

## Health Promotion Behaviors of Turkish Women

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### Abstract

**Background:** Exploration of health promotion practices of women will help community nurses when educating and counseling these individuals about health-promoting activities. **Aim:** The aim of this study was to describe health-promoting life-style behaviors of 210 Turkish women and to compare them with those reported from other published studies that used Health-Promoting Life-style Profile. **Methods:** Sample of this descriptive study included 210 women aged 15-65 years. Data were collected using a questionnaire about socio-demographic features developed by the investigators and Health Promoting Lifestyle Profile. T test and Anova test were used for group comparisons. **Results:** The women included in this study got the highest scores of interpersonal support and self-actualization. However, their total Health Promoting Lifestyle Profile and other subscale scores were generally the same as those reported from other studies and they had the lowest scores of exercise. Education made a statistically significant contribution to exercise, health responsibility and stress management scores ( $p<0.01$ ). Women with broken marriages need more interpersonal support ( $p<0.05$ ). Low family income has a negative effect on health behaviors of women ( $p<0.01$ ). **Conclusion:** In view of the results, we can suggest that community nurses should be aware of culture, beliefs, and values of the community for which they provide care and make effort to promote health behaviors of women. **Key Words:** Culture, Women, Health promotion, Public health nursing, Women's health.

### Türk Kadınlarının Sağlığı Geliştirme Davranışları

**Giriş:** Kadınların sağlığı geliştirme davranışlarının araştırılması halk sağlığı hemşirelerine sağlığı geliştirme aktivitelerine yönelik eğitim ve danışmanlık yaparken yardımcı olacaktır. **Amaç:** Bu çalışmanın amacı, 210 Türk kadınının sağlıklı yaşam biçimi davranışlarını tanımlamak ve onları sağlıklı yaşam biçimi davranışları ölçeğinin kullanıldığı diğer çalışmaların sonuçları ile karşılaştırmaktır. **Yöntem:** Bu tanımlayıcı çalışmanın örneklemini 15- 65 yaşları arasındaki 210 kadın oluşturmuştur. Veriler araştırmacılar tarafından oluşturulan sosyodemografik özellikler anketi ve sağlıklı yaşam biçimi davranışları ölçeği kullanılarak toplanmıştır. Grup karşılaştırmaları için t testi ve Anova testi kullanılmıştır. **Bulgular:** Çalışmaya katılan kadınlar kişilerarası destek ve kendini gerçekleştirme alt ölçeklerinden yüksek puanlar aldı. Buna rağmen, sağlıklı yaşam biçimi davranışları ölçeği toplam puanları ve diğer alt ölçeklerin puanları genellikle diğer çalışmalarda belirtilen değerlerle aynı idi ve kadınların egzersiz puanları düşüktü. Eğitim düzeyi egzersiz, sağlık sorumluluğu ve stress yönetimi puanlarında istatistiksel olarak anlamlı bir katkı sağladı ( $p<0.01$ ). Evliliği bozulan kadınların daha fazla kişilerarası desteğe ihtiyacı vardı. ( $p<0.05$ ). Aile gelirinin düşük olması kadınların sağlık davranışları üzerinde olumsuz bir etkiye sahipti ( $p<0.01$ ). **Sonuç:** Sonuçlara bakıldığında, kadınların sağlık davranışlarını geliştirmek ve gerekli bakımı sağlamak için halk sağlığı hemşirelerinin toplumun kültürü, inançları, ve değerlerini bilmesi gerektiğini önerebiliriz.

**Anahtar Kelimeler:** Kültür, kadın, sağlığı geliştirme, halk sağlığı hemşireliği, kadın sağlığı

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There are not enough data about health behaviors of Turkish women. Culture influences one's beliefs, values, customs, personal health, health behaviors and health promotion behaviors. Therefore, nurses must assess and identify the community's / client's cultural beliefs (Edelman and Mandle, 1994).

