities in big cities, university students' economic problems, the dominance of the fast-food culture among young people has been influencing the youth's health. Especially university students' fast-food habit, irregular snacking patterns, eating out habits lead to unhealthy nutritional habits (Durmaz et al., 2002; Heşeminia et al., 2002; Mazıcıoğlu and Öztürk, 2003; Garibağaoğlu et al., 2006; Papadaki et al., 2007). Furthermore, rapid urbanization and technological advances have been influencing the contemporary youth's lives. On one hand facilitating devices like computers have been devised; on the other hand the youth is directed to a sedentary life and unhealthy nutritional behavior. Partly as a result of these, cancer rates have been increasing rapidly (WHO, 2003; Mota et al., 2006).

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Table 1. Comparison of Students' Healthy Nutrition Status Pre and Post Training

Pre-Training	Six months following training				Total	
	Unhealthy Nutrition		Healthy Nutrition		N	%
	N	%	N	%		
Unhealthy nutrition	23	59.0	16	41.0	39	49.4
Healthy Nutrition	17	42.5	23	57.5	40	50.6
Total	40	50.6	39	49.4	79	100.0

$\chi^2_{MN} = 0.000$ $p = 1.000$

Training enterprises take the lead among the strategies used towards promoting healthy nutritional behaviors and decreasing cancer rates. The educational enterprises facilitate individual's awareness of the issue, raise their self-efficacy and facilitate promotion of positive health behaviors (Aksayan and Gözüüm, 1998; Griffin, 2000). Research studies have shown that the enterprise programs increase young people's knowledge about prevention from cancer and healthy nutrition and ease development of positive health behaviors (Kızıltan, 2000; Vazir, 2002; Elmubaraek et al., 2005; Rimer and Gierisch, 2005; Bektas and Ozturk, 2008; Schatzkin, 2008; Postnote, 2009). However, so far there has been no research demonstrating a direct relationship between university students' nutritional behaviors and cancer cases.

This study has been performed in cross-sectional and descriptive design in order to identify the health school students' nutritional styles, healthy lifestyle behaviors and the effect of nutritional styles on lifestyle behaviors.

Materials and Methods

This study was performed as a quasi-experimental study in order to identify the health school students' nutritional styles, healthy lifestyle behaviors and the relationship between nutrition styles and healthy lifestyle behaviors. In order to conduct the study, consent of the Health School Directorate was obtained. The research sample comprised 79 first or second-year volunteering students from midwifery, nursing, and emergency rescue departments.

In data collection a socio-demographic data collection form including information on students' age, gender and class and Health Promotion Life-Style Profile- HPLP determining behaviors related to the consumption of vegetables, fruits, fast-food, carbohydrates, protein and fat, soured food, frozen food, food containing dyed chemical agents, food cooked in coal-barbecue, were used. HPLP was devised in 1997 by Walker, Sechrist, and Pender and adapted to Turkish society in 1999 by Esin; in addition its reliability and validity were analyzed (Esin, 1999). The scale comprised 48 items and 6 sub-groups: Self-realization-13 items, health responsibility-10 items, exercise-5 items, nutrition-6 items, interpersonal support-7 items and stress management-7 items. HPLP is a four-point Likert type scale where 1 means "never", 2 "sometimes", 3 "frequently" and 4 "regularly". The lowest score to be taken from the scale is 48 while the highest possible score is 192. In this study the scale's reliability coefficient (Cronbach's alpha) was calculated to be .94.

In the research the students' socio-demographic data,

HPLP status and nutritional behaviors were determined prior to the training. Educational slides, brochures and posters related to balanced diet and prevention from cancer were used throughout the training. The students were divided into five groups. Each group was given two hours of training per week (10 hours in sum) about the effects of nutrition on cancer prevention. In order to reinforce the training, brochures and posters were put on the classes, meeting halls and canteens frequently used by students. 3 months after the completion of the educational program, data were recollected via the same devices.

In the evaluation of the data, percentages, McNemar, Independent-sample t-test and paired-samples t-test were used.

Results

Before the training, 50.6% of the students had healthy nutrition while 49.4% had healthy nutrition after the training (see Table 1). The statistical difference between the number of students with healthy nutrition before and after training was not significant.

Students' mean HPLP scores were 122.7 + 21.7 before training while it was 128.1 + 20.3 after the training (see Table 2). A significant relationship could not be found between mean lifestyle scores pre and post training. However, it was found out that the students' mean HPLP scores increased after the training. As a result of the analysis, no difference was observed between pre-training ($p = 0.157$) and sixth month post-training ($p = 0.520$) HPLP mean scores while a significant difference was observed between the unhealthy nutrition group's pre-training and sixth-month mean scores ($p = 0.049$). It can be understood that the health promotion lifestyle scores increased (see Table 3).

Some 58.8% of those with cancer history in the family had healthy nutrition (see Table 4). No significant difference was observed between the presence of cancer history in the family and healthy nutrition states.

Some 10.8% of the participants perceived themselves as overweight while 57.6% as normal (see Table 5). No significant difference was detected between the students' healthy nutrition states according to weight perceptions.

