

# Healthy Behaviours and Educational Needs among Turkish Women: A School-Based Study

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## ABSTRACT

*The present descriptive study was planned to be the first stage of a school-based programme towards promoting healthy behaviours in Turkish women after determining their healthy behaviours and their need for relevant education. The sample was composed of 468 mothers of students attending an elementary school located in the city of Istanbul. The data were obtained during interviews and using two separate questionnaires. The Health Promotion Model formed the basis for the questionnaires describing healthy behaviours. The mean age was  $34.6 \pm 0.5$  and 10.9% of the participants were illiterate. They generally were in middle-income families and 41.5% had at least one chronic disease. The participants were found to have poor behaviours pertaining to exercising, eating habits, and weight control. The majority (88%) did not exercise regularly. Chronic diseases were found to be the factor with the largest impact (OR: 1.87, 95%, CL=1.908–2.515). The participants pointed out that they would especially like to be educated on how to control their weight. The researchers have appended a programme devised for women regarding exercising, eating habits and weight control.*

**Key words:** health behaviour, health education, women, educational need, Turkey

## Introduction

Differing structural contexts (such as socioeconomic, age, social support, family arrangement) and exposure to different lifestyles (such as smoking, drinking, exercise, diet) and psychological factors (such as critical life events, stress, psychological resources) have a negative effect on women's health and quality of life<sup>1,2</sup>. An increase has been observed in the number of health problems in women all over the world, such as cardiovascular disease, cancer and diabetes due to prevalent unhealthy behaviours, such as tobacco use, poor dietary habits, inactivity, alcohol abuse, illicit drug use and risky sexual practices<sup>3–5</sup>. Various studies have reported that obesity and physical inactivity among female citizens in the USA and Western countries are the two critical problems needing particular attention<sup>3,6,7</sup>. Physical inactivity and smoking have also been reported to increase the risk of obesity, hypertension, osteoporosis, and non-insulin-dependent diabetes<sup>8–10</sup>.

The World Health Organization (WHO), pronounced the most important causes of such common diseases as cardiovascular disease, Type II Diabetes and cancer to be poor dietary habits and insufficient physical activities. A

restriction in the intake of animal fats, fatty acids, salt and sugar has been suggested, and more fruit, vegetables and physical activities have been advised instead. The WHO recognized that schools play an important role in preventing chronic nutritional diseases through education. The WHO has stated that promotion of health is an essential strategy in primary care, and that schools play an important role in instilling positive behaviour in both students and parents, and therefore these could be ideal settings where programmes set up for health promotion can be applied<sup>1</sup>. In carrying out these strategies behavioural change and promoting good health need to be adapted and perceptual-cognitive processes also need to be stimulated<sup>4</sup>. In this context, women have important roles in motivating behaviour change and being models for both children and other family members<sup>5</sup>. For instance, women are capable of instilling positive behaviour in their children regarding eating habits, physical activities and hygiene<sup>1,4</sup>. For this reason, it is essential for women to be equipped with positive health behaviour, and for women-oriented health promotion programmes to be established<sup>7,11</sup>. When these programs are developed

it is also necessary to know the health behaviours and educational needs of the group of women who will participate in the program. According to the literature women have some health behaviours that they do themselves, but the health behaviours that every woman needs to have are different and the information they need to learn is different<sup>3,12</sup>. In order for primary health care providers to relate most effectively with women and to anticipate their needs, it is necessary for them to know these differences that women have in their current health behaviours and educational needs on this subject. This information then is used in planning more effective communication and interventions<sup>4,13</sup>.

The number of women in Turkey, a developing country, is approximately 33 million, 36% of the total number of women are adults (19–44 years of age), 15% are middle aged (ages 45–64) and 3% are 65 years and above<sup>14</sup>. The mortality rate for mothers is 38.3 in 100,000. It is reported that 19.4% of women are illiterate and only 3.2% have the benefit of higher education. Such factors as marriages arranged at young ages and pregnancy are directly related to human health, delivery and puerperium greatly contribute to the development of health problems in the early period of motherhood<sup>15</sup>.