Citizens of Turkey are predominantly Muslim. About 98 percent of the population belongs to Sunni and Shiite sects of Islam, with the Sunni forming the overwhelming majority. Turks predominate ethnically, and Kurdish, Arabic, Greek, Circassian, Georgian, Armenian and Jewish communities of varying sizes complete the ethnic mosaic of rich and complex culture of Turkish society. Turkey has a highly heterogeneous social and cultural structure. There are sharp contrasts between population groups. The "modern" and "traditional" exist simultaneously within the society. Attitudes to life are reminiscent of those in the western world, especially in the inhabitants of metropolitan areas. On the other hand, people living in rural areas are more conservative and religious. Family ties are strong and influence the formation of values, attitudes, aspirations and goals. Although laws are considered to be quite liberal on gender equality, patriarchal ideology still may characterize the social life. Health is always a strongly held value in society (Baltaş, 2000).

One of the two variables which influence health is culture and the other one is the psychology of a person.

The former is social and the latter is personal. Interacting with these variables, cognitive, emotional, behavioral and social-cognitive characteristics are translated into beliefs and knowledge in the psychology of a person.

Emotionally, cultural norms and values appear as attitudes. On the other hand, customs determine behaviors. The fact that cultural concepts, values and customs are reflected as beliefs and behaviors into the psychology of a person determines and directly influences health behaviors. Having modified and then reflected into the psychology, the variables nutrition, stress management and exercise protect and improve health (Baltaş, 2000).

Considered as cognitive-perceptual variables in the Health Promoting Model are importance of health, perceived self-efficacy, perceived health control, perceived health status, perceived benefits of health promoting behaviors and perceived health promoting factors and perceived barriers to action (Jhonson, Ratner, Bottorff and Hayduk, 1993). The cognitive-perceptual factors in the Health Promoting Model are the main motivational mechanisms for acquisition and maintenance of health promoting behaviors.

Depending on the importance placed on health, individuals make effort to promote their own health. If they are not able to perceive the presence of their health problems, they do not spend sufficient effort to improve their health (Delaney, 1994). Esin (1994). it has been found that just as the importance placed on health increases so do health promoting behaviors in Turkish women.

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Health control of an individual is considered in three levels, i.e. intrinsic, extrinsic and chance effect. Intrinsic control reflects the responsibility level of an individual on his/her own health (Delaney, 1994). A study found a positive relation between health promoting behaviors and intrinsic health control and a negative relation between strong extrinsic control and chance effect (Pender, Walker, Sechrist and Stromborg, 1990). Duffy, Rossow, and Hernandez (1996) in their study on Mexican women living in America found that 2.3% and 32% of variance for healthy life style behaviors were extrinsic and intrinsic health controls respectively and that these variables affected healthy life style behaviors (Duffy, Rossow and Hernandez, 1996). Compatible with the aforementioned finding, Esin (1994) reported that just as intrinsic health control increased so did healthy life style behaviors in Turkish women.

Kağıtçıbaşı claimed that boys and girls go through a very different socialization in Turkey (Kağıtçıbaşı, 1982). The boys are expected to be more independent, responsible, self-confident and freer. However, the girls are exposed to external authority more than the boys. Turkish women, who are less educated, communicate less, are less powerful to make decisions about their family and therefore believe in extrinsic control more than the men, seem to be more traditional than men in Turkey.

The people who defined health as well-being had higher scores of health promotive behaviors than those who defined health as lack of diseases and Pender et al emphasized that general well-being is a motivational source to improve health status (Pender et al. 1990; Pender, Barkauskas, Hayman, Rice and Anderson, 1992). Esin (1997) found out that people who perceived their health as very good had higher score of health responsibility, nutrition and stress management than those who perceived their health as bad. Gözüm and Tezel (2000) also found that perception of health as good and very good affected healthy life-style behaviors. Tokgöz (2002) in his study on female lecturers found a statistically significant relation between perception of health and healthy life-style.

The most important factor to explain the possibility to apply and continue healthy life behaviors is the difference between perception of barriers and perception of benefits. The perception of benefits becomes higher than that of barriers, the possibility to exercise healthy life behaviors increases (Baltaş, 2000; Heiss and Walden, 2000). The more positive life experiences and the lesser the expectations to encounter barriers, the higher the intentions to exercise healthy life style behaviors. Perceived behavior control has a direct impact on the health behavior which will appear for two reasons. First, an individual with a higher perception of health control on his behaviors preserves his intention and experiments more and shows greater effort than the one with a lower perception of health control. Second, the individual with a higher perception of health control may foresee potential barriers which will interfere with health behaviors and can be prepared for the barriers. If the three variables concerned can have a positive effect on perception of individual attitudes, subjective norms and behavior control, application of health behaviors may result (Baltaş, 2000).

