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RESEARCH ARTICLE

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# HOW DOES FATIGUE IN INDIVIDUALS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE EFFECT DEPENDENCY STATUS

Fatma GENÇ[1]

## ABSTRACT

Fatigue, one of the most important symptoms in COPD and if not controlled, the activities of daily living and quality of life of the individual are negatively affected. The study aims to determine the relationship between fatigue levels and daily living activities of individuals with Chronic Obstructive Pulmonary Disease. The average age of the patients participating in the study was 69.18±9.6, 66.7% were male. The mean fatigue score of the patients was 64.15±14.3. It was determined that 6.3% of the patients were semi-dependent in their activities of daily living and 30.6% were semi-dependent in their instrumental activities of daily living. A negative and statistically significant relationship between the fatigue score of the patients and the score of activities of daily living and instrumental activities of daily living was found (p=0.001, p=0.003). Also there was negative relationship between age and IADL. Fatigue levels of individuals with chronic obstructive pulmonary disease; bathing, dressing, home works, transportation means to meet the requirements of the need to meet higher in dependent group. The mean fatigue score of the patients was above the scale average. The determination of the areas where these patients are dependent on is important in terms of solution approaches.

**Keywords**: Chronic Obstructive Pulmonary Disease, Activities of Daily Living, Instrumental Activities of Daily Living, Fatigue

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## 1. INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a disease characterized by not completely reversible, usually progressive airflow limitation, associated with abnormal inflammatory response in the lungs against detrimental particles and gases. In the National Disease Burden study, the prevalence was 10.2 in one thousand (8.4 in males and 11.9 in females), the incidence was 72.7 per hundred thousand (76.8 in males and 68.5 in females). COPD is one of the major causes of both morbidity and mortality worldwide and has been increasing in recent years and is estimated to rise to the third place among causes of death in 2020 (Öztürk & Günay, 2011).

Patients with COPD are always living together with the difficulties of their illness. These individuals face difficult and complex problems due to their limitations on activities of daily living, changes in emotional, cognitive and physical activities, economic and social limitations, caused by their illness (Ünsal & Yetkin, 2005).

Dyspnea, fatigue, and cough are the most common physical symptoms of these patients (Ek & Ternestedt, 2008). Fatigue, is the most common complication of coughing, that we have confronted (Kartaloğlu, Okutan & İlvan, 2001). Dyspnea was defined as fatigue by COPD and asthma patients, and a positive correlation was found between these two symptoms (Small & Lamb, 2000). Fatigue, one of the most important symptoms in COPD, is almost always felt by 43% to 58% of individuals with COPD, although it can be seen in 18.3% to 25% of the general population (Wong et al., 2010), and if not controlled, the activities of daily living and quality of life of the individual are negatively affected (Yurtsever, 2000). The term of activities of daily living is used to assess personal, self-care activities, and performance in daily routine needed for an independent life. It includes basic self-care activities in daily life such as eating, bathing, dressing, and mobility. If these activities cannot be performed, the patient becomes dependent on other people or assistive devices (İnce et al., 2005).

Until the severity of COPD is advanced, the level of patients' activity performance is not severely limited. However, with the progression of the disease, patients who avoid exercise due to dyspnea and fatigue think that a sedentary life is safe for them and limit their activities of daily living. As a result, their dependency levels are increasing (Korkmaz Ekren & Alev Gürgün, 2013). For individuals with chronic obstructive pulmonary disease, it is necessary to determine how fatigue affects daily activities in order to identify health services and meet the needs of patients. Therefore, health care services can be provided to ensure that patients are more independent and improve their quality of life. This study was conducted to determine the level of fatigue in individuals with Chronic Obstructive Pulmonary Disease and to determine the effect of dependence on fulfilling the activities of daily living.

## 2. MATERIALS and METHODS

### Study Design

The research organised in an analytical and cross-sectional design. It was carried out in inpatient treatment at the Chest Diseases Hospital in the city centre center in the East Black Sea Region, Turkey. The sample of the research consists of 111 patients with participants voluntarily.

**Ethics approval and consent to participate**

The research conforms to the provisions of the Declaration of Helsinki. All participants gave informed consent for the research, and that their anonymity was preserved**.**

**Data collection**

Data were collected by the researcher using face-to-face interview technique using the "Information Form", "COPD and Asthma Fatigue Scale", "Katz's Index of Activities of Daily Living" and "Lawton and Brody's Index of Instrumental Activities of Daily Living". The filling out of forms have taken approximately 15-20 minutes.

**Information Form:** The form prepared by the researcher includes questions about socio-demographic characteristics such as age, gender, educational status, marital status, place of residence, occupation, income of the patients and questions about the characteristics of the illness such as duration of diagnosis, disease history other than COPD and smoking status.

**COPD and Asthma Fatigue Scale: (CAFS)**

COPD and Asthma Fatigue Scale (CAFS) was developed by Revicki et al. (2010), and Turkish validity and reliability were performed by Arslan and Öztunç (2013). The original scale consists of 12 items. The scoring typed of the scale is five-point Likert scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently, 5 = Very often) and a total of 12 to 60 scores is obtained. The score obtained is converted with the aid of a formula, which will range from 0 to 100 (**Formula: 100 * (total score-minimum value that may to be obtained / change interval).** In the scale, there is only one score obtained related to the fatigue condition and there is no evaluation related to the sub-dimensions. The increase in this score indicates that the level of fatigue of the person is high.

**Katz's Index of Activities of Daily Living (ADL):** The ADL index consists of 6 questions that include information about bathing, dressing, toilet, movement, emptying, movement and nutrition activities which are basic necessities to survive. The assessment is performed by giving 3 points if the individual is doing daily activities independently, 2 points if he / she is doing with help, 1 point if he / she is not able to do at all. In the ADL index, 0-6 points are being assessed as dependent, 7-12 points are semi-dependent, and 13-18 points are independent (Shelkey & Wallace, 1999).