Health-related policies in Turkey tend to focus on secondary health care services, and for this reason primary health care services are far from being satisfactory. The existing few health care services have focused on mother-child health care. However, because of unhealthy lifestyles the incidence of hypertension, cardiovascular disease and cancer is much higher in women. In Turkey 12–18% of women have hypertension, another 3.0–6.6% has cardiovascular diseases, and still another 3.5–5.0% are diabetic. The incidence of cancer is 20.6 in 100,000<sup>16</sup>.

A limited number of studies into healthy behaviours exhibited by women in Turkey have disclosed the fact that 30% of females are active smokers, 44% of them are obese, and that only 10% of them participate in physical activities<sup>17,18</sup>. There are no known health promotion programmes oriented towards improving healthy behaviours in Turkey. In particular, the percentage of uneducated women or those with low incomes who read health-related books is low; moreover, they do not go to health care centres or attend health education programmes as frequently as would be expected<sup>19</sup>. Primary healthcare providers have investigated ways to encourage women to attend health promotion programmes. They have concluded that school-based program could be effective, because at least one of the children of adult women attends an elementary school and they regularly participate in sessions for parents held in schools. Also, there is one elementary school for every 10,000 persons. As a result, researchers have concluded that elementary schools could be ideal settings for women-oriented health promotion programmes. However, there is a need for describing health behaviour of women, as well as a need for health education, before these programmes can be put into practice. The present descriptive study is the first step of

a school-based programme meant to raise awareness of health promotion in women.

The specific study questions were:

1. What are the healthy behaviours of Turkish women?
2. What are the factors influencing healthy behaviours of women?
3. What are the educational needs about healthy behaviours of women?

## Materials and Methods

### *Design*

This study was planned as a descriptive study for the purpose of determining the healthy behaviours of Turkish women, their educational needs on the subject and the influential factors.

### *Research setting*

The research setting was an elementary school in Beykoz, a town in Istanbul province with a population of 210,832. Both school managers and staff were willing to take part in our study. There was a spacious room where seminars on education programmes could be given. The school served a population of approximately 10,000 of whom 1500 were children attending this school. Though the location the school was situated in is an urban area, the water, electricity, heating and sewage system services were of inferior quality. On the whole, families residing in the area either had low incomes or were immigrants coming from rural parts of Turkey. There was only one health care clinic, a mother-child health and family-planning centre, and one state hospital at a distance of three kilometres. Data were obtained between January–June 2005 and September–December 2005.

### *Sample*

The plan was to include the mothers of all 1500 students attending the elementary school in the research. However 720 children had two or more siblings. For this reason the research group was comprised of 780 women. Of these women 468 agreed to participate in the study (participation rate of 60%). All of the women spoke Turkish and were Muslim.

### *Procedure*

In the first stage, an informative presentation was given to school managers pertaining to the purpose and stages of the present study. In Stage 2 the mothers were informed through 14 informative sessions, which coincided with the days on which parents normally attended parent-teacher meetings to talk about the progress of their children. The participants were thoroughly informed about the purpose, methods and benefits of the present study. All the questions raised by the participants were answered with utmost care. Also, they were reassured that any data relating to them would be kept confidential. All the mothers expressed their willingness to

take part in the present study. Questionnaires prepared for the study were filled during individual interviews. The mothers, each of whom was interviewed for about half an hour, gave their verbal consent. Researchers kept their study results and data in their own institutions for security purposes.

