Araştırma Makalesi
(Research Article)

Suay EREEŞ[1]
Emel KURUOĞLU KANDEMİR[2]
Nilgün ÖZÇAKAR[3]
Erşans EREEŞ[4]

[1] Department of Finance, Banking and Insurance, Yaşar University, 35100, İzmir / Turkey
[2] Department of Computer Science, Dokuz Eylül University, 35370, İzmir / Türkiye
[3] Department of Family Medicine, Dokuz Eylül University,35340, İzmir / Turkey
[4] Department of Agricultural Economics, Ege University, 35100, İzmir / Turkey
sorumlu yazar: suay.erees@yasar.edu.tr

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The Analysis of Healthy Lifestyle Behaviors of Women Working in Greenhouses in Menderes District of Izmir Province, Turkey

İzmir İli Menderes İlçesinde Seralarda Çalışan Kadınların Sağlıklı Yaşam Biçimi Davranışlarının Analizi

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ABSTRACT

The purpose of this study is to investigate the healthy lifestyle behaviors of female greenhouse workers and their perspectives on healthcare. This analytical cross-sectional study was performed in an important region for greenhouse cultivation, Menderes district of Izmir in Turkey using Healthy Lifestyle Behaviors Scale (HLBS). The data were collected face-to-face through a questionnaire including the characteristics of individuals and HLBS. The scores of HLBS were calculated. Frequencies, percentages were used for statistical analyses and Chi-square procedure to show statistically significant bivariate relationships. It was determined that 68% of women are satisfied with working in greenhouses. Almost 96% of women are not optimistic about the future. Out of all 28% women do not have social security opportunities. Healthy lifestyle behaviors are related with having social security opportunities or not (p=0.040). The general score of the healthy lifestyle behaviors is at a medium level (99.9±14.4). The most frequently applied health behavior is self-realization (30.7 ± 6.3) and the least one is exercise (6.9 ± 2.4). This study shows that the education of women working in greenhouses, providing awareness about health care and the social security opportunities should be considered on a preferential basis. Additional studies of health promoting lifestyle among rural women in greenhouses in Turkey are highly required for improvement.

ÖZET

Bu çalışmanın amacı, seralarda çalışan kadınların sağlıklı yaşam biçimi davranışlarını ve sağlık hizmetlerine bakış açılarını incelemektir. Bu analitik kesitsel çalışma, seracılık için önemli bir bölge olan İzmir'in bir ilçesi olan Menderes'te uygulanmıştır. Çalışmada, Sağlıklı Yaşam Biçimi Davranışları Ölçeği (SYBDÖ) kullanılmıştır. Veriler, SYBD Ölçeğini ve bireylerin karakteristik özelliklerini içeren bir anket formu aracılığıyla yüzyüze görüşerek elde edilmiş ve SYBDÖ puanları hesaplanmıştır. Verilerin istatistiksel analizinde frekanslar, yüzdeler ve ikili ilişkilerin istatistiksel olarak anlamlılığının araştırılmasında Ki-kare analiz yöntemi kullanılmıştır. Kadınların %68'inin seralarda çalışmaktan memnun oldukları ve %96'sının gelecek hakkında iyimser olmadıkları saptanmıştır. Kadınların %28'inin sosyal güvencesi bulunmamaktadır. Sosyal güvenceye sahip olup olmamaları ile sağlıklı olma durumları arasında anlamlı bir ilişki olduğu söylenebilir (p=0.04). SYBD genel puanı orta düzeyde (99.9±14.4) bulunmuştur. En çok uygulanan sağlık davranışı kendini gerçekleştirme (30.7 ± 6.3) ve en az uygulanan ise egzersizdir (6.9 ± 2.4). Bu çalışma, seralarda çalışan kadınların eğitimine, sağlık hizmetleri ve sosyal güvence fırsatlarının farkında olmalarının sağlanmasına öncelik verilmesi gerektiğini göstermektedir. Seralardaki kırsal kesim kadınlarının sağlıkları hakkında ek çalışmalar yapılması, eksikliklerin giderilmesi için, çok büyük bir ihtiyaçtır.