**Lawton and Brody's Index of Instrumental Activities of Daily Living (IADL):** The IADL index consists of 8 questions about information on subjects that are oriented at independent living in the community which are phone use, food preparation, shopping, doing daily housework, doing laundry, getting on the means of transport, getting medication and money management. The assessment is performed by giving 3 points if the individual is doing daily activities independently, 2 points if he / she is doing with help, 1 point if he / she is not able to do at all. In the IADL index, 0-8 points are being assessed as dependent, 9-16 points are semi-dependent, and 17-24 points are independent. As scores increase, the level of dependence of patients decreases (Shelkey & Wallace, 1999).

## 3. STATISTICAL ANALYSES

SPSS-15 package program was used to evaluate the data. Data on the introductory and medical characteristics of patients participating in the study with ADL and IADL dependency status were evaluated using mean and percentage. T test and ANOVA test for data showing normal distribution; Mann-Whitney U and Kruskal Wallis-H tests from nonparametric tests for data not complying with normal distribution were used. The correlation between fatigue and ADL and IADL was evaluated by the correlation coefficient.

## 4. RESULTS

The mean age of the patients was 69.18±9.6 (min = 42, max = 88), 66.7% were male, 66.7% were primary school graduates, 73% were married, 57.7% were living in the village and 54.1% were having the balance of income and expenses (Table 1).

**Table 1. Distribution of Some Socio-Demographic Characteristics of Patients (N=111)**

| Characteristics | Number | % |
|---|---|---|
| **Age** | | |
| 64 and under | 35 | 31.5 |
| 65-74 | 45 | 40.6 |
| 75 and over | 31 | 27.9 |
| **Sex** | | |
| Female | 37 | 33.3 |
| Male | 74 | 66.7 |
| **Education Status** | | |
| Not literate | 25 | 22.5 |
| Primary education | 74 | 66.7 |
| Secondary education and upper | 12 | 10.8 |
| **Marital Status** | | |
| Married | 81 | 73.0 |
| Single/Widowed | 30 | 27.0 |
| **Occupation** | | |
| Farmer | 30 | 27.0 |
| Housewife | 31 | 27.9 |
| Worker | 19 | 17.2 |
| Officer / Retired | 31 | 27.9 |
| **The Place He/She Lives** | | |
| Village | 64 | 57.7 |
| District | 19 | 17.1 |
| Province | 28 | 25.2 |
| **Income Status** | | |
| Less than expense | 48 | 43.2 |
| Balanced | 60 | 54.1 |
| More than expense | 3 | 2.7 |
| **Total** | **111** | **100.0** |

The mean score of CAFS scores of the patients was 64.15±14.3. It was determined that 6.3% of the patients were semi-dependent in ADL and 30.6% were semi-dependent in IADL. It was found that the patients were semi-dependent in activities of daily living such as excretion (45.9%), bathing (33.3%), nutrition (18.0%), dressing (17.1%) and moving (13.5%) and were fully dependent in the IADL such as doing laundry (41.4%), doing housework (35.1%), food preparation (30.6%), using telephone (21.6%) and money management (18.0%) (Table 2).

**Table 2. Dependency Status of Patients in Their Activities of Daily Living (N=111)**

| **Activities of Daily Living** | **Independent** | | **Semi-dependent** | | **Fully dependent** | |
|---|---|---|---|---|---|---|
| | **n** | **%** | **n** | **%** | **n** | **%** |
| Status of Being Able to Bathing | 63 | 56.3 | 37 | 33.3 | 11 | 9.9 |
| Dressing Status | 79 | 71.2 | 19 | 17.1 | 13 | 11.7 |
| Toilet Status | 94 | 84.7 | 13 | 11.7 | 4 | 3.6 |
| Movement Status | 91 | 82.0 | 15 | 13.5 | 5 | 4.5 |
| Excretion Status | 55 | 49.5 | 51 | 45.9 | 5 | 4.5 |
| Nutrition Status | 88 | 79.3 | 20 | 18.0 | 3 | 2.7 |
| **Instrumental Activities of Daily Living** | | | | | | |
| Status of Being Able to Telephoning | 75 | 67.6 | 12 | 10.8 | 24 | 21.6 |
| Status of Being Able to Shopping | 76 | 68.5 | 19 | 17.1 | 16 | 14.4 |
| Status of Being Able to Prepare Food | 59 | 53.2 | 18 | 16.2 | 34 | 30.6 |
| Status of Being Able to Doing Housework | 13 | 11.7 | 59 | 53.2 | 39 | 35.1 |
| Status of Being Able to Doing Laundry | 35 | 31.5 | 30 | 27.0 | 46 | 41.4 |
| Status of Being Able to Getting on the Means of Transport | 76 | 68.5 | 18 | 16.2 | 17 | 15.3 |
| Status of Being Able to Getting His/Her Own Medication | 70 | 63.1 | 35 | 31.5 | 6 | 5.4 |
| Status of Being Able to Managing His/Her Own Money | 57 | 51.4 | 34 | 30.6 | 20 | 18.0 |

It was found that the CAFS mean score of the patients was different on the distribution of GYA and EGYA ($p<0.05$). The mean score of the patients who were fully dependent on bathing (73.48±14.10), dressing variables (74.35±14.06) and excretion (70.41±10.86) was high. In terms of IADL; In the variable of doing housework (68.80±15.37), the score of the fully-dependent group was high. IADL also had the fatigue score of the fully-dependent group in the variable transportability (72.54±13.54). Again in terms of IADL, the score of those who had independent status in managing the money in the distribution of fatigue status was high (Table 3).

**Table 3. Distribution in term of ADL and IADL of dependency of patients according to CAFS score (N = 111)**

| **Activities of Daily Living** | | **CAFS*** | |
|---|---|---|---|
| | **n** | **X± SS** | **p** |
| **Status of Being Able to Bathing** | | | |
| Independent | 63 | 61.67±12.44[a] | **F=3.796** |
| Semi-dependent | 37 | 65.59±15.49 | **p=0.026** |
| Fully dependent | 11 | 73.48±14.10[a] | |
| **Dressing Status** | | | |
| Independent | 79 | 61.47±13.91[a] | **F=6.262** |
| Semi-dependent | 19 | 68.31±10.36 | **p=0.003** |
| Fully dependent | 13 | 74.35±14.06[a] | |
| **Toilet Status** | | | |
| Independent | 94 | 63.98±14.41 | |
| Semi-dependent | 13 | 63.62±12.97 | p>0.05 |
| Fully dependent | 4 | 69.79±7.70 | |
| **Movement Status** | | | |
| Independent | 91 | 63.30±14.61 | |
| Semi-dependent | 15 | 67.22±11.14 | p>0.05 |
| Fully dependent | 5 | 70.41±8.51 | |
| **Excretion Status** | | | |
| Independent | 55 | 59.20±13.88[a] | **F=7.622** |
| Semi-dependent | 51 | 68.87±12.72[a] | **p=0.001** |
| Fully dependent | 5 | 70.41±10.86 | |
| **Nutrition Status** | | | |
| Independent | 88 | 63.87±14.61 | |
| Semi-dependent | 20 | 64.58±12.14 | p>0.05 |

