

COMMENTARY

Evaluation of the Geographical and Family Background of Student Nurses and Midwives and their Knowledge of Cancer and Nutrition

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Abstract

Plant foods are the custodians of numerous dietary constituents, including vitamins, minerals, fibre, and other potentially anticarcinogenic agents. Eating habits are influenced by many biological, social, psychological, and cultural factors. Despite the relative paucity of definite evidence relevant to prevention in cancer and the tools available for early detection of cancer, people should be informed about the protective factors (dietary influence, life-style and exercise) continuously to develop new habits which will protect against cancer. A descriptive study was here designed to examine the effects of geographical and family background on nutrition of nursing students and their knowledge of recommended dietary guidelines for health promotion and cancer prevention.

Most of students and their families lived in Aegean and Marmara regions, and in general they regularly consumed vegetables, fruits and cereals. Fresh vegetable and fruit consumption is rather high in Thrace, Aegean, Marmara and Mediterranean regions of Turkey. Students were found to be well informed during courses on dietary guidelines for health promotion and cancer prevention. The greatest promise for cancer prevention rests on our ability to change multiple and often interrelated behaviours that have been shown to increase the risk of cancer.

Key Words: Dietary change – nutrition intervention – nutrition education – behavioural change - lifestyle – physical activity - cancer

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Introduction

The Cancer Problem: Cancer as an Environmental Disease

The factors impacting on different types of cancers and circulatory diseases are the lifestyle (smoking, alcohol, exercise), diet (salt, fish, meat), vegetables (fruit, cereals), anthropomorphic parameters (height, obesity). And the methodological approaches to identification of major risk factors (smoking, parasites, bacterial infection, viral infection, obesity, reproductive factors, environmental carcinogens and genetic) are determined by descriptive, analytical, molecular, pathophysiological epidemiological and the experimental investigations (Arglies et al., 1998; Colditz et al., 1997; The Cancer Problem, 1999)

These results indicate the potential impact of preventive practices. Only south-central and Western Asia (Indian subcontinent, Central Asia and the Middle-Eastern countries) and Northern Africa are well below the world average of 90

deaths per 100,000 population annually (Pisani et al., 1999). To promote primary cancer prevention in the Asian Pacific in the 21st century, the implementation of five important rules has been recommended (Tajima et al., 2001).

The Five Rule Points for Cancer Prevention

1st Stress the strongest weapons for cancer prevention- no-smoking and moderation in alcohol consumption

2nd Focus on green, yellow and red signals for health- consume coloured fruits and vegetables

3rd Reduce all risk for cancer, including chronic diseases- take at least 30 minutes gentle exercise twice a week

4th Develop a well-balanced health sense- ensure adequate intake of nutrients with variation in foods

5th Contribute to healthy life inAsian Pacific in the 21st century- plan a menu of low salt and moderate fat

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Cancer education for the public; people should be informed about the protective factors (dietary influence, life-style and exercise) continuously to get new habits against cancer.^(3,10)

Lifestyle; in order to avoid risk factors and optimise our exposure to beneficial agents, choice of an appropriate lifestyle is of essential importance.

Dietary influence; it is clear that is almost all sites of body, consumption of an abundance of vegetables and to a lesser extent fruit, is associated with preventive effects, not only against cancer, but also other major chronic diseases, circulatory and diabetes.

Physical exercise; the second lifestyle factor which appears to play a ubiquitous protective role against chronic diseases with beneficial effects not only on neoplasm but also on arteriosclerosis and non-insulin-depend diabetes mellitus, is exercise.

Methods

It is well known that the causes of human cancer considering a wide range of potential sources of risk such as smoking, diet, sedentary lifestyle, occupational factors, viruses and alcohol. Prevention of Human Cancer contains research on prevention programs, public education campaigns, and social policy measures for preventing cancer. Working in schools, health clinics, and workplaces, as well as through the mass media and in the political arena, social scientists and health educators are designing innovative and effective health promotion programs to help people quit smoking, eat healthier, and exercise more (Arglies et al., 1998; Colditz et al., 1997; Glanz, 1997; Parkin and Coleman, 1990).