## Instrument

### *Healthy behaviours questionnaire (HBQ)*

The Healthy Behaviours Questionnaire (HBQ) was developed based upon the Health Promotion Model (HPM). The HPM was initially developed by Pender in the early 1980's and was revised in 2002. Pender suggests the HPM as a complementary counterpart directed at increasing the level of well-being and self-actualisation of an individual or group. The HPM is applicable to any health behaviour in which threat is not proposed as a major source of motivation for the behaviour. The HPM is composed of three major components: individual characteristics and experiences, behaviour-specific cognitions and affect, and behavioural outcome. Individual characteristics and experiences include prior related behaviour and personal factors. Behaviour-specific cognitions and affect include perceived benefits of actions, perceived barriers to actions, perceived self-efficacy, activity-related effect, interpersonal influences, and situational influences. Behavioural outcome includes health-promoting behaviour. According to the model, participation in health promoting behaviour is concerned with the likelihood of implementing health promoting actions as viewed<sup>4,20</sup>.

The HBQ was developed after reviewing research conducted with HPM as the foundation<sup>4,19,20–22</sup>. The HBQ has three sections. In the first section, there are eight items about individual's characteristics. Among the individual items were age, education, occupation, social insurance, level of income, level of comfort in living environment, distance from the nearest health care centre and having a chronic disease. Two of these items, level of income and level of comfort in living environment, were evaluated on a 5-point Likert-type scale, which included subjective evaluations of the women. Level of income was evaluated with the following question: »How do you evaluate your current level of income?« and level of comfort in living environment was evaluated with »Do you find your house comfortable enough in terms of the number of rooms, electrical appliances, furniture and heating?« Scores varied for each of the different answers given: 5 points for »very good«, 4 points for »good«, 3 points for »average«, 2 points for »bad« and 1 point for »very bad«.

In the second section there are 24 items that assess women's healthy behaviours and cognitive-perceptual characteristics, 20 of which are related to healthy behaviour (these items are shown in Table 2). Of these items three are concerning exercise management, five about eating, five about weight-control, three about sleeping, four about smoking and drinking. Each of the healthy behaviour was read to the women and they were asked to

respond as »I agree« or »I disagree«. The questionnaire does not have a total score. Every item is analysed separately. For every healthy behaviour one point was given for an »I agree« response; for every unhealthy behaviour no points were given for an »I agree« response.

There were 4 items to determine cognitive/perceptual characteristics of women relating to health responsibility and self-actualisation. The items about health responsibility were: »Observe my body at least monthly for physical changes/danger signs« and »Read articles or books on health«. The items about self actualisation were: »I care about my health« and »I have an optimistic outlook on life«. The items are supposed to be answered on a four point Likert scale. The items are scored respectively as follows: 1 for »Never«, 2 for »Sometimes«, 3 for »Often« and 4 for »Routinely.« In the analysis a mean is calculated separately for every item. A score of three or more is considered to be positive.

The content validity of the questionnaire was approved by nine experts in health and behavioural sciences. Every expert was asked to evaluate every item for whether or not it adequately defines women's healthy behaviours. A content validity index (CVI) form was given to every expert for rating each item of HBQ. The

**TABLE 1**  
INDIVIDUAL CHARACTERISTICS OF WOMEN (N=468)

Individual Characteristics	
Age distribution (years)	(%)
18–28	15.8
29–38	57.7
39–48	24.1
49 and above	2.4
Range	22–56
Age (X ± SD)	34.6 ± 0.5
Education	
Illiterates	10.9
Elementary school	77.6
High school and university	11.5
Working status	
Working	11.3
Non-working	88.7
Financial status (X ± SD)	3.2 ± 0.7
Life environment comfort (X ± SD)	3.3 ± 0.9
Social health insurance	
Yes	87.0
No	13.0
Distance of the residence of the participants from the nearest health care centre	
0–20 min	60.5
21–40 min	29.7
41 min and above	9.8
Chronic health condition	
Yes	41.5
No	58.5

experts' opinions were recorded by giving a score from 1 to 4 for every item (1 point = not appropriate; 4 points = very appropriate).