| | | | |
|---|---|---|---|
| Fully dependent | 3 | 69.44±9.39 | |
| **Instrumental Activities of Daily Living** | | | |
| **Status of Being Able to Telephoning** | | | |
| Independent | 75 | 63.58±13.65 | |
| Semi-dependent | 12 | 63.71±17.77 | p>0.05 |
| Fully dependent | 24 | 66.14±13.60 | |
| **Being Able to Shopping** | | | |
| Independent | 76 | 63.07±13.16 | |
| Semi-dependent | 19 | 62.39±14.91 | p>0.05 |
| Fully dependent | 16 | 71.5±15.65 | |
| **Being Able to Prepare Food** | | | |
| Independent | 59 | 63.10±12.77 | |
| Semi-dependent | 18 | 59.83±13.53 | p>0.05 |
| Fully dependent | 34 | 68.25±15.67 | |
| **Being Able to Doing Housework** | | | |
| Independent | 13 | 60.25±7.72 | **F=3.536** |
| Semi-dependent | 59 | 61.93±13.53[a] | **P=0.033** |
| Fully dependent | 39 | 68.80±15.37[a] | |
| **Being Able to Doing Laundry** | | | |
| Independent | 35 | 60.35±11.65 | |
| Semi-dependent | 30 | 63.26±14.49 | p>0.05 |
| Fully dependent | 46 | 67.61±14.80 | |
| **Being Able to Getting on the Means of Transport** | 76 | 61.29±13.12[a] | **F=5.881** |
| Independent | 18 | 68.28±14.72 | **p=0.004** |
| Semi-dependent | 17 | 72.54±13.54[a] | |
| Fully dependent | | | |
| **Being Able to Getting His/Her Own Medication** | 70 | 60.14±12.52 | **F=8.861** |
| Independent | 35 | 71.25±14.86 | **p=0.001** |
| Semi-dependent | 6 | 69.44±7.29 | |
| Fully dependent | | | |
| **Being Able to Managing His/Her Own Money** | | | |
| Independent | 57 | 66.59±14.04 | |

| | | | |
|---|---|---|---|
| Semi-dependent | 34 | 61.15±14.85 | p>0.05 |
| Fully dependent | 20 | 62.29±11.72 | |

*****Groups that differ according to Tukey Test

In the study; there was a negative and weak relationship between fatigue and ADL and IADL ($p<0.05$). Also there was negative and weak relationship between age and IADL. In the study a positive and weak correlation was found between ADL and IADL (Table 4).

**Tablo 4. The Relationship Between Age, CAFS, ADL and IADL scores of the patients (N = 111)**

| | | **Age** | **CAFS** | **ADL** | **IADL** |
|---|---|---|---|---|---|
| **Age** | Rho | 1 | 0.101 | -0.110 | -0.305** |
| | p | - | 0.290 | 0.251 | **0.001** |
| **CAFS** | Rho | 0.101 | 1 | -0.340** | -0.283** |
| | p | 0.290 | - | **0.001** | **0.003** |
| **ADL** | Rho | -0.110 | -0.340** | 1 | 0.477** |
| | p | 0.251 | **0.001** | - | **0.001** |
| **IADL** | Rho | -0.305** | -0.283** | 0.477** | 1 |
| | p | **0.001** | **0.001** | **0.001** | - |

## 5. DISCUSSION

In our study, the majority of COPD patients were male (66.7%) and 68.4% were over 65 years of age and the mean age was 69.18±9.6. COPD morbidity is more common in men and especially in individuals above 45 years of age (Ovayolu, Ovayolu & Ateş, 2008). In other studies, the finding that COPD morbidity increases with age and is more frequent in males than females have also been supported (Arslan & Öztunç 2013; Kaşıkçı 2007).

Fatigue, a subjective and annoying condition that is felt throughout the body in a ratio from prostration to exhaustion, is the most commonly identified 'general' symptom in COPD individuals. At the same time, it is the most inadequate and least treated finding of this disease (Theander & Unosson, 2004; Antoniu et al., 2016).

Fatigue is reported as frequently as dyspnea in patients and there is a strong positive correlation between these two symptoms. Fatigue reduces quality of life in patients by reducing activity tolerance and limiting the fulfillment of activities of daily living (ADL) (Çiçek & Akbayrak, 2009). In this study, the fatigue score average (64.15±14.3) was above the average.

In the study conducted by Kütükçü et al. (2014) in patients with COPD, more than half of the patients experienced severe fatigue, Wong et al. (2010) found that nearly all of the patients (95.3%) experienced high levels of fatigue, in the study conducted by Mollaoğlu et al. (2011), all of the patients experienced fatigue and their fatigue levels were high. The fatigue score average (in test: 68.29 ± 21.4; retest: 67.04±21.5), which

was determined by Arslan and Öztunç (2013) in the study of validity in our country, is close to our findings.

It was determined that 6.3% of the patients were semi-dependent in their activities of daily living and 30.6% were semi-dependent in their instrumental activities of daily living. In a study conducted, it was reported that 13.3% of patients in activities of daily living, 49% in instrumental activities of daily living were semi-dependent and fatigue affects daily activities of patients negatively (Karakurt & Ünsal, 2013).

In literature, it is generally observed that the first affected activity in Chronic Obstructive Pulmonary disease patients is in IADL rather than ADL, and the patients leave IADL which is not compulsory that creates dyspnea and fatigue in them; they have reduced their speed much more than leaving activity in ADL, which is more necessary for life and reduced the severity of symptoms that may occur (Yıldırım, 2011).