INTRODUCTION

Women work in almost every business sector in today's world. According to the conducted studies on the position of Turkish women in working life, only one third of women take part in working life. When different fields of business are assessed, it is seen that either women predominate or the number of women is close to the number of men in the professions such as textile

sector, teaching and medicine. When the data about urban and rural areas are analyzed, it is understood that the women participation in working life is low in cities and comparatively high in rural areas (Karabıyık, 2012). Girls and women in rural areas are mostly accepted as "unpaid family worker" and this ratio is more than 60% (İnciroğlu, 2013).

One of the working fields in which women mostly take part is greenhouse cultivation. Greenhouse cultivation is growing cultivated plants regardless of the climate by creating an artificial growing atmosphere. Greenhouse activities, which are also called as undercover cultivation, started at the beginning of 19th century in Northern European countries and developed after the World War II. Greenhouse activities have spread though the regions where moderate climates are seen due to the use of plastics in agriculture since 1960s. After that time, undercover cultivation was developed with good momentum in Mediterranean region because of the increased heating expenditures. Total area of undercover cultivation in countries having Mediterranean climate including Turkey is more than 300.000 hectares. Turkey comes second following Egypt as per plastic tunnel areas and comes third following Spain and Italy as per the total area of greenhouse (Tüzel et al. 2005). When considered from this aspect, it is realized that greenhouse activities are intensively conducted especially in the province of Antalya and the district of Menderes in Izmir. Number of individuals working in the field is gradually increasing due to the fact that the sector offers many opportunities of employment. When the quality of workforce is considered, it is seen that the number of women is very close to the number of men working in greenhouses (Ereeş and Engindeniz, 2011; Çimen, 2001).

Women living mostly in the rural area are working on jobs that may require heavy physical work. These conditions have great effect on their healthiness. Besides the studies about women (Altıparmak and Koca-Kutlu, 2009; Zincir et al., 2003; Duffy et al., 1996), there are studies on health and working conditions of women and their effects on them. One of these studies analyzed the effects of agricultural pesticides on reproductive health of women in Italy and concluded that the potentially high exposure to pesticides do not reduce the female fertility (Lauria et al. 2006). Furthermore, a study on the ratio of fecundability of women working in greenhouses has been conducted in Denmark. It is found that female workers in flower greenhouses may have reduced fecundability, because of the exposure to pesticides (Abell et al. 2000). In Brazil, the occupational safety and health practices among flower greenhouses workers were investigated. It is observed that, in greenhouses, workers may be at higher risk of pesticide exposure, because of some factors that can compound the exposure such as the lack of control on reentry intervals after pesticide application (Ribeiro et al. 2012). Almería's greenhouses do not provide the best of psychosocial working environments, and that short to middle term actions are needed to help solve these problems (Montoya-García et al. 2013). There are also similar studies in Turkey. For example, data about the pesticides use in greenhouse for health protection was investigated and the results showed that there were no records and recording system for the amount of pesticide used in a set period (Ergonen et al. 2005). Besides, in order to increasing the level of living standards of the rural workers, the extension in agricultural sector has a very important role. There are several studies for revealing the importance of extension and some of studies have focused especially on rural women (Özçatalbaş and Gürgen 1998; Pyykkönen and Aherin 2012; Kutlar, Turhanoğulları and Kızılay, 2014). Turhanoğulları and Özçatalbaş (2014) emphasized the rural workers' awareness, protection and the needs of extension services. In Turkey, there is a project which has been organized in 2009 for education of women working in greenhouses (İŞKUR, 2014).

Healthy Lifestyle Behaviors Scale (HLBS) has been developed by Walker, Sechrist and Pender (1987) to test health development model, validity and reliability of the model for Turkey have been analyzed by Esin (1997). This model measures the behaviors that promote health in relation to the healthy lifestyle of the individual. Several health promoting behaviors studies were about in health personnel (Beser et al. 2007; Akgül-Gündoğdu and Güler 2016), women in urban area (Sonmezer et al. 2012) or university students (Can et al. 2008).