The factors of lifestyle, diet, vegetables, obesity are found to impact different cancers, so the cancer education for the public should be very active. It's therefore nurses and midwives, who are working at primary health care centres, are the most important health care providers to inform people about the role of diet-related and lifestyle factors in cancer

The study was conducted in Ege University Izmir Atatürk School of Health. We have two programs on Nursing and Midwifery, 213 students educated on Nursing 193 educated on Midwifery, 79 students in preparatory classes (Language Classes). We collected data from students (268) except preparatory classes between 11-18 April 2002.

Three cancer prevention approaches – screening, tobacco control, and the promotion of physical activity – are used as examples of each component and illustrate the complexities of mobilising social strategies to reduce the burden of the cancer among the poor (Colditz et al., 1997)

Body fat distribution was measured differently in different studies. The association of Body Mass Index (BMI), a measure of obesity, varies according to the height and weight. And also, the waist-to-hip ratio (WHR) or waist-to-thigh ratio (WTR) one often used as a measure of upper of lower body segment obesity, whereas subscapular-to-thigh skinfold ratio is a measurement of central of peripheral

obesity, a component of body fat distribution which appears different from upper body segment obesity (Hill and Austin, 1996).

A descriptive study was designed to examine the geographical and family background on nutrition of the students and their knowledge on physical activity dietary guidelines for health promotion and cancer prevention recommend. In addition, we determined the socio- cultural background of smoking and alcohol addiction related with lifestyle factors' besides the BMI (Body Mass Index) and WHR (Waist to Hip Ratio) status of students who will train the people about dietary guideline and physical activity.

Results and Discussion

The level of education related to parents

Fathers have got more opportunities to continue their education's after primary school (22.4% graduated from high school and 10.8% from university) than mothers (72.0% graduated from primary school). Family size is 4.88 ± 1.50 members. Income and expense is well balanced

BMI (Body Mass Index) and WHR (Waist to Hip Ratio) Status of Students

Obesity is one risk factor for some forms of cancer including endometrial, colon, kidney, breast and gallbladder. Obesity and weight fluctuations are associated with a metabolic syndrome in a subset of persons with abdominal or upper body obesity. As abdominal fat tissue is mobilised more easily, voluntary weight reduction may be expected to be more successful in persons with upper body obesity than in those with obesity in the lower part of the body. The most consistent findings in case-control studies of renal cell cancer have been those concerning overweight and obesity. There is some logical consistency between apparent risk reported for total energy intake and risk associated with BMI (Wolk and Lindblad, 1996).

Mean age and BMI were found to be 21.53 ± 1.60 and 20.88 ± 2.67 respectively (72.0% of students are in between 19-24 BMI related normal measurements); the hip and waist measurements were 93.96 ± 5.93 cm and 67.59 ± 6.18 cm respectively; WHR was 0.72 ± 6.516 (95.1% of students have normal measurements). Waist circumference ≥ 88 cm confers to increased risk for females. WHR can be interpreted as normal if it's 0.8 or < 0.8 for females, > 0.8 confers to increased risk for obesity (Waist-to-Hip ratio, 2002).

Background of Cigarette Smoking and Drink Habits

Tobacco use is a public health problem of the first magnitude. Thousands of scientific reports have linked the use of tobacco to cancer, respiratory disease, cardiovascular disease, birth defects, and other serious health effects. Smoking habits initiated and practised during adolescence are well-formed by adult-hood, making it difficult for many adults to stop smoking (Colditz et al., 1997).

Students (25.0%) and their mothers (13.1%) were light smokers, age of the initiation and duration of smoking being

17.82 and 3.81 years, respectively, for the former and 21.48 and 19.48 years, respectively, for the latter; fathers were moderate smokers (47.4%); age of the initiation and duration of smoking found as 17.35 and 26.69 years for respectively fathers.

To minimise the cancer risk, heavy alcohol consumption should be avoided. Recommendations for alcohol intake are complicated by strong evidence that one to two alcoholic drinks per day is protective against cardiovascular disease, although at high consumption levels this protection is abolished. Current guidelines define “moderate drinking” as two or fewer drinks per day for men and no more than one drink per day for women. Women in particular, should be cautious about their level of alcohol consumption since alcohol may be involved in the aetiology of breast cancer (Colditz et al., 1997; Glantz, 1997).