The criterion for retaining an item was 92% agreement among the experts at the appropriate or very appropriate level of relevance to the construct<sup>23</sup>. According to the expert opinions minor changes were made in the items and the questionnaire was put in its final form.

### Health education needs questionnaire

The questionnaire developed by the researchers of the present study was composed of nine topics on health and healthy behaviours, as well as an item specifying the day on which the participants wanted to come for the educational programme. Before the questionnaire was developed 20 women from the sample group were selected and in-depth interviews were conducted with the women. The women were asked one open-ended question, »On what subjects about healthy lifestyles would you like to receive education?« The women's answers were immediately recorded and the top nine subjects were determined. These were: exercise management, weight-control, how to quit smoking, stress management, avoiding accidents, child care, family planning, cancers likely to strike and means of protection against them. Each of the female participants was asked to respond to each item as either »I want to be educated on this topic« or »I do not want to be educated on this topic«.

### Data analysis

The data were analysed using the SPSS for Windows (version 11.5 SPSS, Istanbul University, Turkey). Descriptive statistics were used to establish the frequency, range, mean, and standard deviation of healthy behaviour, individual and cognitive/perceptual characteristics and educational needs of the entire study sample. To examine the relationship between healthy behaviours and individual and cognitive/perceptual factors and educational needs; chi-square test and t test were done. 16 items of healthy behaviours and 12 independent variables were subjected to the 120 bivariate analysis. Following the bivariate analysis, we selected the items that had statistically significant associations with the outcome variable for inclusion in multi variable logistic regression analysis.

## Results

### Individual characteristics of women

Table 1 presents the individual and characteristics of the women. The mean age of the women was  $34.6 \pm 0.5$  (range: 22–56) and 57.7% of the women were between 29–38 years. In this study 10.9% of the women were illiterate, 77.6% were elementary school graduates and 11.5% were high school and university graduates. The participants stated that their financial status and level of comfort in living environment as average. The majority had social health insurance (87%). Most (60.5%) of them lived

at a distance of 0–20 minutes from a health care centre. Another 41.5% were determined to have had a well-diagnosed chronic disease for the past 6 months. Of these 14.3% were urogenital diseases, 12.6% depression, 11.3% gastrointestinal diseases, 7.1% asthma, 4.3% hypertension, 3.4% diabetes, 3.2% cardiovascular disease, and 1.3% cancer, respectively.

### Healthy behaviours of women

The findings related to the women's levels of exercise, eating habits, weight-control, sleep and smoking/alcohol/drug use and cognitive-perceptual characteristics are shown in Table 2. The findings revealed that 38.9% of the women did not do any kind of exercise to stay healthy,

**TABLE 2**  
PERCENT OF WOMEN WHO INDICATED AGREE WITH HEALTHY BEHAVIOURS QUESTIONNAIRE ITEMS (N=468)

Healthy Behaviours Items	Agree (%)
<b>Exercise</b>	
I do exercise vigorously for at least 20 minutes three times a week	12.0
I do exercise once a week	36.5
I never do exercise	38.9
<b>Eating</b>	
I usually eat three nutritious meals daily	64.3
I often eat on the run, skipping meals	24.1
I avoid eating too much fat	34.4
I make an effort to eat enough high-fibred foods	26.9
I eat breakfast every day	64.5
<b>Weight-control</b>	
I am about the right weight	40.6
I would like to lose weight	55.8
I am more than 20 pounds over my ideal weight	31.2
I weigh myself at least twice a month and observe my body	41.0
I never weigh	32.5
<b>Sleep</b>	
I usually get a good night's sleep	52.6
I average at least two night's of inadequate sleep per week	21.8
I often have trouble getting enough sleep	20.7
<b>Smoking/Alcohol/Drug</b>	
I regularly smoke cigarettes	15.8
I have at least three drinks that contain alcohol every day	2.1
I avoid drinking too many caffeinated drinks	13.7
I regularly use tranquilizers and similar drugs	5.6
<b>Cognitive/Perceptual Characteristics</b>	
I observe my body at least monthly for physical changes/danger signs (X ± SD)	2.03 ± 1.03
I care about my health (X ± SD)	2.01 ± 0.9
I am optimistic about life (X ± SD)	2.37 ± 0.8
I read articles or books on health (X ± SD)	2.14 ± 0.9

and that 64.5% have a regular breakfast, 32.5% never weigh, 20.7% suffered from insomnia, and 15.8% were smokers.