In this study, apart from the previous studies, rural women working in greenhouses have been considered. It is aimed to evaluate the attitudes and behaviors of these women by using analytical cross-sectional method and HLBS. It is known that illnesses and deaths mostly stem from the lack of attitudes and behaviors for the protection of health in relation to the lifestyle of the individual (smoking, not doing sports, stress) and social conditions (level of income, eating habits). Having a social security or graduating from a school or marital status may affect their healthy lifestyle behaviors. So, finding out the living conditions of individuals dealing with greenhouse activities is very important and this study will raise awareness of rural women. Suggestions on this issue would lead to a positive health behaviors.

MATERIAL and METHODS

This study has been planned as a cross-sectional and descriptive study. Menderes district of Izmir in Turkey has been chosen since the size of the greenhouse area (633 ha) in Menderes constitutes 83% percent of the total greenhouse areas located in İzmir, according to the data of the year 2008 (TÜİK, 2013). Face-to-face survey has been conducted with 50 women actively working in greenhouses within ten days who accepted to participate in the survey, in 2009. This study was conducted in the villages of Çamönü and Çileme which have large greenhouse area in Menderes.

The data have been collected through a questionnaire (58 questions) including the characteristics of individuals and HLBS. Therefore, the status of women as per healthy living and individual health behaviors, individual features that could affect the health behaviors, their interest for their own health, effects of working conditions on their health have been analyzed.

HLBS which has 6 sub-groups is comprised of 48 items. Sub-groups are as follows: self-realization, health responsibility, exercise, nutrition, interpersonal support and stress management. The explanations for these sub-groups are as follows: *Self-realization (SR)* determines the objectives of individuals, the potential for self-development and to what extent an individual knows and satisfies himself/herself. *Health responsibility (HR)* determines the level of one's responsibility on his/her own health and contribution of him/her to his/her own health. *Exercise (E)* examines to what extent the individual do exercises which is the indispensable part of the life. *Nutrition (N)* determines selection and organization of meals by the individual and the criteria of the individuals for that selection. *Interpersonal support (IS)* indicates the dialogue of the individual with the people near him/her and the continuation level of that dialogue. *Stress management (SM)* indicates the level of recognition of the individuals towards the sources that cause stress and their control mechanisms (Pender et al. 1992). Marking is done on the Likert scale including 4 alternatives. 1 point is given for the alternative "Never"; 2 points for "Sometimes"; 3 points for "Often" and 4 points are given for "Regularly". The total score of the scale gives the score of healthy lifestyle behaviors. The lowest score for the whole scale is 48 and the highest score for it is 192. The lowest and highest scores for the sub-groups are as in Table1.

The questions on the scale measure the behaviors of the individual that promote his/her health in relation to the healthy lifestyle of the individual. Increase of the scores retrieved from the scale indicates that the individual practices stated health behaviors at a high level.

The chi square test provides a means of testing whether or not a relationship between two variables exists (Greenwood and Nikulin, 1996). Using Chi-square test, the statistically significant bivariate relationships have been investigated.

Data analysis was conducted using SPSS 20.0 statistical package program. Statistical significance has been accepted at the p-value < 0.05.

Table 1. The lowest and highest scores for sub-groups

Sub-group	The lowest score	The highest score
Self-realization (SR)	13	52
Health responsibility (HR)	10	40
Exercise (E)	5	20
Nutrition (N)	6	24
Interpersonal support (IS)	7	28
Stress management (SM)	7	28

RESULTS

In this study, Cronbach alpha coefficient has been calculated as 0.822. This value can be stated as $0.70 < \alpha = 0.822$ and therefore, it is concluded that the test which has been used has a high level of reliability (Bland and Altman, 1997). The alpha values of the scale for this study changes between 0.70 and 0.89.

