

## **ORIGINAL RESEARCH**

### **Pilot scheme assessment: Health development program for students at dormitories**

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## **Abstract**

**Aim:** This study, conducted in Turkey, aims to increase the practicability of health counselling and protective services offered to young people in the long term. In the short term, it is aimed to determine health counselling needs of students at dormitories and it might enlighten researchers working in this field.

**Methods:** A pilot questionnaire, developed in order to determine health needs of students staying at dormitories, was conducted in two dormitories in Ankara. Focus group interviews were done, also. After that, in nine dormitories from nine provinces from all over the Turkey, questionnaire and health screening tests were applied to 5,852 volunteers.

**Results:** The common topics for both sexes which students would like to receive counselling are nutrition and anxiety about exams.

**Conclusion:** As a result of the study, service has been planned for the identified needs of the students.

**Keywords:** counselling, dormitory, health, student, Turkey, university.

**Conflicts of interest:** None.

## **Introduction**

Young population (aged 10-24 years) constituted 25% of the world population, 17% of the European population and 26% of the Turkish population in 2013. Years at university make up a new period in which important changes occur in the lives of this great population, considered to be a social and biologic transition. This period in which adolescence connects to adulthood and which includes a dynamic development and growth, requires careful research as it corresponds to the last stage of adolescence (1,2).

Those living at dormitories among university students constitute a group which has different social and emotional characteristics and which should be considered in terms of their needs and problems. These people generally stay far from home for the first time, need to cope with new situations without experience and support of their parents and are responsible for their health and lifestyle besides many other responsibilities. Young adults develop behaviours to be conveyed to their adulthood or affect their health during this period. Moreover, there are different lifestyles and challenging living conditions in the social area at university. Many students adopt unhealthy behaviours and habits including malnutrition, smoking, physical inactivity, unsafe sex due to changes in their accustomed living conditions and patterns of education (3-6).

The World Health Organization reported life quality of an individual depends on their own behaviours and lifestyles by 60%. Many studies report health improving behaviours reduce the risk of diseases and death rate. Many effects of health risk factors can be prevented by determining and changing unhealthy behaviours. A good health improving behaviour depends on living habits developed in the early period. Considering "health in youth", it should be noted that young people not only need to stay away from diseases physically and mentally, but also need to access necessary information and services to ensure this. For health of future generations, it is very important to understand, monitor, evaluate health behaviour tendencies and offer counselling to ensure adoption of a healthy lifestyle. Unfortunately, information about health improving counselling services offered to young people at dormitories is limited in the literature (7-11).

Those in economically disadvantaged condition among students at universities in Turkey mostly stay at state dormitories called "YURTKUR" operating under the Ministry of Youth and Sports, where our study was conducted. Students live in high capacity rooms, at least 4 beds, use common bathrooms, toilets and dining halls at these dormitories. This provides limited facilities to meet their personal needs.

In our country, primary health care is offered in the family medicine system. Although every citizen has a family physician according to registered address, students living away from their families generally have their physicians in the city of their families (as they do not transfer their registration). "Youth Counselling and Health Service Centres" have been established to ensure young people benefit more from primary health care as they need a special treatment due to their age. These centres offer counselling services, training and information, diagnosis and treatment, referral to reference centres for adolescence at the primary care. The number of applications to these centres gradually decreased over the years.

This study, conducted under the light of these conditions, aims at practicability of healthy counselling and protective services offered to this age group in the system. In the short term, it helps researchers try to determine health counselling needs of students at dormitories.

## **Methods**

Operations to execute a program to promote health of students at dormitories began in January 2014. Pilot schemes were implemented in 2 dormitories in Ankara to provide a basis

for the scheme by the Turkish Public Health Institution Department of Child and Adolescent Health. After preliminary trial of the questionnaire, the questionnaire was applied to 26 males and 51 females in these 2 dormitories and a focus group interview was made with the dormitory managers.

The results of the questionnaire and focus group interviews were shared at meetings held with the Credit and Dormitories Institution (YURTKUR) representatives, Turkish Public Hospitals Agency, General Directorate of Health Promotion and cities where the pilot scheme would be implemented and the framework of the study were determined.

Health managers from 9 cities where 9 dormitories selected to implement the pilot practice on January 17 and February 4, 2014 were informed about the study in Ankara and city plans were arranged.