As to the items related to health responsibility, they went for the choice »Sometimes« when they responded to »Observe my body at least monthly for physical changes/danger signs« (mean  $2.03 \pm 1.03$ ) and »Read articles or books on health« (mean  $2.14 \pm 0.9$ ). They also went for »Sometimes« as the choice for self-actualization related items of »I care about my health« (mean  $2.01 \pm 0.9$ ) and »I have an optimistic outlook on life« (mean  $2.37 \pm 0.8$ ).

The findings showing the relationships between healthy behaviours and individual and cognitive-perceptual characteristics are shown in Table 3. Our study results determined that lack of exercise was higher in the following groups than the others: those aged between 18 and 28 ( $p=0.003$ ), those who worked ( $p=0.001$ ), those who lived far away from a health care centre ( $p=0.000$ ) and those with a chronic disease ( $p=0.000$ ). Moreover, these 4 variables that were significant in bivariate analysis were used in logistic regression analysis, chronic health condition with significant odds ratio was identified (OR:1.87, 95%, CL=1.908–2.515). It was also determined that »Irregular eating habits« was higher in non-working women ( $p=0.04$ ). »Having more than 20 extra pounds« was higher in those with elementary education ( $p=0.02$ ). On the other hand, »I weigh myself at least twice a week« was higher in high school and university ( $p=0.000$ ) and in non-working women ( $p=0.01$ ) in comparison with the other groups. Another finding was that »I suffer from persistent insomnia« ( $p=0.01$ ) and »I regularly smoke« ( $p=0.04$ ) were higher in the 18–28 year old age group than in the other groups. Also, the score for »I care about my health« in non-smokers ( $p=0.04$ ) and »I read articles or books on health« ( $p=0.007$ ) was higher than in the other groups (Table 3).

As to the items related to health responsibility, they primarily answered »Sometimes« when they responded to »Observe my body at least monthly for physical changes/danger signs« and »Read articles or books on health«. They also chose »Sometimes« in response to self-actualisation related items of »I care about my health« and »I have an optimistic outlook on life«.

### *Educational needs of women*

The findings in Table 4 suggest that the women involved in our study were willing to receive education on healthy behaviours, of which »weight-control« was the most desirable. Also, the relationship between educational needs and healthy behaviours was evaluated. A positive correlation was found between the item of »I need to lose weight« and willingness to be educated on weight management ( $X^2=42.08$ ,  $P=0.000$ ). Of the participants 73.3% chose Friday as the most appropriate day for education programmes.

## **Discussion**

This study, which was planned to determine Turkish women's health behaviours, influential factors, and educational needs on the subject, revealed that the majority of the women were in a young age group, elementary school graduates, had a middle level income and had migrated to the city, and had inadequate health behaviours in the areas of exercise, nutrition, weight management, sleep, and cigarette/alcohol/drug use. In addition the results provided information about their educational needs for the development of an example education model.

