THE KNOWLEDGE OF MEDICAL FACULTY FOURTH GRADE STUDENTS ABOUT THE EARLY DIAGNOSIS METHODS OF CHRONIC DISEASES[*]

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SUMMARY

The first three diseases that are among the general mortality reasons in Turkey are chronic diseases such as heart diseases, cancers and cerebrovascular diseases. The early diagnosis is of great importance for the control of these diseases in the society. The study aimed to measure the level of knowledge of Medical Faculty 4th Grade students about the early diagnosis methods of chronic diseases. Knowledge level of students were tested by means of pre- and post-training interview forms and evaluated with frequency and percentage rates of responses. Comparisons were executed with Mc Nemar Chi Square Test and Wilcoxon Signed Ranks Test. The average points of the students before the education was 1.17 ± 1.6 while it is 6.05 ± 2.36 after the education. It is noted that there is a significant rise in average after the education when compared to the one before the education ($z = 11.847$, $p < 0.001$). The knowledge of 4th grade medical students about early diagnosis methods of chronic diseases increase after public health lesson.

Key words: Chronic diseases, screening, prevention, knowledge, education.

INTRODUCTION

Chronic diseases are prolonged conditions that often do not improve and are rarely curable. Both communicable and non-communicable diseases can be chronic, although the term "chronic disease" is often used as a synonym for "non-communicable disease" [5,30,31].

One third of patients who were hospitalized in Turkey were diagnosed to have chronic diseases, and the first three of all death reasons were chronic diseases (cardiac diseases, cancers and cerebrovascular diseases) [2]. The fact that chronic diseases are seen frequently in the society, necessitate long-term treatment and that a proper recovery can't be assured at all and handicaps may occur makes this subject very important for public health. Although chronic diseases that occur frequently in the society are seen in all age groups, they often take place in adult and late adult periods and increase with aging [25,26].

Since lots of factors including genetic hereditary are responsible for their etiology, primary prevention, to avoid the causes of diseases, is difficult. If chronic diseases with gradual development and degenerative properties are early diagnosed by means of screening tests and early treated, handicaps might be removed [11,22,26]. Preventive medicine and preventive health services take an important role for both chronic diseases as well as acute diseases. Unfortunately today's health services are inadequate in the whole word [32,33].

Age, race, gender, education level, salt consumption, nutrition habits, obesity, alcohol intake, psyeho-social and cultural factors, genetic and family histories, are elements accepted for the etiology of primary hypertension and coronary heart disease. For sec-

ondary prevention of hypertension, screening of individuais by means of routine blood pressure measurements is necessary. The screening tests (early diagnosis methods) for coronary heart disease is ehest pain examination and electrocardiography (ECG) [3,7,19]. The drugs used by patients and the adverse effects and interaction of these can be the cause of resistant hypertension [6].

In the etiology of cervix cancer, human papilloma virus, exogamy, smoking, giving a lot of births, oral contraceptives and genetic inheritance are known. Cervical smear intake is a method for screening [9,26].

Early menstruation, late menopauses, late birth or giving no birth, less or no breast-feeding, alcohol use, fat-rich nutrition, lack of vitamin A, less weight prior to menopauses, hcavy weight after menopauses, ionized radiation, higher physical activity after the first menstruation and genetics are cited in the etiology of breast cancer [26,27]. For screening, breast examination and mammography are used [3].

In prostatic cancer, family history, cadmium, vasectomy and fat-rich diet are etiologic reasons. Although it is a controversial subject, diseases infected by sexual transactions, sexual activity and smoking were accepted true in literature. Serum prostate specific antigen (PAS) examination, reetal touch and trans-rectal ultrasonography are sereening methods [12,18,23,26].

For the etiology of bladder cancer, smoking, some occupational expositions, (4 amino-biphenyl, benzidine, 2 naphthylamine, coal tars, aluminum, auramine, shoe production, painting, magenta production, tyre industry...), some drugs (phenacetin, chlornaph-azaine....), ionizing radiation and genetics are held liable. The history of urine with blood (hematuria) and systoscopy for risk groups are accepted as a sereening methods [20,26].