The project was initiated to implement the pilot practice in Ankara, Antalya, Balikesir, Diyarbakir, Erzurum, Istanbul, Izmir, Tekirdag and Trabzon cities. As the sole purpose was to provide data for the program to be developed, these cities were selected randomly based on their sizes irrespective of representation of all students. There were approximately 4 million 300 thousand university students at 170 universities in our country as of 2013. According to YURTKUR data, 365 dormitories in 81 cities, 145 districts and 2 points abroad offer service with a bed capacity of 310,000.

Eighteen thousand and fifty four students staying at dormitories were informed about general health, eye, teeth, skin and oral health, and the students were applied eye (2,351 students, 13.2%), teeth (3,410 students, 18.9%) and skin (2,130 students, 11.8%) screening on voluntary basis. The 14 item questionnaire developed to determine definitive characteristics of the students in the study was applied under supervision to 5,852 students (32.4%) who volunteered for participation (Table 1).

**Table 1. Dormitories in the study, occupancy rates and rate of participation in the questionnaire**

Name of Province	Capacity			Survey participation	Percent*	Percent <sup>†</sup>
	Female	Male	Total			
Antalya	1,968	1,135	3,071	120	3.9	2.1
Ankara	-	2,976	2,976	260	8.7	4.4
Diyarbakır	1,020	-	1,020	494	48.4	8.4
İstanbul	1,072	536	1,608	725	45.1	12.4
İzmir	-	1,932	1,932	853	44.2	14.6
Trabzon	2,611	-	2,611	1301	49.8	22.2
Erzurum	-	1,500	1,500	352	23.5	6.0
Balikesir	1,136	888	2,024	1211	59.8	20.7
Tekirdağ	696	616	1,312	536	40.9	9.2
<b>(9 provinces 9 dormitories)</b>	<b>8,503</b>	<b>9,583</b>	<b>18,054</b>	<b>5,852</b>	<b>32.4</b>	<b>100.0</b>

\*Row percentages.

<sup>†</sup>Column percentages.

The following findings were obtained from the pilot scheme conducted at 2 dormitories:

- The top three health services requested by students are eye, teeth and skin health services.
- The top topics they request counselling for are in the following order:
  - Adequate and balanced nutrition
  - Personal hygiene
  - Anxiety about exams
  - Anger management
  - Healthy life habits
  - Smoking, alcohol and drug use
- Students want to receive these counselling services especially from counsellors and medical personnel
- Information about hygiene and protective health services
- Psychosocial service personnel taking part in training of young people
- Visual based training about adequate and balanced nutrition, smoking, alcohol and drug abuse and sexually transmitted infections
- Separate planning for counselling and health service for male and female students
- Provide immediate and efficient information at periods of certain diseases (flu, measles etc.)
- Providing information about sleep problems
- Training about breathing exercises, methods of coping with stress

The study protocol was approved by the Gazi University Ethics Committee. The data used for this study do not include any identifiable personal information, and informed consent was waived by the committee.

Data was entered in the statistics package program and was analyzed with the same program. Categorical variables were presented in figure and percentage and continuous ones were presented in mean  $\pm$  standard deviation and median (min, max). Chi-square, chi-square for trend tests and Kruskal-Wallis test were used. Statistical significance level was determined as  $p \leq 0.05$ .

## Results

Basing on the initial findings obtained from the pilot scheme, 5,852 students at dormitories accepted to take part in the questionnaire and/or screening. Moreover, 8,000 students received training in conference forms about screened diseases (findings, clinics, etc.) and requested subjects. The screening results were shown in Table 2.

For female students, the mean age is  $21.59 \pm 1.99$  and the median is 21 (16-41), the mean length is  $163.72 \pm 5.81$  cm and the median is 164 (143 – 189) cm, the mean weight is  $57.56 \pm 8.45$  kg and the median is 56 (37 – 110) kg, the body mass index mean is  $21.46 \pm 2.89$  kg/m<sup>2</sup> and the median is 21.1(14.3 – 38.1) kg/m<sup>2</sup>; for male students, the mean age is  $21.85 \pm 2.26$  and the median is 22 (16 – 42), the mean length is  $176.97 \pm 6.41$  cm and the median is 177 (152 – 197) cm, the mean weight is  $74.07 \pm 11.56$  kg and the median is 73 (49 – 138) kg, the body mass index mean is  $23.62 \pm 3.28$  kg/m<sup>2</sup> and the median is 23.4 (16.7 – 45.1) kg/m<sup>2</sup>.