Most of the students (79.9%) and their parents (91.0% of mothers and 60% of fathers) did not consume any alcohol; only 3.0% of fathers were found to be heavy drinkers.

Chronic diseases and cancer deaths

The major cause of death in Turkey is cardiovascular related diseases, and cancer is the second. One half of all cancers in Turkish men is lung cancer, whereas 35% of cancers in women is breast cancer. Gastrointestinal cancers (especially stomach cancer) are the most common cancers in both men and women (Cancer Registry Report of Turkey, 1997).

A total of 42 Mothers had hypertension while 10 had cardiac ailments, and 6 had cancer diseases. On the other hand, 57 fathers had hypertension, 14 had cancer and 4 had cardiac diseases. There were two deaths of mothers related to cancer.

Birth Place and Residence

The plants of Turkey show great diversity of form. Fresh vegetable and fruit consumption is rather high in Thrace, Marmara, Aegean and Mediterranean Regions than Central Anatolia, East West, East and South East Anatolian Regions. ⁽⁶⁾ 50.0% of students are found born in Aegean (35.9%) and Marmara (14.2%) regions, and 53.8% of them live in Aegean (39.1%) and Marmara (14.6%) for a long time between 0-12 years of age. Most of parents found as still live in Aegean (53.0%) and (11.9%) Marmara regions (Table 1).

Physical Activity

There is clear evidence that regular moderate and vigorous physical activity, including both occupationally related and leisure time activity, reduces a person's risk of colon cancer and coronary heart disease. Physical activity may reduce breast cancer in women (Colditz et al., 1997). Most of students found as having regularly physical activity -every day (66.0%) and twice/three times a week (12.7%)- mostly walking (78.7%).

Planting and Consuming Vegetables, Fruits and Cereals

Eating habits may be influenced by the environmental differences in disparate geographic regions and are influenced by many biological, social, psychological, and cultural factors (7,9). Eating Habits 38.2% of students, 54.8% of parents, 338.2% of their residence have mostly prefer meat vegetables cereals combined in general (Table 2). Among non-nutrients, salt intake is a likely component cause of stomach cancer, and intake of salty fish very early in life is linked closely to nasopharyngeal cancer in South-east Asia. The intake of very hot drinks increases the risk of oesophageal cancer in Central Asia and South America

Table 1. Geographical Distribution for the Subjects

REGION	STUDENTS				FAMILY	
	Place of Birth		Living in the Region Between Ages 0-12 Years		Living in the Region (Residence)	
	n	%	n	%	n	%
REGION I						
Marmara	38	14.2	39	14.6	32	11.9
Aegean	96	35.9	105	39.1	142	53.0
REGION II						
Black Sea (East – West)	40	14.9	36	13.4	25	9.3
REGION III						
Central Anatolia	32	11.9	32	11.9	30	11.2
REGION IV						
Mediterranean	25	9.3	27	10.1	24	9.0
REGION V						
East Anatolia	21	7.8	15	5.6	7	2.6
South East Anatolia	9	3.4	9	3.4	8	3.0
Others (Foreign Country)	7	2.6	5	1.9	-	-
Total	268	100.0	268	100.0	268	100.0

Table 2. Eating Habits

Eating Habits	STUDENTS		FAMILY		RESIDENTS	
	n	%	n	%	n	%
Meat	13	4.9	10	3.7	10	3.7
Vegetable	39	14.6	21	7.8	46	17.2
Cereal	13	4.9	5	1.9	14	5.2
Meat + Vegetable	30	11.2	38	14.2	36	13.4
Meat + Cereal	9	3.4	9	3.4	19	8.1
Vegetable + Cereal	61	22.8	38	14.2	38	14.2
Meat + Vegetable + Cereal	103	38.2	147	54.8	103	38.2
Total	268	100.0	268	100.0	268	100.0

(Parkin and Coleman, 1990; Tajima et al., 2001; Trichopoulos and Willet, 1996). Food consumption by Students, their parents and the residents consumed raw vegetables and fruit in general (Table 3). Low consumption of fruits and vegetables, high intake of saturated fat, and physical activity are related to increased risk of cancers of the colon, prostate, lung and breast, as well as total cancer mortality. Over 50% of these cancers are associated with lifestyle or environmental exposures, and are therefore preventable (Colditz et al., 1997).