Smoking, alcohol, medicines, fiber-poor and protein-rich diets, ionizing radiation and genetic inheritance are taken into account in the etiology of colon cancer [26]. History of blood in the excrement and sygmoidoscopy are the methods used for the colon cancer screening [17].

Alcohol, Hepatitis B and Hepatitis C, some professions (vinyl chloride) and ionizing radiation are considered to be responsible for the liver cancer. Alpha fetoprotein (AFP) and ultrasonography may be used as screening test methods [26].

Diabetes is a disease that shows a genetic hereditary nature, and may secondarily develop following endocrine diseases like acromegaly and Cushing's syndrome, metabolic disorders such as hemoehromatosis, pancreatic cancer or chronic panercatitis. Some medicines (thiazide diuretics, steroids, oral contraceptives), pregnancy, obesity and weak physical activities accelerate the occurrence of the disease. Fasting and/or postprandial blood glucose measurements are used as a sereening test for the detection of diabetes mellitus.

Education about chronic diseases is given to 3rd and 4th grade students during their different rotations (internal medicine, gynecology, surgery, pediatrics) [24]. The aim of this study is to draw attention to primary and especially secondary prevention of chronic diseases and to measure the knowledge of students about early diagnosing methods (sereening methods) of chronic diseases before and after the education, in the 4th grade students in Istanbul University, Istanbul Medical Faculty.

MATERIALS and METHODS

The study ineluded 199 of total 209 belonging to 3 different groups of Istanbul Medical Faculty 4th Grade students in September

2000 - January 2001. The students were given interview forms at the beginning of the lesson and asked them to answer under observation the early diagnosis methods of hypertension, ischemic heart diseases, cancers (cervix, breast, prostate, bladder, colon and liver) and diabetes mellitus. And then, a 40 min lesson was given about etiology, primary and secondary prevention of these chronic diseases. Educational objectives of the lesson is to let students know about the factors leading chronic diseases, ways of prevention, importance of health education and make them able to examine required staff for early diagnosis. During the education the answers of the interview forms were shown using transparents prepared before. Active participation of students was provided by asking questions and encourage them to ask questions too. Answers were given by giving examples from cases. The same interview forms were dispersed again to the students to be filled with under-observation responding method at the end of the lesson, which took 10 minutes. The pre and post-training knowledge of students were evaluated with frequency breakdowns and percentages of responses, and results were compared with Mc Nemar Chi Square Test. The Mc Nemar Test is used to test the significance of the data collected in "before and after" designed studies in which each person acts as his/her own control and were the answers are classified in two groups [8,19]. Calculating average of points students take from pretest and posttest, results are compared to Wilcoxon Signed Ranks Test [19,21].

RESULTS

Of 199 students included in experiment, 42.7% (n:85) were girls, and 57.3% (n:114) were boys. The knowledge of students about the early diagnosis methods of chronic diseases is shown in Table 1. The comparisons of the answers of pretest and posttest were calculated with Mc Nemar Chi Square Test. Generally; students were aware about the early diagnostic methods for chronic diseases between 7% and 16%. After the training, the rates increased to 39% - 88%. Before the training, only 9% (n:17) of students were aware of the fact that questionnaire and ECG were used as a screening test for ischemic heart diseases. The rate of those who knew increased to 80% (n:160) after training (Mc Nemar χ^2=141.00; p<0.001). And, only 13% (n:25) of students knew early diagnostic methods for colon cancer. And after training, the rate of those who knew increased to 78% (n:155) (Mc Nemar χ^2=124.19; p< 0.001). While the rate of students who knew early diagnostic methods for diabetes mellitus was 7% (n:13) before training, the rate increased to 39% (n:77) after training (Mc Nemar χ^2=124.19; p<0.001). While the average point of answers the students give concerning sereening methods, were 1.17±1.6 before education, it becomes 6.05±2.36 after education. After education the level of knowledge was statistically significantly higher compared to before educational level. A statistical comparison between the two data sets the rise on average points after the education is statistically significant (z=11.847, p<0.001).