When distribution of body mass indexes of students was compared, the body mass indexes of male students were statistically significantly higher than female students ( $p < 0.001$ ). In all students, underweight rate was 9.8% (13.6% in girls; 3.6% in boys), normal weight rate was

73.5%, overweight rate was 14.3% (9.7% in girls; 23.8% in boys) and obesity rate was 2.4% (1.4% in girls; 4.5% in boys).

The largest part of the students have stayed at dormitories for 1-3 years and the number of students staying in the same room is 3 for females and 4 and more for females for the highest level.

**Table 2. Pathologies identified in examined students**

	<b>The number of students diagnosed with pathologies</b>	<b>The number of students who received a prescription</b>	<b>The number of students referred to hospitals</b>	<b>The number of students who received a recommendation</b>
<b>Eye diseases screening findings (n=2351)</b>				
Wink problems	595	64	315	190
Eyelid diseases	31	5	5	17
Eye infection	113	35	12	68
Cross eye	15	1	3	6
Other	278	65	64	136
<b>Total</b>	<b>1032</b>	<b>170</b>	<b>399</b>	<b>417</b>
<b>Skin diseases screening findings (n=2130)</b>				
Allergic skin diseases	99	30	25	38
Fungi	56	28	19	16
Acne vulgaris	490	113	251	155
Other	281	55	113	147
<b>Total</b>	<b>926</b>	<b>226</b>	<b>408</b>	<b>356</b>
<b>Oral and dental diseases screening findings (n=3410)</b>				
Gingiva diseases	430	46	128	378
Rate of decayed teeth	753	30	478	169
Rate of filling	474	0	139	148
Students with permanent teeth extracted	266	0	108	90
Malocclusion and orthodontic disorders	99	0	55	61
Other	94	1	10	13
<b>Total</b>	<b>2116</b>	<b>77</b>	<b>918</b>	<b>859</b>

Eight percent of the students have a chronic disease and 11.3% use regular medication. Considering chronic diseases and regular medication intake by the time at the dormitory, there is not any significant difference in chronic disease frequency but the frequency of regular medication increases significantly with increased time at the dormitory ( $p=0.016$ ).

About 80% of the students are registered at a family physician. The highest frequency of application to a health centre is 1-11 months and it is generally less for male students. Female and male students, who do regular sports, in other words 3 times a week or more, are less than 10%.

Considering use of alcohol, male students are ahead of female students (9%-22%) and the largest group in all students reported to use alcohol once a month or less (about 75%).

Drug abuse was reported by 15 students out of 3823 students who answered this question (2 females 13 males). The frequency of use decreases significantly with increased time at the dormitory in the trend analysis (p=0.003).

Smoking is available in 37% of females and 63% of males (Table 3). The frequency of smoking decreases significantly with increased time at the dormitory in the trend analysis (p=0.02). Female students have been smoking for  $3.6 \pm 2.2$  years and male students have been smoking for  $4.2 \pm 2.6$  years. Considering amount of smoking, females smoke  $0.8 \pm 0.4$  and males smoke  $1.0 \pm 0.3$  packages of cigarettes a day.