An evaluation of the healthy behaviours of women regarding exercise revealed that only 12% did regular exercise for 20 minutes three times a week, and 38.9% never did any exercise. The results suggested that 88% of the women did not seem to do any regular exercise. Interestingly enough, these results were not unexpected at the onset of the present study, inasmuch as there are other studies in Turkey reporting that the exercise behaviours of men and women to be poor. Esin reported this rate to be 98% in a similar study<sup>19</sup>. Some other studies conducted in Baltic countries reported that 22–35% of women aged between 35 and 49 were engaged in insufficient physical activities<sup>6</sup>. In agreement with this result, the physical activity level of our study sample was quite low. A comparison made between the factors affecting the exercise behaviours of the participants revealed that young women (18–28) ( $p<0.001$ ), working women ( $p<0.01$ ), women living far from a health care centre ( $p<0.01$ ) and women with a chronic disease ( $p<0.001$ ) did not get enough exercise which were statistically significant (Table 3). Of these four variables, having a chronic disease was determined to be the most important factor accounting for the lack of exercise. According to HPM, having a chronic disease has a positive effect on acquiring and maintaining healthy behaviours. In this study 41.5% of the women were found to have had well-diagnosed health problems for the past 6 months, which was determined to be a very high result for this age group. The rates of hypertension, diabetes and cardiovascular disease were 4.3%, 3.4% and 3.2%, respectively. The relationship between these problems and inadequate physical activities has been addressed in several previous studies<sup>1,3,6,7,24</sup>. Based on this result, it could be speculated that women are more likely to suffer from health problems as they age. In addition, environmental factors adversely affecting exercise behaviours should not be disregarded. Unfortunately, education on exercise in Turkey is limited to physical education lessons in all levels of education. Still worse, many schools do not even have a sports centre. Areas for jogging are not sufficiently available. There are no free sports centres around for people to do exercise in their leisure time. The existing few sports centres only admit paying members, which is why only a small number can benefit.

Evaluation of the eating habits of the participants revealed that they skip their regular meal times (64.3%) and that they had regular breakfasts (64.5%), but they consumed a lot of fatty foods and insufficient amounts of

**TABLE 3**  
HEALTHY BEHAVIOURS QUESTIONNAIRE ITEMS IN RELATION TO DEMOGRAPHIC AND COGNITIVE-PERCEPTUAL ITEMS

HBQ Items	Categories	%, X ± SD	$\chi^2 - t (p)$
No exercise, %	Age group		
	18–28	54.1	
	29–38	33.3	14.02 (0.003)*
	39–48	44.2	
	49 and above	18.2	
No exercise, %	Occupation status		
	working	60.4	11.61(0.001)*
	non-working	36.1	
No exercise, %	Distance from a health care centre		
	10–20 min	29.0	
	21–40 min	54.7	29.70 (0.000)*
	41 min and above	52.2	
No exercise, %	Chronic health status		
	Yes	29.4	12.60 (0,000)*
	No	45.6	
Irregular eating habits skipping meals due to absent-mindedness, %	Occupation status		
	working	13.2	3.90 (0.04)*
	non-working	25.5	
Having 20 extra kilos, %	Education		
	Illiterates	31.4	
	Elementary school	33.6	7.74 (0.02)*
	High school and university	14.8	
Weighing oneself at least twice a week, %	Education		
	Illiterates	25.5	
	Elementary school	39.1	22.50 (0.000)*
	High school and university	68.5	
Weighing oneself at least twice a week, %	Occupation status		
	working	24.5	6.72 (0.01)*
	non-working	43.1	
Persistent insomnia, %	Age group		
	18–28	28.4	
	29–38	15.6	10.41 (0.01)*
	39–48	27.4	
	49 and above	27.3	
Regular smoking habits, % smokers	Age group		
	18–28	25.7	
	29–38	14.8	8.22 (0.04)*
	39–48	13.3	
	49 and above	–	
Regular smoking habits, X ± SD smokers	I care about my health	2.28 ± 0.89	2.01 (0.04)**
	non-smokers	2.39 ± 0.89	
Regular smoking habits, X ± SD smokers	I read articles or books on health.	1.87 ± 0.90	2.69 (0.007)**
	non-smokers	2.39 ± 0.91	