Eating habits vary from country to country and vary with culture. The women in rural areas of Turkey have four or more children. The children are breastfed for a long

time. Naturally, the women require more food. Another reason for insufficient and imbalanced diet is the traditions about serving food, which dictates that the men must be served first. All members of families in rural areas mostly eat their food in one plate. Also, the men eat first and the women take their turns to have food. The reason why the women living in urban areas consume excessive amounts of food rich in calories is that they eat pastries at special meetings called "gün" in Turkish (like potluck parties). Their physical activities are also quite limited, and they give fewer births and breastfeed for shorter period of time than those in the rural areas. Excessive consumption of food by the women living in urban areas causes higher rates of obesity in the cities (Tezcan, 1982).

In almost all Islamic countries, the traditional and patriarchal family structure in rural areas has shown a strong resistance to effects of industrialization, which has made the distinction between urban and rural life-styles clearer. Obviously, the patriarchal family structure in rural areas, where the traditions are strong, affects health behaviors. Industrialization and urbanization have increased the number of nuclear families in Turkey. Tokgöz reported that university teachers from nuclear families had higher exercise scores than those from extended families (Tokgöz, 2002). Akça (1998) also found a statistically significant relation between family types and HPLP scores.

One of the most important health behaviors is doing exercise on a regular basis, which shows variation from culture to culture. In fact, Jordanian woman had the lowest mean scores of self-actualization and exercise (Al Ma aith and Haddad, 1999). Duffy et al. (1996) reported that Mexican-American women got the lowest subscale scores of exercise. In Choudhry's study on Indian women (Choudhry, 1998) one woman said "there is a lot of work to do in our house even if there is no exercise". Similarly, a few studies from Turkey revealed that women got the lowest scores from the exercise subscale (Esin, 1994; Heiss and Walden, 2000).

Several studies found some sociodemographic variables related to the practice of health behaviors (Ahijevych and Bernhard, 1994; Esin, 1994; Al Ma aith and Haddad, 1999; Resnick, 2003).

Volden and et al. (1990) reported that age and marital age and education had an impact on healthy life style behaviors and Duffy et al. (1996) reported that age and education had an impact on healthy life style behaviors. Kuster and Fong (1993) reported that age, education, income, length of residence in the United States and perceived health status correlated significantly and positively with the Spanish HPLP total and subscale.

Ahijevych and Bernhard (1994) reported that several sociodemographic variables such as age, length of education, the number of children under 18 years old, income and employment/unemployment were statistically significant, but there was a low correlation with HPLP. Marital status was not significantly related to HPLP.

Al Ma'aitah and Haddad (1999) reported statistically significant differences in health promoting life-style behaviors between married and single women. But another study reported that marital status was not statistically significant related to HPLP (Ahijevych and Bernhard, 1994).

Education and socio-economic status affect health behaviors. In fact, in Turkey people who have a high

socio-economic status hold themselves responsible for their diseases, while those who have a low socio-economic status hold themselves less responsible, and they think that their illnesses are due to causes beyond their control (Baltaş, 2000). Wang (2001) found that social class has a direct influence on health-promoting life-style.

Education is considered as an important tool which may cause considerable changes in women's roles and status in society. Esin (1994) found a direct relation between education level and health behaviors among Turkish women and that as income increased so did HPLP scores. Turkish women have been found to have a moderate level of health behaviors (Esin, 1994; Tokgöz, 2002). Nursing interventions such as education and counselling may help the women who exhibit traditional behaviors to perceive health, increase perceived self-responsibility, self-efficacy and contribute to health promoting behaviors. Indeed, Chen (1999) reported that counselling about health promotion increased the scores of nutrition, exercise, health responsibility, interpersonal support, self-actualization and stress management.