**Table 3. Distribution of certain characteristics and habits of students by gender**

	Females		Males		Total <sup>†</sup>	P
	N	Percent*	N	Percent*		
<b>Time at dormitory (n=3826)</b>						
Less than 1 year	566	61.4	356	38.6	24.1	<b>0.002</b>
1-3 years	1040	61.6	647	38.4	44.1	
3-5 years	688	68.1	323	31.9	26.4	
More than 5 years	121	58.7	85	41.3	5.4	
<b>Number of students in the room (n=3821)</b>						
1	6	75.0	2	25.0	0.2	<b>0.001</b>
2	138	93.2	10	6.8	3.9	
3	2008	77.9	570	22.1	67.5	
4 and more	266	24.5	821	<b>75.5</b>	28.4	
<b>Chronic disease (n=3008)</b>						
Yes	199	82.9	41	17.1	8.0	0.361
No	2228	80.5	540	19.5	92.0	
<b>Regular medication intake (n=3837)</b>						
Yes	263	60.7	170	39.3	11.3	0.254
No	2163	63.5	1241	36.5	88.7	
<b>Registry at the family physician (n=3757)</b>						
Yes	2022	65.2	1078	34.8	82.5	<b>0.001</b>
No	376	57.2	281	42.8	17.5	
<b>Frequency of application to a medical centre (n=3808)</b>						
Less than 1 month	222	69.6	97	30.4	8.4	<b>0.001</b>
1-11 months	1460	65.9	755	34.1	58.2	
1-3 years	528	59.0	367	41.0	23.5	
More than 3 years	200	52.8	179	47.2	10.0	
<b>Regular sports (n=3835)</b>						
Yes	449	47.7	493	52.3	24.6	<b>0.001</b>
No	1976	68.3	917	31.7	75.4	
<b>Frequency of sports (n=3845)</b>						
Rarely (once a	2115	62.6	1263	37.4	87.9	<b>0.006</b>

month or less)						
Less than once a month-three weeks	57	64.0	32	36.0	2.3	
1-2 times a week	45	59.2	31	40.8	2.0	
3-4 times a week	147	67.7	70	32.3	5.6	
Everyday	67	78.8	18	21.2	2.2	
<b>Alcohol use (n=3813)</b>						
Yes	218	41.8	304	58.2	13.7	<b>0.001</b>
No	2198	66.8	1093	33.2	86.3	
<b>Frequency of alcohol use (n=263)</b>						
Rarely (once a month or less)	140	71.4	56	28.6	<b>74.5</b>	<b>0.011</b>
Once a month-three weeks	32	66.7	16	33.3	18.3	
Twice a week and more	10	52.6	9	47.4	7.2	
<b>Drug abuse (n=3823)</b>						
Yes	2	13.3	13	86.7	0.4	<b>0.001</b>
No	2418	63.5	1390	36.5	<b>99.6</b>	
<b>Smoking (n=3841)</b>						
Yes	221	37.3	371	62.7	15.4	<b>0.001</b>
No	2208	68.0	1041	32.0	84.6	

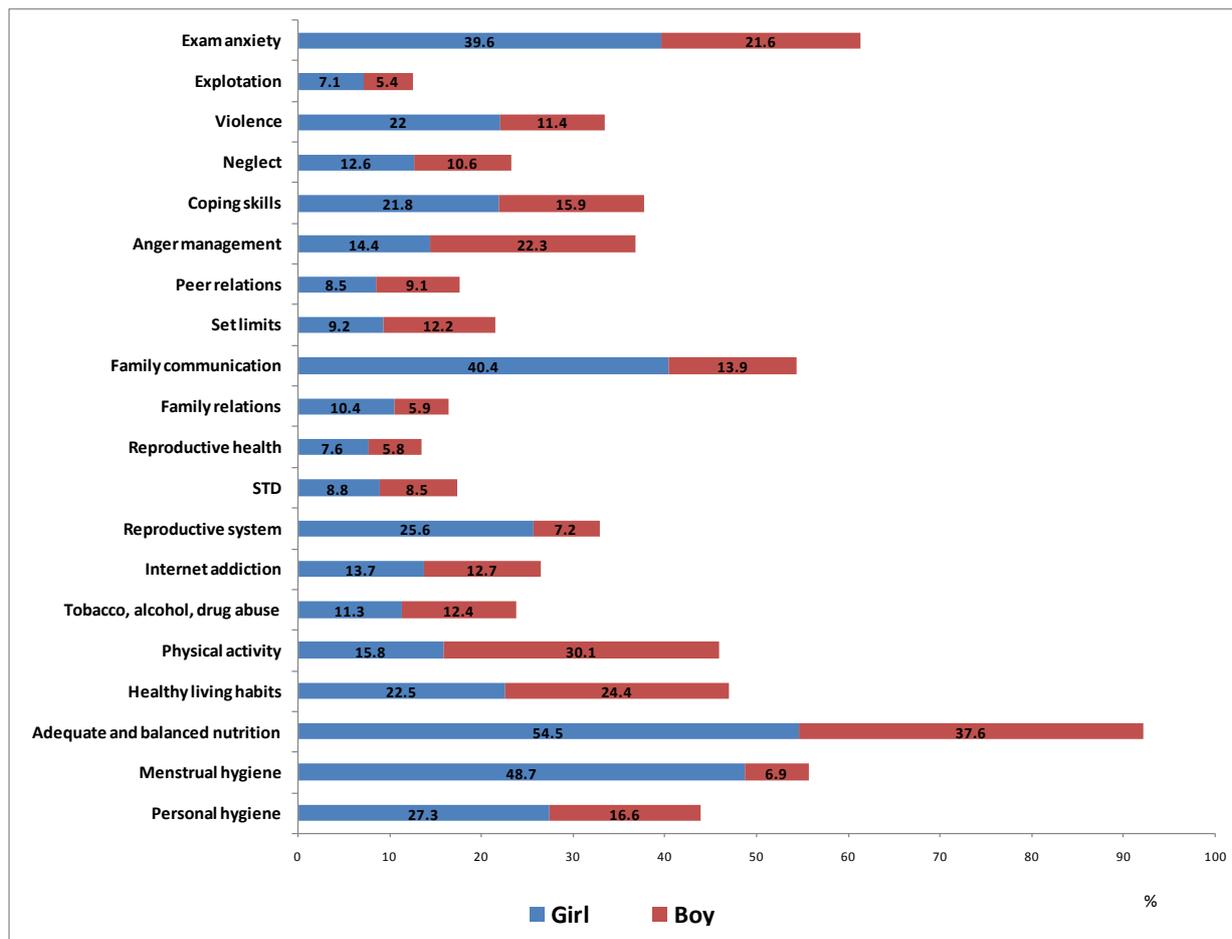
\* Row percentages.