The demographic features of the women who participated in this study are shown in Table 2. 66% of women who took part in the survey said that working in the greenhouses is their own choice. It is understood that 68% of women are satisfied with their works. The relation is found significant between their preference towards working in greenhouses and the satisfaction ($p = 0.000$). Therefore, women whose choices are towards working in greenhouses do not complain about their situation. According to the cross tabulations, this finding has proven to be statistically significant for women below 35 years age ($p = 0.000$).

From sample 28% of women do not have social security opportunities. A statistically significant relation is calculated between the frequency of seeing a physician and whether having social security opportunities or not ($p = 0.050$). The women who do not have social security opportunities do not usually see a physician.

A statistically significant relationship is found between the duration of working in the house and eating behaviors of women as a result of chi-square test ($p = 0.001$). So the women who spend more time in the house than the greenhouses have positive attitudes towards nutrition. For example, they eat three meals a day, plan meals with food groups (protein, fat, carbohydrate).

Table 2. Demographic features of women having participated

	Frequency	*Percentage*
Age Groups		
16 – 25	21	0.42
26 – 35	13	0.26
36 – 45	6	0.12
46 – 55	7	0.14
56 – 65	3	0.06
Marital Status		
Single	15	0.30
Married	35	0.70
Number of Children		
0	15	0.30
1	4	0.08
2	18	0.36
3	6	0.12
4 and over	7	0.14
Level of Education		
Illiterate	9	0.18
Literate	3	0.06
Elementary School	29	0.58
Primary/High School	9	0.18
Social Security		
Doesn't have	14	0.28
SSK[a]	16	0.32
Bağ-Kur[b]	13	0.26
Green Card[c]	7	0.14
Frequency of seeing a physician		
Never	13	0.26
Sometimes	26	0.52
Often	6	0.12
Regularly	5	0.10
Smoking		
Yes	12	0.24
No	38	0.76

[a] Social Insurances Institution covers private sector employees and blue collar workers in the public sector

[b] Bağ-Kur covers self-employed workers and is voluntary in nature

[c] Green Card is a fully government-subsidized scheme for the identified poor.

According to another result of the chi-square test, it could be stated that there is a statistically significant relationship between the situation whether the individual has social security opportunities or not and healthy lifestyle behaviors (p = 0.040). As a result, women who have social security opportunities behave more positively towards a healthy lifestyle.

When the total score of the HLBS scale is calculated, it is found that the minimum score is equal to 69 and the maximum score is 135. Total average is calculated as 99.9 ±14.4. The average of scores, high and low levels and Cronbach alpha values for the sub-groups of healthy lifestyle behaviors scale is shown in Table 3. According to the table, the health behavior most frequently applied is self-realization (30.74 ± 6.30) and the health behavior least frequently applied is exercise (6.88 ± 2.36).

Table 3. Average scores, high and low levels for per sub-groups

	Mean ± standard deviation	Min – Max	Cronbach alpha
Health Responsibility	15.24 ± 4.45	10 – 40	0.77
Self-realization	30.74 ± 6.30	13 – 52	0.89
Exercise	6.88 ± 2.36	5 – 20	0.73
Nutrition	15.20 ± 3.34	6 – 24	0.70
Interpersonal Support	18.32 ± 3.11	7 – 28	0.72
Stress Management	13.72 ± 2.70	7 – 28	0.73

Distribution of scores of per sub-groups according to demographic variables is shown in Table 4. The overall HBLS score was higher in the ages 16 – 25 and in high school graduates. Having a social security increased the total score.