Akıncı and Pınar (2011) also stated that in the study of patients with COPD, similar to our findings, patients are having more difficulty in IADL, and that this may be due to the fact that the activities in IADL are more complex and that the patients' oxygen requirement during these activities is higher**.**

It was found that the patients were semi-dependent in activities of daily living such as excretion (45.9%), bathing (33.3%), nutrition (18.0%), dressing (17.1%) and moving (13.5%) and were fully dependent in the instrumental activities of daily living such as doing laundry (41.4%), doing housework (35.1%), food preparation (30.6%). Daily activity can be reduced due to the direct effect of the disease, past experiences of the patient related to the disease, or changes in the perception of well-being (Ovayolu, Ovayolu & Ateş, 2008). The majority of individuals with COPD are 65 years of age and over. Activities of daily living that the elderly are most experiencing dependency are bathing, dressing, moving, doing housework, preparing food, doing laundry and managing money (Şahbaz & Tel, 2006). In one study, it was stated that elderly patients were mostly dependent in bathing and going to the toilet in the basic ADL, while the dependency ratios increase in assistant ADLs and they were mostly dependent in cleaning, preparing food and shopping (Özbek Yazıcı & Kalaycı, 2015). In a study conducted by Yıldırım (2011) in individuals with COPD, it is stated that patients are more dependent on bathing and excretion activities in ADL and it is also stated that in IADL, individuals are more dependent in doing laundry, doing housework, shopping and food preparation activities that require more effort.

The fatigue score averages were found to be higher in the fully dependent group in the bathing, dressing and excretion activities from the patients' activities of daily living, and in the doing housework and getting on the means of transport from the patients' instrumental activities of daily living. Fatigue generally affects activities of daily living and psychosocial life negatively. The fatigue that patients with COPD experience more frequent, prolonged and severe, is caused them to live physical and psychosocial limitations (Kütükçü, Savcı &Sağlam, 2014). In COPD, the need for oxygen in individual increases during physical activity, but not enough oxygen is provided to the body due to narrowing of the airways (Ünsal & Yetkin, 2005). Dyspnea, which cannot be tolerated in COPD patients, is a symptom that limits performance during both walking and upper extremity activity (Çalık Kütükçü et al., 2015). Defects in respiratory

mechanics, particularly simple ADL that requires the use of the upper extremities such as eating, brushing teeth, brushing hair, bathing and dressing cause an increase in oxygen need and the usage of a greater percentage of the ventilator reserve during activity, resulting in dyspnea and fatigue perception (İnce et al., 2005). Peripheral muscle weakness in patients with COPD also limits exercise and causes dyspnea and leg fatigue during exercise (Gosselink, Troosters & Decramer 1996; Hamilton et al.,1995). Thus, patients terminate ADL due to dyspnea, arm and leg fatigue (Çalık Kütükçü et al., 2015).

In the study, there was a negative correlation between fatigue score and activities of daily living and instrumental activities of daily living. Higher fatigue was associated with lower physical activity levels in older people (Soyuer&Şenol, 2011). In the studies of Karakurt et al., (2013), it has been determined that there is a decrease in patients' energy, activities of daily living and instrumental activities of daily living, while an increase in the fatigue. In another study conducted by Özel and Argon (2015), it was found that as the fatigue severity scores of patients increased, activities of daily living score decreased.

In the study; there was negative and weak relationship between age and IADL**.** In a study conducted, it was found that with increasing age, the level of dependency in ADL and IADL increased. (Özbek Yazıcı&Kalaycı, 2015). Decline in cognitive functions becomes evident by age progression. It has been reported that the instrumental daily activities have begun to deteriorate in the elderly with mild to moderate cognitive dysfunction. Disturbance in the basic daily life activities, are becoming apparent in patients with more advanced cognitive impairment (Çuhadar et al, 2006).

### Study Limitations

The research is limited to patients with COPD who are referred to only one state hospital.

### Implication for Nursing Practice

Fatigue limiting the fulfillment of activities of daily living and instrumental activities of daily living. To prevent fatigue from effecting an individual's activities of daily living negatively and to reduce the level of dependence of patients, it is necessary to assess fatigue and plan appropriate activities for the individual.

## 6. CONCLUSION

It has been determined that as the level of fatigue increases in individuals with COPD, the level of dependency in activities of daily living and in instrumental activities of daily living increases. The mean fatigue score of the patients was above the scale average. In the study, there was a negative correlation between fatigue score and activities of daily living and instrumental activities of daily living ın order to increase the independence of these patients in ADL and IADL, it is necessary to bring the fatigue under control and to attempt to reduce fatigue. The determination of the areas where these patients are dependent on is important in terms of solution approaches.

## CONFLICTS OF INTEREST

The author declare no conflict of interest.

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*RESEARCH ARTICLE*

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# EXAMINING FACTORS THAT HAVE AN IMPACT ON HOSPITAL PREFERENCES OF UNIVERSITY STAFF*

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## ABSTRACT

This is important that factors that affect hospital preferences of individuals in medical service are understood by managers. Purpose of this study is to determine factors that have an impact on preferring or not preferring university hospital academic and administrative staff in Suleyman Demirel University and to present information about being a preferred hospital to hospital administrators by centering on these factors.

Population of the study constitutes academic and administrative staff in Isparta Suleyman Demirel University, in January-March 2017. The total number of administrative and academic staff of Süleyman Demirel University is 2800. All scope is tried to be reached without going to whatsoever sample choice in the study. The study is based on volunteerism and 709 people agreed to participate in the study. Surveys that take part in the literature to measure factors that have an impact on hospital preference of university staff.

This is seen that two third of university staff prefer available hospitals without research and application hospital but research and application hospital is the most preferred hospital with %34,3 prefential rate when every hospital is evaluated separately at the end of the study. The most important reasons to prefer university hospital; being near to workplace, being given priority to appointment and development of technological infrastructure over the most important reasons not to prefer; a long wait, getting examined by resident physician and staying in the same room of different clinical patients in the services.