† Column percentages.

The top 5 topics for which female students would like to receive counseling are respectively nutrition, menstrual hygiene, communication in the family, anxiety about exams and personal hygiene. The top 5 topics for which male students would like to receive counseling are respectively nutrition, physical activity, healthy living habits, anger management and anxiety about exams (Figure 1).

Considering change of request for counselling by the time at the dormitory, while demand for menstrual hygiene, anger management and anxiety about exams increases significantly with time (respectively,  $p=0.001$ ;  $p=0.001$ ,  $p=0.032$ ); demand for personal hygiene, healthy living habits, physical activity and reproduction system habits significantly decreased with increased time (respectively,  $p=0.001$ ;  $p=0.004$ ;  $p=0.001$ ;  $p=0.010$ ). No significant change was observed in demand for other counselling topics ( $p>0.05$ ).

**Figure 1. Topics for which students would like to receive counseling based on gender**



## Discussion

Although the young population is generally considered to be "healthy", it constitutes 15% of the total disease burden in the world and about 1 million young people die of preventable reasons every year. Of the deaths at early ages in adults, 70% depends on gender discrimination and habits adopted in adolescence including smoking, malnutrition and risky sexual behaviours (12).

A study conducted at a university in Turkey reported that half of 183 students had decayed teeth, one fourth had lost a tooth and more than half had filling in their teeth (13). This study reports that almost one fourth of the students had decayed teeth, one tenth had filling in their teeth and about 8% lost a tooth. Although the oral-dental health screening results in this study are lower than those of the study conducted in 2012-2013 academic year, these rates are considered to be very high for young population with a long life expectancy. It is required to continue with these scans considering the results of the screening.

A study conducted with the students at dormitories at Alexandria University reported 6.5% of chronic disease or disability frequency in students (3). Our study reported a chronic disease frequency of 8.0% in the students and this frequency does not vary depending on time at dormitories and causes significantly more frequent medication intake (47.7% vs. 6.1%) in this group.

A study conducted in a Middle East country, Egypt, reported that 33.8% of the university students were physically inactive and 25.3% were overweight (3). Studies conducted in Far East countries, Thailand, China and Japan reported a frequency of overweight between 2.9% - 16%. BMI mean of male students was significantly higher than females in all studies (5,14,15).

Fifty-one percent of the students at dormitories at Canada Nova Scotia University reported sports activities for less than three times a week and more than half were determined to be at normal weight limits (4).