Similar kinds of vegetables (eggplant, spinach, bean), fruits (apple, orange, grapes) and cereals (wheat, corn and other cereals) were planted and consumed. Most of residents usually preferred eating meat (53.3%), but the remainder preferred chicken (19.0%) and fish (5.2%). Most of students and their families consumed oil, sugar and salt moderately. In addition, 32.1% of them consumed olive oil, while the others consumed vegetable oil (24.9%), butter (11.2%) and margarine (1.9%).

Knowledge on physical activity and dietary guidelines

In our school, the course on nutrition is credited at second year first semester for nursing and second year second semester for midwifery. So, 109 of 268 students were

educated at the first classes, Other 37 students have been taking the course on nutrition while data were collected. But, we found that students were well informed in general about the physical activity and dietary guidelines for health promotion and cancer prevention recommended during the course on nutrition (82.4%) (Table 4).

Despite the difficulties in interpreting the evidence on diet and cancer, several agencies have issued dietary guidelines intended to reduce cancer risk (Glanz, 1997; Parkin and Coleman, 1990).

Conclusions

Environmental influences on nutrition practices include social norms and policies at the organisational, local, and national levels (Parkin and Coleman, 1990). Because, eating habits may be influenced by the environmental differences in disparate geographic regions and are influenced by many biological, social, psychological, and cultural factors. Therefore, several large cohort studies need to be initiated and co-ordinated for Asian Pacific, Euro Asian and European countries and also, "Basic Training Course" should be organised for health care providers who work at primary health care centres or training centres in future.

Table 3. Food Consumption

Food Consumption	STUDENTS		FAMILY		REGION	
	n	%	n	%	n	%
Vegetable						
Raw	102	38.0	91	34.0	66	24.6
Boiled	90	33.5	97	36.2	77	27.4
Fried	54	20.1	47	17.5	53	19.6
Fruit						
Raw	242	90.3	236	88.1	193	72.0
Boiled	8	3.0	5	1.8	-	-
Dried	2	0.7	10	3.8	15	5.6
Meat						
Fried	142	53.0	135	50.3	131	48.9
Boiled	82	30.5	103	38.6	66	24.7
Dried	9	3.5	3	1.1	5	1.8

Table 4. Knowledge on Physical Activity and Dietary Guidelines for Health Promotion and Cancer Prevention

Guidelines	Agreement		Disagreement		Indecision	
	n	%	n	%	n	%
Consumption of less animal fat	251	93.7	3	1.1	14	5.2
Reduction of sodium intake	218	81.4	14	5.2	36	13.4
Daily consumption of fruit. Vegetables and whole grain cereal products	244	91.1	8	3.0	16	5.9
Focus on green. Yellow and red coloured fruits and vegetables	220	82.1	14	5.2	34	12.7
Prevention of obesity	253	94.3	5	1.9	10	3.8
Avoidance of excess alcohol intake	254	94.8	7	2.6	7	2.6
Avoidance of foods preserved by salt-curing, salt-pickling or smoking	192	71.7	17	6.3	59	22.0
Take at least 30 minutes gentle exercise twice a week	257	95.9	4	1.5	7	2.6

We found that students are well informed during the course on nutrition. We greatly appreciate the importance of the “Fight against Cancer” movement in the primary health care centre, and its health care providers, who inform people about the cancer and its symptoms how to find lesions and early stages and how to avoid hazardous factors are continuously informed by in-service education. The primary prevention should be taken all actions aimed to reducing the occurrence of cancer. Nurses and midwives are the most important health care providers to train the people about dietary guidelines for health promotion and cancer prevention.

Despite the relative paucity of definite evidence relevant to prevention in cancer and the tools available for early detection of cancer, cancer education to the public should be very active

People should be actively informed by primary health care providers about the role of diet-related and lifestyle factors in cancer to increase knowledge, and promote skill development and to provide adoption of new habits.

While most adults and children have little moderate and vigorous physical activity, there is substantial evidence that a wide range of programs and policy initiatives in worksites, schools, healthcare settings, homes, communities, and public spaces can lead to increase in many types of physical activity, ranging from walking to more vigorous sports. Interventions can aim to change the entire distribution of physical activity in the population, including reducing sedentary time as well as increasing moderate and vigorous physical activity.

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