The purpose this study was to describe health-promoting life-style behaviors among Turkish women and to compare results with those of other published reports. Exploration of health promotion practices of Turkish women will help community nurses when educating and counseling these individuals about health-promoting activities.

## Methods

### *Type*

A descriptive research design was used in this study.

### *Sample*

The population of this study included women aged 15-65 years and living in the territories of Esentepe District Clinic where people with various socio-economic statuses migrating from different parts of the country live. The region has four quarters and thirty streets and is near the city center and easy to arrive. Nursing students from Dokuz Eylül University have their practices at this clinic. We chose this region as the population of the study because we had information about the families and it was easy to arrive. Our study was performed with cluster sampling. The 30 cluster was designed in the area by using the streets populations and each cluster had 7 women. The house numbers were used for determining the 7 women for every cluster and interviews were began from the first house number and then other house numbers respectively. We interviewed with the women who are at home and agreed to participate to the study and after arrived 7 women we finished the data collecting for each cluster. So, 210 women occurred our study sample. Women mean age of  $37.6 \pm 0.8$  years. 37.6% of the women were primary school graduates and 26.2% high school graduates. 87.7% of the women were employed and 86.7% married. The

mean number of children was  $2.5 \pm 1.3$ . 89% of the women were from a nuclear family. Almost half of the women (49%) had a moderate income.

### *Data collection*

Data collection took place between February and May 2004 and data were collected using a questionnaire about socio-demographic features developed by the investigators and Health Promoting Lifestyle Profile developed by Walker et al (1996). The scale is about health promoting behaviors and composed of 48 items and six subscales. The subscales are self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management. The total score reflects the healthy life style behavior. Four more items were added to the scale and now the scale is composed of 52 items (Walker and Hill-Polerecky, 1996).

Each respondent is asked to rate each item on Likert's 1-to-4 response scale: where: 1= never, 2= sometimes, 3=often and 4= regularly. The lowest and highest scores are 52 and 208 respectively. The high scores for total scale and subscales obtained by the summing of the item scores suggest the positive healthy life-style behavior.

Perceived health status was measured by responses to the single questions, "How would you rate your overall health when compare of the same age?" using a 4-point response format ranging from poor to excellent (Tokgöz, 2002).

Data were collected by nursing students and a research assistant at face to face interviews. The nursing students were trained for interview techniques and comprehension of the questions. The interviews were conducted in the subjects' homes and lasted for 20-30 minutes.

### *Validity and reliability*

Alpha coefficient reliability of the Health Promoting Lifestyle Profile scale is 0.92 and alpha coefficient reliability of the subscales varies from 0.70 to 0.90.

The reliability of the scale for Turkish population was tested by Akça (1998). Alpha coefficient reliability of the total scale was 0.90 and subscales were between 0.52 and 0.81 (Akça, 1998). The alpha coefficient reliability was 0.89 and the alpha coefficient reliability of the subscales 0.57-0.85 in this study.

### *Ethical considerations*

Interviewers explained the purposes and procedures of the study to the subjects. The subjects were informed that they had the right to refuse to participate in the study at any time. Subjects were also informed that data which would be obtained would be confidential. Approval was obtained from the ethical committee of the nursing school and the director of Esentepe Primary Health Center.

### *Data analysis*

Data were analyzed using SPSS package program. Statistical analyses were made with t test, One-Way Anova and Tukey analyses.

## Results

Table 1. Mean HPLP Scores Reported from Various Studies

	Total	Self-actualization	Health Responsibility	Exercise	Nutrition	Interpersonal Support	Stress Management	N
Mexican-American Women	2.7 (0.46)	3.1 (0.55)	2.3 (0.46)	1.9 (0.79)	2.5 (0.64)	3 (0.57)	2.5 (0.58)	397
Duffy et al (1996)								
African-American Women	2.5 (0.45)	2.8 (0.53)	2.3 (0.58)	1.9 (0.65)	2.3 (0.56)	2.9 (0.59)	2.4 (0.55)	187
Ahijevych et al(1994)								
Jordanian Women	2.5 (0.37)	2.8 (0.51)	2.1 (0.55)	1.4 (0.49)	2.7 (0.58)	2.7 (0.51)	2.5 (0.55)	512
Al Ma'aitah (1999)								
Lecturers in Turkey	2.5 (0.83)	2.8 (0.78)	2.3 (0.80)	1.9 (0.83)	2.5 (0.99)	2.9 (0.74)	2.4 (0.84)	282
Tokgöz (2002)								
This study (Turkish Women Esentepe Region)	2.5 (0.36)	2.9 (0.47)	2.4 (0.56)	1.6 (0.62)	2.6 (0.47)	3 (0.42)	2.6 (0.49)	210