Considering Europe, a study conducted in Germany reported more than half of the students were normal and 6.5% were overweight and only one fifth reported they did not engage in sports activities (16). A study made with university student in Germany, Poland and Bulgaria reported that more than half of the participants were normal weight and the overweight frequency was 11.6% (10). A study made with university students from 23 different countries reported that more than three fourths of the students were normal weight (17).

A study made with 233 university students in Turkey in 2009 reported that one fifth of the students did not exercise and more than half were reported to exercise for 2-3 days a week or more (18).

Although over weight/obesity prevalence in our students was 16.7%, unfortunately, three fourths reported not to engage in sports and almost 90% of the students engaged in sports once a month or less.

A study in Egypt reported that 17.5% of male students smoked and 4.0% used drugs (3). A study conducted at Helwan University in Egypt reported that the frequency of currently smoking students was 8.6% (19). A study made to determine water pipe smoking prevalence of 1,454 students at 3 universities in 2008 in Jordan reported a smoking prevalence of 30.7% (20). A study made with 355 students in total with 215 students staying at dormitories at 2 male medical faculties in Iran in 2014 reported smoking, alcohol and drug abuse frequencies of 3.9%, 10.1% and 19.4% respectively (21).

A study made in Canada reported that 14.3% of the students at dormitories smoked (4). It was reported that out of 17,591 students at 152 universities studied in 2010 in USA, 16.8% were currently smoking and 34.6% reported to have smoked before (22).

A study conducted in UK reported a smoking frequency of 15.9% in 937 students (23). A study made at 3 universities in Germany, Poland and Bulgaria reported that 19.3% of the students smoked (10). A study conducted in Germany, out of 650 students, 24.5% smoked and 88.5% used alcohol (16). A study conducted at Linköping University in Sweden reviewed alcohol consumption of 1,297 students and reported that 91% consumed alcohol in the last 3 months (24).

Another study made with 572 students in Turkey reported that none of the participants used drug and almost all of them reported they never tried (98.4%) (25).

This study determined smoking frequency as 15.4% and the frequency decreased to 12.7% with increased time at the dormitory. While the frequency of the students using alcohol is 13.7%, no significant change was obtained by years, the frequency of drug abuse is 0.4% and a significant decrease was obtained by years. It is considered that statements of alcohol and drug abuse can be low due to prohibition of substance use and hesitations about profiling.

A study which evaluated health behaviours and health development needs of 650 students in Germany reported that more than half of the students cared for their health and tried to be on a healthy diet. More than half of the students reported they would attend health oriented group programs, especially sports, relaxation and stress management programs and one fourth reported they would attend healthy nutrition and health classes. About one fourth of

students said they were interested in counselling about stress management and one fifth in nutrition and reproductive health (16).

Almost half of the students at Canada Nova Scotia University reported they would attend stress management training (4).

A study made in China in 2001-2002 academic years reported that almost half of the students would like to receive training about healthy nutrition (15).

In our study, students reported they would like to have training about hygiene, healthy nutrition, physical activity and healthy living habits.

Recent studies on health of the young population indicate that a more holistic approach to the youth would prove to be more efficient rather than focusing on a single problematic behaviour and reducing specific risks. Therefore, the young population needs programs which support healthy development. The purpose of this program is to support healthy psychological and social development and growth and to increase individual endurance. Moreover, it is recommended to ensure that the young individual "adopts life skills". Therefore, it would be ensured that the young individual undertakes responsibility for making healthy decisions, resisting negative pressures and avoiding risky behaviours (5,21).

WHO determined obesity, physical inactivity and alcohol use and smoking as the risk factors of chronic diseases. Our study clearly demonstrates the need for "healthy development" counselling for the young population to struggle with chronic diseases which are the main medical problem of our century, for which risk factors are evaluated in the study. Risks can be prevented and a bright future can be ensured for the young population with a healthy living culture to be developed accordingly. This requirement has already reflected on demands of the young population and they reported they would like to have this kind of counselling.

As a result of the study, service has been planned for the identified needs of the students. Activities have been initiated to spread this study to cover all students at dormitories and dormitories have been put to contact with "Youth Counselling and Medical Care Centres". Systems have started to be developed to increase use of primary health services by dormitory students.

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