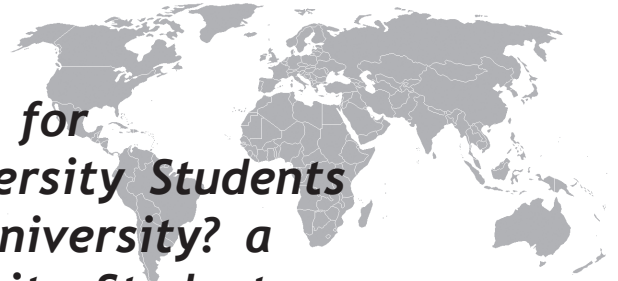# Is Medical Check-Up Useful for Physician among New University Students During Enrolling Time to University? a Survey of 640 New University Students

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ABSTRACT

Aim: The aim of this study is to investigate the health problems of the recently enrolled new university students in Celal Bayar University, Manisa, Turkey and to expose whether the information gathered will be useful for the future follow up of the students.

Methods: 640 students who were elected by the Students' Selection and Ranking Examination (Öğrenci Seçme Sınavı-OSS), had been contributed in our study during enrolling time to university; September 2006. Our sample had been constituted of students coming from very different regions, representing the Turkish student population.

Results: 42.7% of subjects were male and 57.3% were female. Following prevalence are found for diseases and addictions: Headache 10.8%, allergy 7.3%, anemia 5.8%, gastritis 5.8%, smoking 39.6%, alcohol drinking 2.4%, epilepsy 1.4%, recovered tuberculosis 0.6%. Female students had suffered much more headache, gastritis, anemia than male students (respectively p= 0.000, p= 0.037 and p=0.000). 55.7% of the male students and 27.5% of the female students were smokers. All of the drinkers were male. Headache and gastritis had been found associated with each other (Spearman r=0.259, p=0.000). Headache was found higher in subjects with epilepsy than others (p= 0.020).

Conclusion: Physicians of school based health centers, firstly, must understand students' health problems. This study emphasizes the importance of health screening of enrolling students in the registration time and the necessity of school based health centers.

Keywords: Students, health problem, school-based health center, registration time.

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INTRODUCTION

Characteristics of students attending to higher education sometimes can show us the description of society, because they come from very different regions representing the all country. Moreover, higher education is an organization, which keeps the custodian of knowledge. Any threats toward higher education are academic, scientific and social threats (1). In order to understand the function of school-based health centers, firstly we must understand the assessment wheel (2). This assessment wheel is a figure of multidimensional approachment to students' health (Figure 1). Health has a scholar, social and familial aspect. Although the latter is rare in the university youth, many serious illnesses have greater familial component than other aspects.

School health organization is constituted primarily of medical check-up in the enrollment, regular or at occasional times, health counseling and prevention of infectious diseases (3). In order to determine health service coverage in Turkish universities, Higher Education Law no. 2547-47, obligated higher education institutions to provide entire psychological and physical welfare of students (4). However, school health organizations have been recently laid on a systematical procedure, and this procedure is continuing. In the year 2005, the total student number in Turkish universities was approximately 1.942.995 (5).

School that is more specialized based health centers implement the polyphasic health-testing program, a wide survey of students during enrolling time. In this protocol; history, anthropometry, spirometry, vision testing, ECG, physical examination, laboratory tests (hemogram, urinalysis, biochemistry, tuberculosis skin test) were performed (6). Nevertheless, our study has been built solely on rapid physical examination and interrogation of past medical history of the students. This study would be helpful to expose health structure of students starting to a new life requiring much more social, physical and psychological capabilities than in high school. Disease distribution obtained at the enrolling time, would help and inform the campus doctor for screening serious and important illness.

MATERIALS AND METHODS

This study is conducted in September 2006 (for a month period) in a school based medical clinic of Faculty of Education at Celal Bayar University.