\*The  $\chi^2$  test was used, \*\* The t-test was used

**TABLE 4**  
EDUCATIONAL NEEDS OF WOMEN (N=468)

Education topics	Willing to receive education %
Exercise management	48.1
Weight-control	54.9
Smoking-quit tips	31.6
Stress management	44.4
Tips on protection against accidents	38.9
Child care	41.0
Family planning	18.4
Cancers afflicting women and means of protection against cancer	23.5

food with high fibre (Table 2). Some other studies into eating habits of Turkish women reported results in agreement with those of the present study<sup>10,16</sup>. In addition irregular eating habits were found to be statistically higher in non-working women ( $p < 0.05$ , Table 3). According to Turkish customs, Turkish women are responsible for cooking for the other family members, doing the cleaning and other household chores. She is particularly responsible for feeding her child and cooking for her husband. However, non-working mothers do not only cook for themselves<sup>16,17</sup>. What is more, the ingredients of the food they cook vary from region to region. For instance, while the diet in the Mediterranean region of Turkey is characterized by a high consumption of olive oil, vegetables and fruit, the diet in Southern Turkey is composed of more meat and foods rich in saturated fat<sup>9,10</sup>.

Healthy behaviours of weight-control in the study group were found to be poor. Only 40.6% of the women had an ideal weight. Of these women 31.2% were more than 20 kilograms overweight, and only 41% examined their bodies. Another finding was that having more than 20 extra kilograms was higher in women with only an elementary education ( $p < 0.05$ ), regular weight-control was higher in women with higher education ( $p < 0.001$ ) and non-working women ( $p < 0.05$ , Table 3). Two national studies on the subject under discussion, Turkish Adults Hearth Disease and Risk Factors Study and Turkish Diabetes Epidemiological Study, determined obesity rates to be 43% and 30%, respectively<sup>9,17</sup>. However, this was not an unexpected result, because the dietary habits and exercise behaviours of the women involved in the study were poor. Interestingly, sleep-related behaviours of the participants were far more regular than the other behaviours they had acquired. Insomnia was found to often afflict women between 18–28 years old ( $p < 0.05$ , Table 3).

The present study found the level of smoking in women to be low. The smoking rate of women in Turkey has been reported to be 20%<sup>18</sup>. However, the fact that the smoking rate was found to be statistically high among young women was assumed important in consideration

of negative would-be effects of smoking. Also, the average score of the items »I care about my health« ( $p < 0.05$ , Table 3) and »I read articles and books on health« ( $p < 0.01$ , Table 3) in non-smokers was higher than that of smokers. According to HPM, there is a positive correlation between health responsibility and positive health-related behaviour, which seems to be in agreement with our study results<sup>4</sup>. The level of alcohol consumption was found to be low in the participants (2.1%). Another study similar to the present one found this level to be 0.1%<sup>25</sup>. Because of the predominant religious dogmas banning drinking in the Turkish population, drinking is not common among women.

Evaluation of the need for education on healthy behaviours of women showed that weight and exercise management were the most desirable ones, which was an expected result considering the fact that most of the participants complained about being overweight. This was deemed as an indication that the obese women had high levels of self-awareness and that they could acquire positive healthy behaviours with ease. The ideal day for sessions was chosen to be Friday. This was an important finding for the researchers, because the researchers used to conduct educational programmes on health only on Wednesdays, which was the reason for poor attendance in previous studies. This result could prompt future studies to consider the importance of determination of the most suitable fixed day for the participants.

## Conclusion

In conclusion the women who participated in the present study were not equipped with enough positive healthy behaviours, and they needed to be educated on healthy behaviours without delay. We, therefore, suggest that the results of the present study could be generalized for further studies into the same subject and shed light on prospective research into women with different socio-economic backgrounds.

## Practice implication

The results of the present study, which determined healthy behaviours of women between 22 and 56 with middle socio-economic backgrounds and their educational requirements, formed the basis for our health promotion programmes. The researchers initially aimed to prepare a programme promoting good eating habits, weight-management and exercise-management, which were determined to be wanted most by the study participants, and devised the following programme (Appendix).