The total HPLP score was  $2.5 \pm 0.36$ . The subjects got the highest subscale scores from interpersonal support ( $3.0 \pm 0.42$ ) and self-actualization ( $2.9 \pm 0.47$ ). The mean scores of nutrition, stress-management and health responsibility were  $2.6 \pm 0.47$ ,  $2.6 \pm 0.49$ , and  $2.4 \pm 0.56$  respectively. The subjects got the lowest score of  $1.6 \pm 0.62$  from exercise. Table 1 compares mean HPLP scores obtained by Turkish women with those reported from other studies. Mexican-American women had the highest HPLP scores ( $2.7 \pm 0.46$ ). However, the mean HPLP scores reported from the other studies are nearly the same. The highest score of self-actualization was obtained by Mexican-American women ( $3.1 \pm 0.55$ ) followed by Turkish women who live in Esentepe, Turkey ( $2.9 \pm 0.47$ ). The highest score of health responsibility was obtained by

Turkish women from Esentepe, Turkey ( $2.4 \pm 0.56$ ), while the lowest score was obtained by Jordanian women, who are Muslim ( $2.1 \pm 0.55$ ).

All studies listed in Table 1 revealed that women got low scores of exercise. The lowest scores of exercise were obtained by Jordanian women ( $1.4 \pm 0.49$ ) and the women from Esentepe, Turkey ( $1.6 \pm 0.62$ ). The highest mean scores of interpersonal support was obtained by Turkish women (Tokgöz,  $2.95 \pm 0.74$ , this study,  $3 \pm 0.42$ ) and Mexican-American women ( $3 \pm 0.57$ ) (Table 1). The difference between socio-demographic features and scores of healthy life style behaviors is shown in Table 2. There was a statistically significant difference in self actualization ( $F=3.161$ ,  $p=0.009$ ) and stress management ( $F:2.690$ ,  $p:0.022$ ) between age groups (Table 2). Further

analysis showed that the statistically significant difference between age and self actualization resulted from the age groups of 15-24 years and 65 years and more.

**Table 2 . Between Socio –Demographic Features of Women and Their HPLP Scores**

	Total	Self-actualization	Health Responsibility	Exercise	Nutrition	Interpersonal Support	Stres Management
<b>Age</b>							
F	0.725	3.161	0.681	1.408	2.134	1.456	2.690
p	0.605	<b>0.009**</b>	0.639	0.223	0.063	0.206	<b>0.022*</b>
<b>Education</b>							
F	5.417	1.818	4.684	14.508	1.086	0.506	3.620
p	<b>0.000***</b>	0.127	<b>0.001***</b>	<b>0.000***</b>	0.364	0.731	<b>0.007**</b>
<b>Marital Status</b>							
t	-1.002	1.177	-1.865	-3.091	-1.342	1.649	-0.068
p	0.318	0.241	0.064	<b>0.002**</b>	0.181	0.101	0.946
<b>Region</b>							
F	1.483	0.971	2.628	6.018	0.484	0.614	1.416
p	0.186	0.446	<b>0.018*</b>	<b>0.000***</b>	0.820	0.719	0.210
<b>Type of Family</b>							
F	0.865	1.382	0.658	0.750	0.206	3.871	2.749
p	0.423	0.253	0.519	0.474	0.814	<b>0.022*</b>	0.066
<b>Income</b>							
F	10.285	6.510	8.574	5.755	2.365	4.202	4.986
p	<b>0.000***</b>	<b>0.002**</b>	<b>0.000***</b>	<b>0.004**</b>	0.096	<b>0.016*</b>	<b>0.008**</b>
<b>Perceived Health Status</b>							
F	4.372	5.598	1.488	3.259	0.952	1.657	5.965
p	<b>0.005**</b>	<b>0.001***</b>	0.219	<b>0.023*</b>	0.416	0.177	<b>0.001***</b>

\* The mean difference is significant at the 0.05 level

\*\* The mean difference is significant at the 0.01 level

\*\*\* The mean difference is significant at the 0.001 level

There was no difference between *region* and HPLP scores, while the difference between region and health responsibility (F:2.628, p:0.018) and exercise (F:6.018, p:0.000) scores was statistically significant (Table 2). Based on a further analysis, the difference is attributed to women who live in the western parts of the country.