Celal Bayar University, Faculty of Education admitted 915 new university students by Students' Selection and Ranking Examination (OSS) during the 2006-2007 educational years. All the new university students are included to the study. School based health center staff gave information about the aim of the study for all of the subjects. Six hundred and forty students among them accepted to take part in the study by their own consent. They were all volunteered. Student sample was constituted of students coming from various regions of Turkey. In the year 2007, Turkey's entire population was 70 million. Even if our sample was not an homogenous example, a sample of approximately 400 students could be considered enough to represent entire Turkey's student population's health aspect with 95% confidence interval (α=0.05). Student's t-test, Spearman correlation analyse and Somer's regression descriptive statistical technique were used. P value less than 0.05 was denoted statistically significant.

RESULTS

Out of 640 students, 42.7% (n:273) were male and 57.3% (n:367) female. Mean age was 17.6±1.35 (SD). All subjects have been just started the first
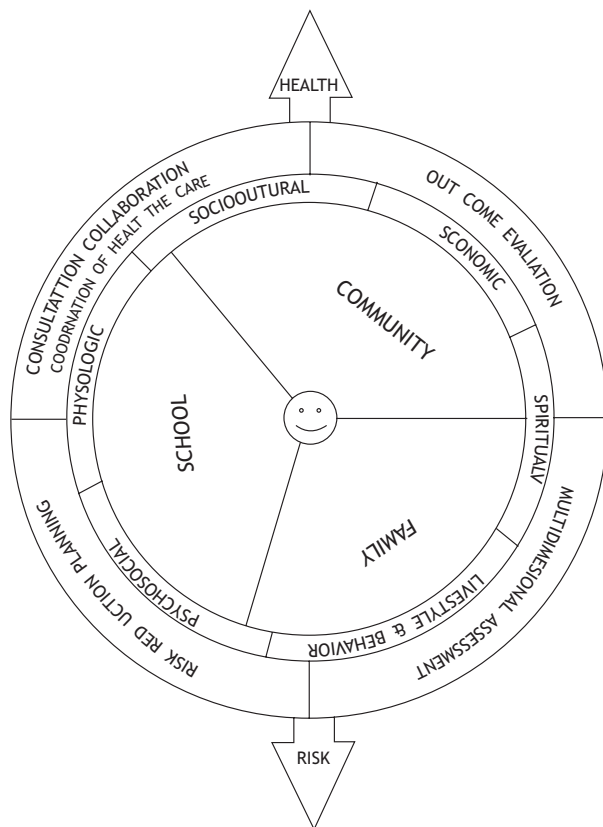

Figure 1. The assessment wheel[2].

class. Smoking was found in 39.6% (n:253), headache 10.8% (n:69), allergy 7.3% (n:47), anemia 5.8% (n:37), gastritis 5.8% (n:37), alcohol drinking 2.4% (n:15), epilepsy 1.4% (n:9), recovered tuberculosis in 0.6% (n:4) of students (Table 1). Total smoker number was 253 (39.5%). 55.7% (152/273) of the male students and 27.5% (101/367) of the female students were smokers. Allergy was found significantly higher in females than males (Somer's d=0.90, p=0.003), and it was found to be poorly correlated with gastritis (Spearman r=0.136, p=0.035). Anemia was found significantly higher in female students than males (Somer's d=0.102, p=0.000). Gastritis was found higher in females than males (p=0.037). An inverse relationship was found between alcohol drinking and anemia, while all of the drinkers were male (p=0.000). An inverse relationship was found between asthma and gastritis. Subjects having asthma did not show gastritis. Subjects with asthma did not give asthma history in their mothers (p=0.007). Subjects with asthma had not drunk alcohol (Somer's d=-0.019, p=0.013). Typically, subjects with gastritis had had headache too (Spearman r=0.259, p=0.000). Subjects with epilepsy had suffered headache much more than other patients (p=0.020). Subjects suffering headache had not preferred to smoke (p=0.049).

DISCUSSION

The number of school based health centers (SBHC) in the universities and educational system has arisen day by day. 70% of schools in the United States have their own SHBC7. The relative number of school based health centers denoted was 1400 in the United States in 2001(8). Ten years ago; only the infections, cuts and bruises were causes of diseases addressing to SBHCs; but now sexually transmitted diseases, stress, mental health problems, acne, family planning, dental care, menstrual problems, immunization, preventive medicine, birth control, pregnancy test, sports injury, nutrition problems, allergy, asthma, juvenile diabetes, eating disorder, female examination and therapeutic abortion are also included within the causes of diseases addressing to SBHCs (9-13). Close follow-up of those illnesses are important for their ability to school.