Table 4. Distribution of average scores and standard deviations of per sub-groups for demographic features

	HR*	SR	E	N	IS	SM	Total
Age Groups							
16 – 25	16.29±4.74	32.67±5.76	7.95±3.04	15.95±3.69	17.76±3.77	14.48±2.75	104.81±14.72
26 – 35	12.54±2.33	28.54±5.49	6.62±1.61	13.38±2.66	18.08±2.75	11.85±2.08	91.54±10.75
36 – 45	15.17±4.31	32.67±10.73	5.83±0.41	15.83±3.43	20.17±2.48	13.50±3.02	102.5±7.51
46 – 55	15.57±5.56	27.86±4.71	5.29±0.49	15.43±3.36	19.29±2.14	14.71±2.56	97.14±11.41
56 – 65	19.00±2.65	29.67±2.52	6.33±1.53	16.00±1.00	17.33±1.53	14.67±0.58	102.33±7.51
Level of Education							
Illiterate	13.67±5.41	27.11±5.60	6.33±1.41	13.89±3.14	17.33±3.35	13.56±3.32	91.11±14.60
Literate/ Elementary School	14.88±3.70	30.38±5.85	6.06±1.11	14.94±3.31	18.31±3.00	13.34±2.62	97.91±11.74
High School	18.11±5.11	35.67±6.30	10.33±3.32	17.44±2.83	19.33±3.32	15.22±1.92	115.56±12.27
Social Security							
Doesn't have	13.79±2.99	28.29±6.41	6.79±2.33	14.50±4.60	17.14±3.08	13.07±2.92	93.29±14.55
SSK	16.88±5.75	31.00±6.88	7.06±3.04	15.75±3.04	19.44±2.94	13.63±2.16	103.81±15.50
Bağ-Kur	14.92±2.36	33.85±4.78	7.00±2.16	15.77±1.69	19.08±2.69	14.62±2.29	104.54±8.79
Green Card	15.00±6.00	29.29±6.13	6.43±0.98	14.29±3.55	16.71±3.40	13.57±3.99	95.29±16.55
Smoking							
Yes	15.71±4.54	31.47±6.51	7.13±2.61	15.68±3.21	18.34±3.27	13.74±2.37	101.63±14.25
No	13.75±3.96	28.42±5.37	6.08±1.00	13.67±3.42	18.25±2.70	13.67±3.68	94.25±14.15

DISCUSSION

Women working in rural areas mostly work in hard physical conditions. It is known that these conditions affect their health. Not only physical conditions, but also social and psychological conditions that women experience affect their health. World Health Organization defines health as the physical, psychological and social well-being besides not having illness and disabilities. Well-being is a fundamental right of the individuals and the protection and continuation of healthy conditions are also the responsibility of the individual. The activities for promoting health aim at enabling the individual to recover and control his/her health and to reach a healthy potential (Bahar, 1993; Erdoğan et al. 1994).

It is concluded that general score of the women those took part in this study towards healthy lifestyle behaviors is at a medium level (99.9 ± 14.4). Most frequently applied health behavior is self-realization and least frequently applied health behavior is exercise. Since they regard working in greenhouses as an exercise, the women working in greenhouses do not think to do any other exercises.

Furthermore, the women not having social security opportunities do not see the physician. They try to recover their health with their own efforts. Naturally, this reality is troublesome for these women. 96% of women are not optimistic about the future. The women who came to work in greenhouses from different regions of the country want to feel confident and hope the working conditions to be improved. However, young and middle-age women whose own choice is working in greenhouses are satisfied with their conditions.

CONCLUSION

This study aims to evaluate the attitudes and behaviors of rural women working in greenhouses by using Healthy Lifestyle Behaviors Scale (HLBS). The average of the scores of the HLBC scale is calculated as 99.9. The overall score of women participating in healthy lifestyle behaviors can be defined as moderate level.

This study shows that having a social security and graduating from a high school affect women's healthy lifestyle behaviors. The education leads to positive health behaviors. So the rural women should be educated about health care and informed about the social security opportunities. Accordingly, it would be beneficial to add and develop extension activities for rural women.

Rural women should be informed about the importance of sports, since the least frequently applied health behavior is exercise. In addition, some sports equipment can be installed near the greenhouses in order to motivate the public for exercise.

Healthy women signify healthy children and a healthy generation. Therefore, additional studies of health promoting lifestyle and health care among women working in greenhouses are highly required for raising awareness of rural women.

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