The difference between the *type of family* and HPLP scores was not significant; however, the difference between the type of family and interpersonal support was statistically significant (F:3.871, p:0.022) (Table 2). The difference is attributed to broken marriages.

The difference between *family income* and total HPLP scores (F:10.285, p:0.000), self-actualization (F:6.510,

p:0.002), health responsibility (F:8.574, p:0.000), exercise (F:5.755, p:0.004), interpersonal support (F:4.202, p:0.016) and stress management (F:4.986, p:0.008) was statistically significant (Table 2). Further analysis, showed that the difference between family income and total scale scores, self-actualization, health responsibility, exercise, interpersonal support and stress management scores resulted from the families with low income.

There was a significant difference between perceived health status and total HPLP scores (F:4.372, p:0.005) and self-actualization (F:5.598, p:0.001), exercise (F:3.259, p:0.023) and stress management (F:5.965, p:0.001) scores (Table 2). Further analysis showed that the

difference between perceived health status and total scale scores and stress management and exercise scores resulted from the women with a very good perceived health, but the

### Discussion

We have found that women included in this study have moderate health behaviors, consistent with the results from the other studies (Esin, 1994; Tokgoz, 2002). Duffy et al. (1996) reported that Mexican-American women had higher levels of health behaviors. These high levels of health behaviors may have resulted from the fact that the study sample included women working in the health sector. Ahijevych and Bernhard (1994) and Al Ma'aitah and Haddad (1999) obtained comparable results (Table 1). In the light of the results obtained in this study and other studies on Turkish population, it can be concluded that Turkish women have moderate health behaviors except for interpersonal support and exercise. In fact, the moderate health behaviors of Turkish women may have resulted from effects of Turkish culture and social structure on health behaviors. Turkish culture requires that women shoulder numerous responsibilities when they are married. These responsibilities prevent them health behaviors. The leading cause of poor health behaviors is traditional roles of Turkish women. Compared to Turkish men, Turkish women are under extrinsic control, which results from sex discrimination in Turkish society (Kağıtçıbaşı, 1982). Women's strong belief in extrinsic control interferes with their decisions about health behaviors.

*Self-actualization* determines the meaning of life, ability for improvement and to what extent individuals know and are satisfied with themselves (Al Ma'aitah and Haddad, 1999; Tokgöz, 2002). We found high scores of self-actualization, consistent with the results of the studies by Esin (1994) and Tokgöz (2002) from Turkey (Table 1). Duffy et al. (1996) and Al Ma'aitah and Haddad (1999) also found high scores of self-actualization (Table 1). Depending on a nation's culture, respect for women and societies' expectations affect women's behaviors and determine especially health behaviors. Traditions require that women, especially those who are financially dependent fulfill their feminine roles and be mothers and thus they survive and feel good and healthy (Choudhry, 1998; Al Ma'aitah and Haddad, 1999).

*Health responsibility* is the term used to describe responsibility of individuals for their own health and to what extent they fulfill this responsibility (Tokgöz, 2002). In this study, the women got low scores of health responsibility, concurrent with the literature (Duffy et al. 1996; Al Ma'aitah and Haddad, 1999; Wang, 1999) (Table 1). It may be that the women have low levels of education and that they do not consider health controls important. Moreover, they do not have health insurance and health services are costly.