**Keywords**: Hospital preference, Healthcare management, administrative and academic staff

**A R T I C L E  I N F O**

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## 1. INTRODUCTION

Competition environment constitutes among hospitals nowadays. Hospitals should have knowledgeable and experienced staff, developed technological infrastructure and quality service to be preferred. What is effective to be preferred or not to be preferred by individuals for whatsoever hospital besides these to be preferred by patients is must to be known. It is found that factors generally that affect hospital preferences are similar with others in the studies that are done about what has an impact on hospital preferences of patients. The preference for a hospital is when a healthcare consumer or his / her caregiver chooses one of the healthcare facilities if he / she has the choice (Tengilimlioğlu, 2001). According to study of Berkowitz and Flexner (1981), it shows that attitudes and behaviors of hospital staff, quality of health service that is offered, cleaning of hospital, physical opportunities of hospital and image of hospital has an impact on hospital preferences of patients. In the study of Boscarino and Steiber (1982), it is found that being given notice of hygiene and cleaning, attitudes and behaviors of staff, being near to the house, having attending physician and technological equipment, past experiences about hospital, expenditure of service, size of hospital, religious affiliation is effective in hospital preference of patients. According to Lavi (1983), patients consider quality of service, proximity of hospital, finance and accessibility, proximity of hospital to home, communication of hospital staff and religious affiliation in the hospital preferences. As regards Verma and Khandelwal's study (2011), medical quality, hygiene, infrastructure, method of payment, duration of therapy, technological potentiality, physical potentiality, image and reputation of hospital, size of hospital, attitude and behavior of staff, speediness of service, advice of doctors and relatives, varieties of services, waiting period and location of hospital has a role in hospital preferences of patients.

According to Dubey and Sharma (2013), proximity of hospital to home, having attending physician, taking care of staff's business on time, enough technical equipment, good communication between doctors and patients, rapid patient admission process, reliable treatment that is done and hospital introduction is effective in hospital preferences of patients. When studies that are done in literature are examined, it is said that attitudes and behaviors of staff, hygiene, physical possibilities of hospital, quality of service, proximity to home and technological equipment has an impact on hospital preferences of patients.

## 2. MATERIALS AND METHODS

### 2.1. Purpose of the Study

The main purpose of this study is to determine factors that are effective in the fact that Suleyman Demirel University academic and administrative staff prefers Suleyman Demirel University Research and Application Hospital and to reveal relationships of these factors with demographic variables. Another purpose is to give an advice to become more preferable hospital to hospital administrators.

### 2.2. Population and Sample

Scope of the study constitutes academic and administrative staff in Isparta Suleyman Demirel University, in January-March 2017. The total number of administrative and academic staff of Süleyman Demirel University is 2800. All scope is tried to be reached without going to whatsoever sample choice in the study. The study is based on volunteerism and 709 people agreed to participate in the study.

### 2.3. Data Collection Tool

Data that is used in the study is obtained in consequence of making survey that is prepared by

benefitting from surveys in literature and develop by using five point likert scales to university staff with face to face meeting. When participants' answers are evaluated, it means 1 "*totally disagree*" and 5 *"totally agree".*

**Table 1. Findings of Factor Analysis**

Below are the results of factor analysis.

| Items | Component | |
|---|---|---|
| | **Factor 1** | **Factor 2** |
| I prefer this hospital because priority is given to me about appointment in consequence of being university staff. | .912 | |
| I prefer this hospital because priority is given to my relatives (mother, father, partner ext.) about appointment in consequence of being university staff. | .903 | |
| I prefer this hospital because hospital is close to my workplace. | .749 | |
| I prefer this hospital because interest and attention is shown in consequence of being university staff. | .859 | |
| I do not prefer this hospital because I get examined by resident physician instead of specialist physician. | | .685 |
| I do not prefer this hospital because there are students during the medical examination beside doctor who get examined. | | .711 |
| I do not prefer because there is a negative experience of my relative about this hospital. | | .727 |
| I do not prefer this hospital because some academicians care patient costly. | | .764 |
| I do not prefer this hospital because different clinical patients stay in the same room. | | .750 |

The items related to the reasons why university personnel preferred Suleyman Demirel University Research and Application Hospital were subjected to factor analysis. In factor analysis, "Principal Component Analysis" and "Varimax Vertical Rotation" method were used. ıtems that are included in more than one factor and which are included in more than one factor with a difference of less than 0.10 with a factor load less than 0.30 and expressions that do not conform to the theoretical framework have been extracted.

According to the data of the questionnaire on the reasons for choosing Süleyman Demirel University Research and Application Hospital, as a result of factor analysis, it was divided into two factors as "preference status" and eme non-preference status". These factors explain 62.40% of the variance. Factors are as follows.

**Factor 1**- Preference Status: Factor 4 consists of expressions and factor loadings are between 0.749 and 0.912. The Cronbach Alpha value of the factor was 88.3%.

**Factor 2** - Non-preference: Factor consists of 5 expressions and factor loadings are between 0.685 and 0.764. The Cronbach's alpha value of the factor was 78%.