Moreover, amount of university students is excessive in Turkey. Therefore, this poses disproportion in student number per doctor. In our country, this is still a problem. In our institution, there were 3000 students per doctor. This is a problem also in developed countries. The school based health centers must have enough number of physicians for quality of health service (14).

In an urban university, in Turkey, ratio of SBHC use by the students was found %59.8. The rest addressed directly or being referred to hospital (15). In another study, in the United States, emergent care use was 4 times higher in CHC than it was in SBHC (16).

One of the main health issues in the universities is smoking problem. Although smoking ratio was found 39.6% in our institution, many studies in various worldwide universities denote higher frequencies of smoking. In a study of 2316 medical students being evidently aware of risks of cigarettes in the United States, smoking ratio was found 56% (17). In another study with participation of 19298 students, smoking ratio was found approximately 30% (18). In a French study conducted in the city of Bordeaux, smoking ratio was 20% (19). In a study analyzing anti-tobacco efforts of universities, average smoking rate was found 37% (20).

Headache was found also a disturbing medical problem among students. In a study of 104 participants, headache was found interfered in usual activities in 60% of students (21). Our headache ratio among new university students was found 10.8%.

In Hacettepe University, prevalence of allergy was found in 13.5% of 4331 students (22). In another study, seasonal rhinitis was found in 12.5% of male students and in 14.5% of female students, out of 4639 students (23). In our institution, allergic disorders were found in 7.3% of new university students at enrolling time.

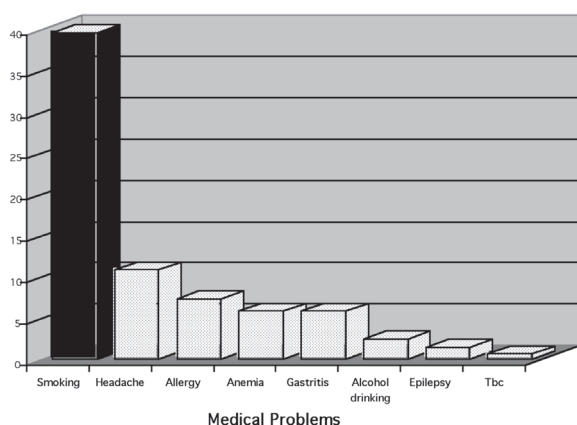Medical Problems of Students at the Enrolling Time

Table 1. Distribution of Medical Problems during enrolling time.

Alcohol drinking constitutes another major problem among students. In the United States, in a study of 2316 students, alcohol-drinking ratio was found 78% among male students and 77% among females (17). In the Cretan study, occasional alcohol drinking was found 8.6% (24). In the French study, this ratio was 9% by the year 2005 (19). Among 640 new university students, our ratio was 2.4% drinking per week.

Students addressing to health services because of psychological problems constitute major concerns of SBHC. In a review analyzing addressing due to psychological problems in UK, students address to academics because of course needs, poor attendance, organizational skills, time-management, self-directed, apprenticeship learning, work patterns and examination failure (25). In our country, educational system is secular and there are no staff religious men to address because of such problems in the campus.

In an university based setting, there are many diseases that constitute important health problems because of their high prevalence. We should endeavor in detecting, preventing and treating this disease by correct approaches in the universities.

One of the main health issues in the universities is smoking problem and alcohol drinking constitutes another major problem among students. Both of them are risky and unwilling behaviors because they are playing as a role model for all students. Prevention of cigarette smoking and alcohol drinking among students shows positive effects on the society. We suggest that emergency interventional program must be applied to students, their families and teachers in this manner.

In a study analyzing the expectations of students, results indicate that difference between health service expectation and perception by students was statistically significant by SERVQUAL model, a service quality framework. Questions in this model were about knowledgeable, safe with interaction, willingness to help, up-to-date equipment and wait time properties of SBHCs (26). We have also needed a survey analyzing the needs of students in our university.

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