Insufficient *exercise* is widespread among women although life-styles which may be effective on health promotion vary with communities. In this study, the subjects got low scores of exercise, concurrent with the literature (Ahijevych and Bernhard, 1994; Duffy et al. 1996; Al Ma'aitah and Haddad, 1999; Tokgöz, 2002). In western countries exercise was considered as jogging, weight lifting or swimming, while in developing countries where life-styles and culture differ from those in the western countries going to school or work on foot, doing

difference between perceived health status and self-actualization resulted from the women with a very bad perceived health.

housework and job required activities are considered as exercise (Al Ma'aitah and Haddad, 1999).

We found that *nutrition scores* of women were higher than their exercise scores (Table 1), consistent with the literature (Duffy et al. 1996; Al Ma'aitah and Haddad, 1999; Chen, 1999; Tokgöz, 2002). Inadequate and unbalanced nutrition has a strong effect on women's health in Turkey because although the women need additional care with their nutrition during pregnancy and lactation, they continue the same eating habits as before (Tezcan, 1982). Therefore, public health nurses have an important responsibility for protection and improvement of women's health at risk.

*Interpersonal support* does not exert a direct effect on health promoting life-style, though it may lead individuals to think and to make a move (Wang, 2001). In this study, the subjects got the highest scores from interpersonal support. Similarly, Akça (1998) and Tokgöz (2002) reported that the subjects got the highest scores from interpersonal support (Table 1). Ahijevych and Bernhard (1994) and Duffy et al. (1996) also reported high scores of interpersonal support. However, Al Ma'aitah and Haddad (1999) found low scores of interpersonal support (Table 1).

Turkish culture encourages interpersonal support and helping each other. For example, "imece", which requires co-operation without a pay strengthens interpersonal support (TC. Başbakanlık Aile Araştırma Kurumu Başkanlığı, 1997).

We obtained moderate *stress managements* scores, compatible with the results of the study by Esin (1994). However, Tokgöz found low scores of stress management (Table 1), whereas in a study on Muslim women found high scores of stress management (Al Ma'aitah and Haddad, 1999; Tokgöz, 2002) (Table 1). Al Ma'aitah and Haddad (1999) suggested that Islamic culture caused women to identify feminine roles with being a mother and therefore that they may not have felt stress.

It has been found that *demographic variables* have an effect on health promotion and life-style (Ahijevych and Bernhard, 1994; Esin, 1994; Al Ma'aitah and Haddad, 1999; Resnick, 2003). Age, gender, education and marital status are important factors in creation of health promoting behaviors such as perceived health.

In the present study, there was not a statistically significant difference between healthy life-style behaviors and *age*. However, there was a statistically significant difference between age and stress management and self-actualization (Table 2). It may be that the women over 60 years or more got quite low scores of stress management and self-actualization. Tokgöz (2002) could not find a significant difference between age and total HPLP scores or scores of any subscales. On the other hand, Akça (1998) reported that older lectures got higher scores of health responsibility, nutrition and stress management than the younger ones. Another studies found that total scores of HPLP increased as age increased (Ahijevych and Bernhard, 1994; Duffy et al. 1996). Nevertheless, Resnick (2003) later reported that the elderly less participated in health promoting activities. Based on the finding that the elderly got low scores of stress management and self-actualization, it was suggested that the women aged 65

years or older could not cope with age related health problems and felt useless.

*Education* plays an important role in decisions about health and causes individuals to exercise health behaviors. Indeed, we observed that the women with a high education level had high scores of health promoting life-style behaviors and health responsibility, exercise and stress management (Table 2). Consistent with the findings of this study, Esin (1994) found that health behaviors increased as education level increased in Turkish women. Al Ma'aitah and Haddad (1999) reported that there was not a significant difference between total scale scores and scores of education, but that there was a statistically significant difference in interpersonal support scores between people with high education levels and those with low education levels. Pender et al. (1990) determined that there was no relation between education and HPLP scores. However, education is an important tool which may cause considerable changes in social roles and status of women. Turkish women, who are well-educated, have the ability to take critical decisions, which has a positive influence on their health behaviors. Education provides women with power. In fact, well-educated women have an influence on their families and lead them to make right decisions about the family members' health and to put them into practice.