Table 2. Comparison of students' HPLP Mean Scores Before and After the Training

	Mean Health Promotion Lifestyle Profile		
	N	x	ss
Pre-training	79	122.7	21.7
Post-training	79	128.1	20.3

$t = 1.615$ $p = 0.362$

Table 3. Comparison of Students' Mean Health Promotion Lifestyle Scores According to Nutritional State

Groups	Pre-training			Six months after the training				
	n	x	ss	n	x	ss	t	p
Healthy Nutrition	40	126.1	22.1	40	129.5	21.6	0.842	0.405
Unhealthy Nutrition	39	119.1	20.6	39	127.5	18.9	2.324	0.049
t	1.429			0.646				
p	0.157			0.520				

Table 4. Comparison of Healthy Nutrition States According to Familial Cancer History

	Cancer History in the Family					
	Yes		No		Total	
	N	%	N	%	N	%
Unhealthy Nutrition	7	41.2	29	48.3	36	46.8
Healthy Nutrition	10	58.8	31	51.7	41	53.2
Total	17	22.1	60	77.9	77	100.0

X²= .513 p= 0.774

Table 5. Comparison of Students' Nutrition States According to Weight Perceptions

Weight Perception	Healthy Nutrition			
	Unhealthy		Healthy	
	N	%	N	%
Weak	8	21.6	4	10.5
Normal	25	67.6	27	71.1
Overweight	4	10.8	7	18.4
Total	37	100.0	38	100.0

X²= 2.215 p= 0.330

Discussion

Healthy nutrition is highly significant in having a healthy life. One of the significant issues underlined in prevention of chronic disorders like cancer in the recent years is healthy nutrition. This study analyzes the nutritional states in terms of healthy nutrition state, nutritional states and healthy lifestyle behaviors and the presence of cancer cases in the family.

50.6% of the students had healthy nutrition before training while it was determined that 49.4% had healthy nutrition after the training. No statistical difference was observed between the number of students with healthy nutrition before and after training (Table 1, p= 1.000). In research studies, it was determined that there was a significant rise in the nutrition knowledge and behaviors of the children and young people who received nutrition training (Aytekin & Rak., 2000; Akil & Gürbüz, 2005; Bektas & Ozturk, 2008). In the present study, the reason why students had no difference in their nutritional states may be explained by the university's physical conditions, the lack of changes in students' accommodation and economic states. Bandura (1989) emphasizes that the environment affects individual's behaviors and facilitates negative or positive health behaviors. They argue that even if individuals have knowledge, knowledge cannot be turned into behavior when the environment is not suitable. For this reason, it is estimated that even if there is an increase in students' knowledge levels, students prefer the most easily available and the cheapest nutrition style, which leads to no change in the number of students with healthy nutrition.

Although the students' mean health promotion lifestyle scores increased after the training, no significant difference was found between the students HPLP mean scores pre and post training (Table 2, p= .362). Research has shown that trainings towards developing healthy lifestyles promote young people's positive health behaviors (Aytekin et al., 2000; Kızıltan, 2000; Geçkil & Yıldız, 2006; Bektas et al., 2008). In this study, an increase was seen in students' mean health promotion lifestyle scores, too, though not a significant one. The reason why the difference is not significant may be that the collection of post tests after three months is not an adequate period for creating behavior change, inability to form physical environments that will ease behavior change and economic reasons.

While no significant difference was observed between the groups' pre-training (p=.157) and post-training (p=.520) mean health promotion lifestyle scores (Table 3), when the within groups mean scores were compared, no difference was observed between HPLP scores of the healthy nutrition group (p= .405); a significant difference was observed between pre-training and post-training scores of the unhealthy nutrition group, whose mean HPLP score increased (p= .049) (Table 3). In various research studies it was determined that positive health behavior programs facilitate development of healthy lifestyle behaviors in children and young people (Aytekin & Rak., 2000; Akil & Gürbüz, 2005; Bektas et al., 2008). As for this study, it can be seen that especially the unhealthy group's post-training HPLP mean score increased significantly, which is in line with the literature. Thus, it could be argued that the trainings increase awareness and have facilitating effects in forming healthy behaviors in young people. These trainings will contribute to the formation of healthier societies by decreasing the unhealthy nutritional styles, which play a role in the development of chronic disorders like cancer.

Some 58.8% of those with cancer history in their family had healthy nutrition. No significant difference was observed between students' healthy nutrition states in terms of having a family member with cancer (Table 4, p= .774). The reason for this might be the difference of cancer types in the young people's relatives, inadequate knowledge of the relationship between cancer and nutrition and the lack of close (first-degree) relationship with the relatives with cancer. However, nearly half of the young people with cancer history had healthy nutrition. Bandura (1989) emphasizes that the individual cannot learn everything by experience and that learning from the others' experiences is possible. This argument supports the finding that the number of people with healthy nutrition is higher among people having family members with cancer history; young people might have changed their nutritional styles against cancer by indirect learning.

No difference was seen between students' healthy nutrition states in terms of weight perceptions (Table 5, $p = .330$). Şanlıer, Konaklıoğlu and Güçer (2009) have observed no difference between students in terms of body mass indices and nutritional information, habit, and behaviors. The reason for this might be that individuals are not disturbed by their body and weight perceptions; they have a psychological state which is compatible with their body image and weight (Aslan, 2004). Also Bandura (1989) argues that the individual's wish to change his behavior is influenced by the negative-positive feedback from the environment; if the individual feels no disturbance about his behavior, he will not be willing to change it. In this study it is thought that overweight people may be pleased with their body image, they have adapted to their body structures and they do not view this as a problem. In addition the fact that the number of overweight people is low might be another reason for this.

In conclusion, it has been found out that nutritional trainings for cancer prevention increase students' nutrition knowledge and health promotion lifestyle mean scores; however it does not lead to an increase in the number of students with healthy nutrition. The repetition of this study with a larger sample, supplemented with trainings based on theories which will ease behavior change, consideration of the physical conditions of the educational institutions where the study will be conducted and the re-application of the post-test practices six months and one year later are recommended.

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