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## ZDRAVO PONAŠANJE I POTREBE ZA EDUKACIJOM MEĐU TURSKIM ŽENAMA: ŠKOLSKO ISTRAŽIVANJE

### SAŽETAK

Ovo deskriptivno istraživanje planirano je kao prvi stadij školskog programa za promociju zdravog ponašanja kod turskih žena, nakon procijene njihovog zdravstvenog ponašanja i njihove potrebe za odgovarajućom edukacijom. Uzorak se sastojao od 468 majki učenica osnovne škole u gradu Istanbulu. Podaci su dobiveni pomoću intervjua te korištenjem tri odvojena upitnika. Model promicanja zdravlja (Health Promotion Model) bio je temelj upitnika za ocjenjivanje zdravih ponašanja. Prosječna dob bila je  $34,6 \pm 0,5$  i 10,9% sudionica bilo je nepismeno. Većinom su dolazile iz obitelji srednjih primanja i 41,5% imalo je bar jednu kroničnu bolest. Ustanovljeno je da se sudionice ne ponašaju zdravo, što se tiče vježbanja, prehrambenih navika i kontrole tjelesne težine. Većina (88%) ih nije vježbala redovito. Kronične bolesti bile su čimbenik od najvećeg značaja (OR: 1,87; 95%, CL=1,908–2,515). Sudionice su posebno istakle da bi voljele biti educirane o kontroli tjelesne težine. Istraživači prilažu program, osmišljen za žene, o vježbanju, prehrambenim navikama i kontroli tjelesne težine.

## Appendix: Nutrition and Weight Management Health Promotion Program

Number of participants: 20

Duration: Ten-week (Every Friday)

Date: September-December 2006

Location: The seminar room of the school

Specific objective: To achieve positive behavioural changes in exercise, eating habits and weight management.

Didactic materials or audio-visual mass media: Slides, videotapes, educational stickers, charts, displays, posters, films, aerobic practices, natural foods, kitchen elements.

Week	Topics
Week 1	Orientation and diagnosis <ul style="list-style-type: none"><li>– Purposes, objectives and content of the programme</li><li>– Diagnosis of the individuals and forming purposes</li></ul>
Week 2	Vital points of nourishment <ul style="list-style-type: none"><li>– Eating habits and their relevance to health</li><li>– Food and calories</li><li>– Essential food</li><li>– Healthy eating behaviours</li><li>– Adjustment of calorie-intake</li></ul>
Week 3	Factors affecting eating behaviours <ul style="list-style-type: none"><li>– Biological factors</li><li>– Psychological factors</li><li>– Socio-cultural factors</li><li>– Environmental factors</li><li>– Factors affecting eating habits of the participants</li></ul>
Week 4	Exercise management <ul style="list-style-type: none"><li>– Determination of exercise behaviours of the participants</li><li>– Types of exercises</li><li>– Achievement of exercises</li><li>– Exercise records</li></ul>
Week 5	Daily eating plan <ul style="list-style-type: none"><li>– Tips on doing shopping</li><li>– Planning of meal times</li><li>– Techniques for healthy cooking (grilling, boiling, roasting vb.)</li></ul>
Week 6	Behaviours and attitudes associated with management of eating habits <ul style="list-style-type: none"><li>– Modification of behaviours and techniques for stress management</li><li>– Weight-control</li><li>– The effect of social environment</li></ul>
Week 7	Image of the body <ul style="list-style-type: none"><li>– Built-up of the body and its effect on appearance</li><li>– Being in harmony with the body</li></ul>
Week 8	Specific eating locations <ul style="list-style-type: none"><li>– Eating at restaurants</li><li>– Eating at holiday resorts and parties or receptions</li><li>– Eating while travelling</li></ul>