In the present study, there was not a statistically significant difference between *marital status* and the total HPLP scores. However, there have been studies to show no statistically significant difference between marital status and health behaviors (Ahijevych and Bernhard, 1994; Akça, 1998). In the present study, the difference between marital status and exercise was significant. Further analysis revealed that the difference was caused by attitudes of single women. In fact, the single women had higher scores of exercise, consistent with the literature (Jhonson et al. 1993; Esin, 1994; Duffy et al. 1996; Akça, 1998). Al Ma'aitah and Haddad (1999) found that married women had higher scores of health responsibility and nutrition, but that single women had higher scores of exercise and stress management. Duffy et al. (1996) also found that married women had higher scores of nutrition.

The difference between *region* and total HPLP scores was not significant, but the difference between region and health responsibility and exercise was a statistically significant (Table 2). Further analysis showed that the difference resulted from the subjects living in the western part of the country. Wang (2001) noted that roles and responsibilities of elderly women who lived in rural areas might deteriorate their well-being. Our finding that the women living in the western part of the country had high scores of health responsibility suggested that they were well-educated and thus were aware of their own health responsibility, seek professional medical help and take sufficient care of their own health.

In this study, the difference between the *type of family* and HPLP scores was not significant. Akça (1998) found a statistically significant difference between the type of family and health promoting behaviors in general. There was a statistically significant difference between the type of family and interpersonal support. Tokgöz (2002) found a significant difference between the type of family and exercise. In fact, lecturers with a nuclear family had higher scores of exercise than those with an extended family. Modernism and industrialization caused a tendency towards nuclear families. Nuclear families have a positive

influence on individuals' health. In fact, children are no longer considered as a guarantee of future and intervals between births are prolonged and thus the number of children decreases. As a result, individuals have the opportunity to get better education and health care. Wang (2001) reported an interesting finding that there was a tendency towards having extended families in Taiwan. In the present study, the women with broken marriages had lower scores of interpersonal support. Therefore, health care provided by public health nurses becomes important. They should be able to help families to strengthen the existing social support and motivate them to form new support systems.

There was a statistically significant difference between *perceived health* and total HPLP scores (Table 2). The women with a good perceived health status had higher HPLP scores. In addition, they had higher scores of self-actualization, exercise and stress management than those with a bad perceived health status, which is consistent with the results of the study by Tokgöz (2002). Similarly, Esin (1997) noted that women with a very good perceived health status had higher scores of health responsibility, nutrition and stress management than those with a bad perceived health status. Another study reported that both a very good and bad perceived health status had an influence on healthy life-style behaviors (Gözüm and Tezel, 2000). Pender et al. (1990) found that women who defined health as well-being had higher HPLP scores than those who defined health as lack of diseases. In view of the results of this study and other studies, we suggest that women with a very good perceived health status participate better in health promoting activities. Actually, health and disease perceptions have a considerable effect on individuals in Turkey.

As *family income* increased, total HPLP scores and scores of self-actualization, health responsibility, exercise, interpersonal support and stress management increased consistent with the results of the study by Ahijevych and Bernhard (1994). Walker et al. (1988) found a relation between income and nutrition, interpersonal support and stress management.

Family income affects health behaviours of family members, which is confirmed by the results of the present study. In Turkey low family income hinders family members from receiving an excellent health care and education. For this reason, public health services should give priority to these families.

In conclusion, women who were living in Esentepe, Turkey, were found to have moderate health behaviors. Interpersonal support scores were the highest, but exercise scores were the lowest. Education, region, income and perceived health status influenced healthy life-style behaviors.

Public health nurses help individuals to acquire health behaviors. They have to be aware of the factors likely to affect health behaviors so that they can make plans to improve these behaviors. Especially culture has an influence on beliefs, values and health of individuals. Therefore, nurses know cultural values of individuals they have provide care for (Edelman and Mandle, 1994). Through education public health nurses provide individuals with preventive care and improvement and maintenance of health. While planning public health services, they have to take account of age, education level, marital status and perceived health status of individuals.

Public health nurses provide care for individuals with various values, beliefs and culture. Therefore, curricula of public health nursing should include multicultural elements and public health nursing students should have opportunities to put their knowledge into practice. Only the nurses equipped with knowledge about multicultural elements can offer public health care appropriate for the real needs of communities without feeling alienated from those communities.

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