## 3. FINDINGS AND DISCUSSION

### 3.1. Demographical Findings

**Table 2: Demographical Attributes of Participants to the Research**

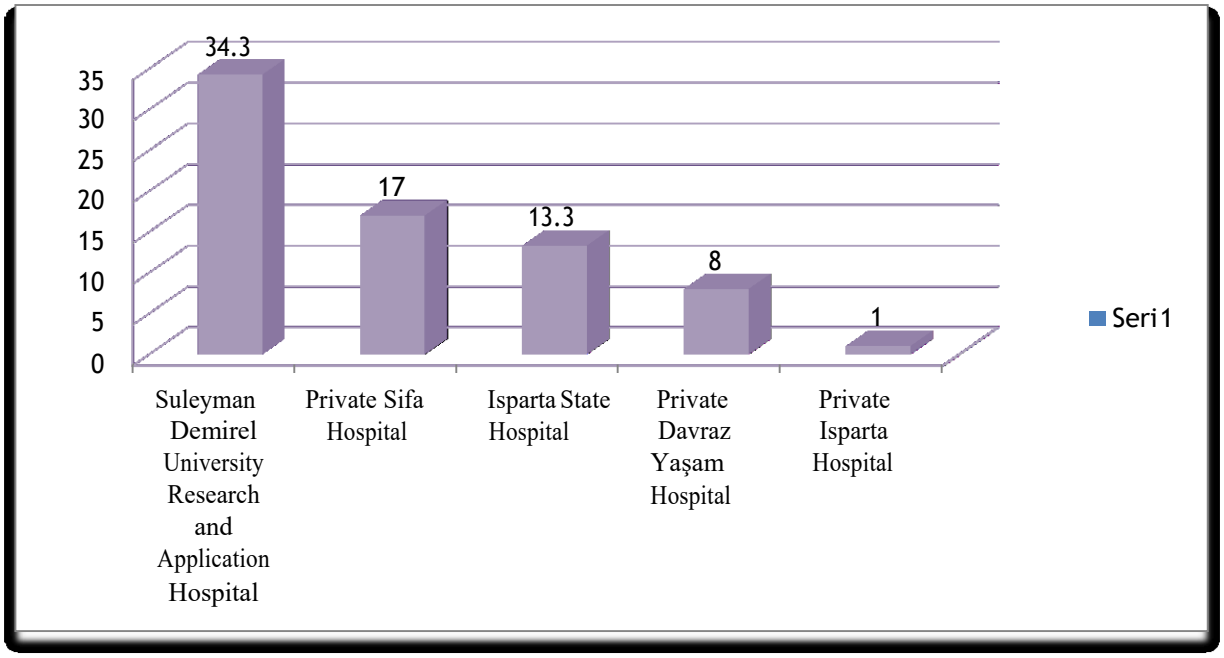
| **Variances** | | | | | |
|---|---|---|---|---|---|
| **Gender** | **Number** | **%** | **Educational Background** | **Number** | **%** |
| Male | 451 | 63.6 | High School | 57 | 2.1 |
| Female | 258 | 36.4 | Associate Degree | 59 | 8.4 |
| **Total** | 709 | 100 | Bachelor's Degree | 91 | 13.0 |
| **Age** | **Number** | **%** | Master's Degree | 156 | 22.2 |
| ≤ 30 | 201 | 29.2 | Doctor's Degree | 339 | 48.3 |
| 31-40 | 222 | 32.2 | **Total** | 702 | 100 |
| 41 ≥ | 266 | 38.6 | **Level of Income (TL)** | **Number** | **%** |
| **Total** | 686 | 100 | ≤3000 | 181 | 28.2 |
| **Marital Status** | **Number** | **%** | 3001-4000 | 220 | 34.3 |
| Married | 525 | 74.3 | 4001≥ | 240 | 37.4 |
| Single | 182 | 25.7 | **Total** | 641 | 100 |
| **Total** | 707 | 100 | **Working Time** | **Number** | **%** |
| **Occupation** | **Number** | **%** | ≤ 9 | 402 | 60.0 |
| Academic | 490 | 69.9 | 10-18 | 165 | 24.6 |
| Administrative | 211 | 30.1 | 19 ≥ | 103 | 15.4 |
| **Total** | 701 | 100 | **Total** | 670 | 100 |

Demographical information of 709 people who participated in the research is seen in Table 1. According to Table 1, 63.6% of the participants are male, 36.4% are female and 74.3% are married. Also, 69.9% of the participants are academic staff, 30.1% are administrative staff. When the working hours are examined, it is seen that the employees who work equal to nine hours and less than nine hours are 60%. In addition, 48.3% of the participants have a doctor's degree.

### 3.2. Analysis of Questions About Using Health Services

When the question of " How many times do you and your family go to a hospital per a year?" directs to the staffs who participated in the study, it reveals that staffs go to a hospital approximately 11,7 times. When the question of "What do you think that how many of them is to Suleyman Demirel University Research and Application Hospital?" directs to them, it is seen that this rate consists of 4.72 university hospital. According to these findings, it is said that more than half of hospital preferences of staffs who participated in the study is other hospitals except university hospital.

**Graphic 1: Preference Rates of Hospitals**




When the most preferable hospital to take health service is asked to the staffs who participated in study, %34.3 of them answer as Suleyman Demirel University Research and Application Hospital, %21.5 of them answer as Özel Sifa Hospital, %17 of them answer as Isparta State Hospital, %13.3 of them answer as Ozel Davraz Yaşam Hospital, %8 of them answer as Private Isparta Hospital, %1 of them answer as Maternity and Children Hospital and %1 of them answer as others (Gafik 1).

When the question of "Do you advice Suleyman Demirel University Research and Application Hospital?" is asked to staffs who participated in the study, %34.5 of the staffs answer as "neutral", %19.6 of them answer as "always advisable", %19.2 of them answer as "advisable", %13.2 of them answers as "ı never have not adviced", %13.5 of them answer as "ı do not advice". It is said that approximately %40 of them advice university hospital despite hospital of staffs' institution.

Reasons to Prefer and not to Prefer Suleyman Demirel University Research and Application

Hospital Arithmetic mean and standard deviation about hospital preferences reasons of staffs who participated in the study is shown in Table 3.

**Table 3: Definitive Statistics About Preferences Reasons**

| **Matters** | **N** | **$\bar{X}$** | **Ss** |
|---|---|---|---|
| I prefer this hospital because I am pleased with previous service. | 688 | 3.00 | 1.34 |
| I prefer this hospital because priority is given to me about appointment in consequence of being university staff. | 686 | 3.22 | 1.53 |
| I prefer this hospital because priority is given to my relatives (mother, father, partner ext.) about appointment in consequence of being university staff. | 679 | 3.01 | 1.52 |
| I prefer this hospital because hospital is close to my workplace. | 690 | 3.43 | 1.49 |
| I prefer this hospital because interest and attention is shown in consequence of being university staff. | 687 | 2.79 | 1.48 |
| I prefer this hospital because I can get examined in hospital by faculty members (professor, lecturer ext.). | 689 | 3.05 | 1.49 |
| I prefer this hospital because patient privacy is supervised. | 678 | 2.95 | 1.35 |
| I prefer this hospital because of it's technological infrastructure. | 685 | 3.22 | 1.31 |

The most important factor that staff who participated in the study prefers university hospital is to be close to the workplace as being seen in Table 2. Being given priority about appointment, developed technological infrastructure, being gotten examined by faculty members, being given priority to the relatives, being pleased with previous service, being supervised patient privacy and being shown more interest and attention in consequence of being university staff follow this.