DISCUSSION

A work of Turkish nongovernmental organizations searehing on problems of health and prerogatives public education, sets the chronic diseases among three major problems of health [29]. The main purpose of this study was to draw attention to the fact that chronic diseases were those frequently seen in the society, the most mortal and causing many disabilities and handicaps and to emphasize the importance of primary prevention (ineluding health education) and secondary prevention against such diseases. With this aim, this education program accentuated

Table 1. The knowledge about the sereening methods of some chronic diseases.

Knowledge Sereening Method	Before training n	%	After training n	%	
Blood pressure	32	16	176	88	$\chi^2=140.06$; p= 0.000
Questionnaire / ECG	17	9	160	80	$\chi^2=141.00$; p= 0.000
Ccrvical eytology	32	16	170	85	$\chi^2=132.18$; p= 0.000
Breast examination / mammography	54	13	107	54	$\chi^2=26.77$; p= 0.000
Digital rectal examination / PSA	28	14	31	16	$\chi^2= 0.08$; p= 0.78
Systoscopy	17	9	63	27	$\chi^2=28.93$; p= 0.000
Blood in the excrement / sygmoidoscopy	25	13	155	78	$\chi^2=124.19$; p= 0.000
α-fetoprotein / Ultrasonography	20	10	154	77	$\chi^2=128.18$; p= 0.000
Fasting/postprandial Blood Glucose Measurement	13	7	77	39	$\chi^2= 53.64$; p= 0.000

the importance of life style and health education in terms of chronic disease prevention and the importance of the physicians have been able to set methods of early diagnosis.

In the society, prevention against chronic diseases can be provided by reforms in the health system including policies, technology, health education, financing, regulation, public training and alteration of the lifestyle. Administrations must make the public lifestyle gain a proteetive nature against chronic diseases, by creating convenient environments. Improvement of social conditions is also of great importance for the prevention. Early diagnosis methods (screenings) and the initiation of early treatments, when necessary, are closely correlatcd with socio-economical conditions, health services and finance [26]. And so, the physicians will easily fulfill their tasks for *prevention of* the community against chronic diseases, training the people and establishing an knowledge exchange with the administration [34].

Medical education in Turkey is a six years process. In this study, the knowledge level of students about screening methods of some chronic diseases before and after education was measured in a definite pcriod (Public health rotation) during this process. The public health elasses were presented with interactive participation of the students, instead of giving a conference. As known knowledge achieved during interactive classes are more permanent. Therefore if the level of knowledge was measured after 6-12 months again, the results could support the literatures [4,28,35].

In this study, the knowledge about all screening mcthods has increased after the education. Only the rise in the knowledge for digital cxamination and PSA for screening prostatic cancer was not statistically significant. This might be because the subject prostatic cancer is not included in 3rd period program but included in the 4th and 5th period program [13,14,15]. When the knowledge before and after the education is compared, the knowledge of systoscopy for urine bladder cancer and hunger/satiety glucose measurement in diabetes mellitus was lower ac-

cording to other screening methods. This situation could be explained like prostatic cancer. It was observed that students were more interested in subjects in which they had an idea before. We couldn't achieve any literature about the education of the prevention of chronic diseases during medicai education. Most studies were about the education of patients with chronic diseases especially about their drug consumption [1,35]. When compared with other faculties, Public Health lessons are given in different periods (in 3rd and 6th period in Hacettepe Medicai Faculty, in 1st and 5th in Uludağ Medicai Faculty, in 1st, 4th and 6th period in istanbul Medicai Faculty) [36,37]. As this study was done with 4th grade students comparison with other faculties was not made according to the education program.

Our results revealed that the 4th grade students of istanbul Medicai Faculty of istanbul University were not fully informed about the sereening methods of chronic diseases but that they increasingly learned by means of relevant trainings. In istanbul Medicai Faculty the preventive methods of chronic diseases is ineluded in the 4th grade program of Public Health lessons [15]. The topic chronic diseases is taught in many other elasses with different aspects. As we know the importance of repeating for learning, we believe that these repetitions are necessary for medicai education.

Finally we can say that more importance should be given to the education about preventive and sereening methods during medicai education.

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