**Table 4: Definitive Statistics About Reasons About not Being Preferred**

Arithmetic mean and standard deviation about reasons of staffs who participated in the study about not being preferred is shown in Table 4.

| | N | $\bar{X}$ | Ss |
|---|---|---|---|
| I do not prefer this hospital because I get examined by resident physician instead of specialist physician. | 675 | 3.16 | 1.51 |
| I do not prefer this hospital because there are students during the medical examination beside doctor who get examined. | 674 | 2.73 | 1.46 |
| I do not prefer because there is a negative experience of my relative about this hospital. | 675 | 2.79 | 1.46 |
| I do not prefer this hospital because some academicians care patient costly. | 673 | 2.80 | 1.53 |
| I do not prefer this hospital because different clinical patients stay in the same room. | 666 | 2.97 | 1.49 |
| I do not prefer this hospital because excessive medical examination is done in the hospital. | 678 | 2.82 | 1.44 |
| I do not prefer this hospital because waiting period in hospital is so long. | 678 | 3.30 | 1.46 |
| I do not prefer this hospital because academic unit behaves unrelated. | 669 | 2.61 | 1.50 |

According to the research, the most important factor that staff who participated in the research do not prefer university hospital is long wait period as being seen in the Table 4. Being gotten examined by resident physician instead of specialist physician, being studied in the same room by different clinical patient, being done excessive medical examination in the hospital, being cared patients by some academicians costly, being a negative experience of relatives about hospital, being students during the medical examination as well as doctor who get examined and being behaved unrelated by academic unit follows this factor.

When the question of "What do you think about the most important feature that separates the university hospital from other hospitals?" directs to the staff who participated in the research, %21of them answer as technical equipment, %20.4 of them answer as detailed research, %13.9 of them answer as being depend on the university, %9.9 of them answer as getting examination by lecturers and %5.8 of them answer as being accessible.

When the question of " Which hospital is your first preference when you need to consult emergency?" is asked to staffs who participated in the research, %32.8 of them indicate as Suleyman Demirel University Research and Application Hospital, %28.7 of them say as State Hospital, %17.9 of them indicate as Private Sifa Hospital, %12.2 of them state as Private Davraz Life Hospital, %7.9 of them remark as Private Isparta Hospital and %0.4 of them indicate as Maternity and Child Hospital as their first preference during the emergency case.

When the question of "Why is this hospital your first preference during the emergency case?" directs to staffs who participated in the research, %42.2 of them says that the hospital is accessible, %17 of them answer that attention is shown, %16.3 of them says that wait period is short, %5.6 of them indicate that it has better equipment and %5.2 of them says that there is

experienced personal. According to study of Boscarino and Steiber (1982), it is found that proximity of the hospital to home, having an experience about the hospital, advice of the doctor, having familiar staff, quality service has an impact on hospital preference.

When the question of " What is the most important problem to fix in the university hospital?" is asked to staff who participated in the research, %19 of them say as attitudes and behaviors of staff, %14 of them indicate as physical conditions, %9.6 of them state as long wait period, %9.2 of them answer as being crowded and %8.8 of them say as getting examination by assistant.

When the question of "Which kinds of arrangements should be done to prefer Suleyman Demirel University Research and Application Hospital?" to staff who participated in the research, %18.9 of them say that attitudes and behaviors should enhance, %12.7 of them say that lecturers should give free ambulatory care service, %9.3 of them say that priority should be given to the university personal, %8.1 of them say that physical conditions should be fit and %7.4 of them answer that operations (analysis, examination, report) should be put on the fast track that arrangements to prefer the hospital.

When the question of "Is there anything else you would like to add about Suleyman Demirel University Research and Application Hospital?" to staffs who participated in the research, %20.9 of them say that attitudes and behaviors of staff should enhance, %12.2 of them indicate that parking area of hospital should be developed, %9.5 of them state that importance about hygiene should be given, %8.1 of them say that room capacity should be increase and %8.1 of them state that technological infrastructure should be developed.

There has been found a statistically meaningful relationship between "proximity of hospital to the work office", which is the most important factor among the reasons of hospital preference, and gender, age, income level, marital status and job variances. By an increase in the age and salary of the participant, proximity of hospital to the work office has more impact on hospital preference of single than married, women than men and management personal than academic personal.

A meaningful relationship between "getting examined by physician assistant instead of specialist physician" that the most important factor that they do not prefer and age variance is found statistically. when ages of staffs increase, it is said that this reason which examination is done by physician assistant instead of specialist physician is more effective on not preferring the hospital. In the study discussed by Tüfekçi and Asığbulmuş (2016); reliability, availability of specialist physician, ease of transportation and patient satisfaction were the most important criteria for the selection of patients.

Factors about why academic and administrative staffs of Suleyman Demirel University prefer Suleyman Demirel University Research and Application Hospital is tried to be pointed out in this study. At the end of the study, it is seen that two thirds of university staff prefers other hospital apart from research and application hospital but the most preferred hospital is research and application hospital with %34,3 preferences rate when every hospital is evaluated separately.

The most important reasons to be preferred university hospital; this is found as proximity of hospital to work office, priority in appointment, developed technological infrastructure and getting examination by academic staff. Obtained findings from result of study show similarity with findings that is in literature (Berkowitz ve Flexner, 1981; Boscarino and Steiber, 1982; Kamra vd., 2016; Layi, 1983; Akıncı vd., 2004; Verma and Khandelwal, 2011). In a study conducted by Malik and Sharma (2017), it was determined that the reasons for choosing a hospital were the professional competence of the health personnel, the clinical effectiveness of the hospital and the patients being personal. In another study, it was found that distance, advice and price had the most effect on the reasons for hospital preference. (Hoşgör, Gündüz Hoşgör, 2019). In a study conducted by Lee et al. (2008), 16 items were identified as hospital preference criteria and reported to be grouped under 4 factors: price perception, reputation, quality and courtesy and

timely service delivery.

The most important reasons not to prefer hospital; this is found as long wait period, getting examination by assistant and being stayed in the same room by different clinical patients.

As in every study, this study has some limitations. The most important limitation of this study is that only the reasons for hospital preference of employees in a university are determined. Region based universities can be selected and the reasons of hospital preference of the employees working in those places can be searched and compared.

Effective factors for hospital preference should be known to be offered effective health service by hospital administrators. Obtained findings from the study are important to create awareness in hospital administrators. If hospital administrators take turn running by concentrating on these factors, this will aid about more preferable hospital.

As a result of the findings obtained after this research, the university staff can make the following recommendations to prefer the university hospital;

- In order to shorten the long waiting periods, studies are made to ensure the effective use of the appointment system in polyclinic services.
- It can be said that in addition to assistant physicians, specialist physicians will work in the polyclinic. Thanks to the specialist physician, it was concluded that a more reliable environment would be provided for the patient and assistant physician while shortening the patient examination times.
- Lastly, the personnel working in the hospital are subjected to personal development seminars such as “communication techniques, coping with stress, time management yönelik to ensure the satisfaction of patients and their relatives. As a result of this, positive effects will be formed in employee behaviors so that satisfaction will be increased and the reason for preference will be affected positively.

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*RESEARCH ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# THE RELATIONSHIP BETWEEN HEALTHY LIFE STYLE BEHAVIORS AND HEALTH LITERACY: A STUDY ON UNIVERSITY STUDENTS*

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## ABSTRACT

In order to create healthy societies today, individuals need to understand, develop and apply health information. In this context, the question of whether there is a relationship between health literacy level and lifestyle behaviors of individuals constitutes the research problem. A questionnaire consisting of three parts was used as a data collection tool. The first part of the questionnaire consisted of a personal information form, the second part included the Adult Health Literacy Scale and the third part included the Healthy Lifestyle Behavior Scale. The study was conducted on 18.03.2019 and 10.04.2019 in a vocational school in Kastamonu with 149 students based on the questionnaire system. SPSS statistics (v.22) package program was used in the data analysis of the study. Mann-Whitney U test, Kruskall Wallis test and correlation analysis and frequency analysis were performed.

There was a positive but weak relationship between health responsibility, physical activity, psychological development dimensions, healthy lifestyle behaviour scale and adult health literacy scale. There was also a positive but weak correlation between general health lifestyle behaviors and adult health literacy. According to these results, as health literacy increases, it can be said that healthy lifestyle behaviors show a positive development.

**Keywords:** Health Literacy, Healthy Lifestyle Behaviors, University Students.

**A R T I C L E  I N F O**

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## 1. INTRODUCTION

The health status of each individual living in a country determines the overall health structure of that society. Therefore, healthy societies emerge with each individual protecting and improving their health (Özenoğlu et al., 2018: 233). In this context, today's health concept envisages a health-centered care approach that protects, maintains and improves the health of both the individual and the society. This understanding is based on gaining behaviors that will protect, maintain and improve the health of the individual and enable them to make the right decisions about their own health. In this direction, protecting the health of the individual and ensuring the continuation of the well-being are the main purpose of the health professionals as well as the responsibility of the individual (Özpulat, 2010: 293-294).

In order to maintain and improve the well-being, the social and cognitive skills related to the access, understanding and use of health information are health literacy (Aras and Bayık Temel, 2017: 86). Developing health literacy can increase individuals' ability and motivation to find solutions to both personal and public health problems and these skills can be used to find solutions to various health problems throughout life (Ishikawa and Kiuchi, 2010: 1).

Health literacy is defined as “knowledge, motivation and competence that will enable people to access, understand, evaluate and use the necessary health information in order to make decisions about related to literacy, their health in their daily lives, improve their health and improve their quality of life and prevent their diseases” (Aktaş, 2019: 12). In other words, health literacy is when an individual understands, interprets, and behaves appropriately when an individual wants to give medical information to a patient (Değerli and Tüfekçi, 2018: 467). Health literacy is the capacity to receive health services, to obtain health information, to interpret and to understand health in order to protect, promote and improve the deteriorating health of people (Şahinöz et al., 2018: 74).

Health promotion varies in line with current conditions, changes in society and global developments in the world. In order to form healthy societies, it is important to choose the right health policies and implement them effectively (Madenoğlu Kıvanç, 2015: 165). In this context, creating health policies that will increase the health literacy of the society will contribute to the evaluation of health services in addition to increasing the health knowledge level of individuals.

As a matter of fact, the increase in the level of health literacy provides patients to recognize doctors, to understand doctors' information, to inform doctors about the disease as necessary and it also provides doctors with the ability to carry out ideas about the diagnosis and treatment of the disease (Çatı et al., 2018: 69).

Health promotion is not only aimed at preventing diseases, but also aims to improve the individual's general health and well-being. Within the framework of this understanding; it is necessary for the individual to gain behaviors that will protect, maintain and improve individuals’ well-being and to make the right decisions about their health. Healthy lifestyle behaviors that have individuals’ health-enhancing effects include taking responsibility of the individual, self-realization, health control, stress management, nutrition and exercise

behaviors (Karadeniz et al., 2008: 497). When healthy lifestyle behaviors become a part of life, being healthy can be sustained and improved positively (Özenoğlu et al., 2018: 233).

Individuals are given responsibility in many health promotion models and practices related to health promotion to gain healthy lifestyle behaviors and education of individuals is considered important for health promotion (Koçoğlu, 2006: 32). As a matter of fact, according to the World Health Organization (WHO) estimates, 70-80% of deaths in developed countries and 40-50% of deaths in developing countries are caused by lifestyle diseases. The person's own attitudes and behaviors play a major role in the formation of these diseases. This situation reveals the importance of practices aimed at the development of life styles, which are the most important factors in disease prevention and health promotion (Şen et al., 2017: 7). In many countries, at national level studies, it is reported that at least fifty percent of annual deaths result from unhealthy lifestyles of individuals. This situation reveals the importance of applications for the development of life styles, which are the most important factors in disease prevention and health promotion (Zaybak and Fadiloglu, 2004: 79). There are also studies which show the increase of many problems and worries about life styles and risky behaviors of students during university period (Ansari et al., 2011: 197). In this context, health literacy levels of high school students and their relationship with healthy lifestyle behaviors will be evaluated.

## 2. MATERIALS AND METHODS

The aim of this study is to determine the relationship between health literacy level and healthy lifestyle behaviors of university students statistically. In addition to this aim of the study, the analysis of the scale and its subscales in terms of demographic variables are included.

The hypothesis reflecting the aim of the research is as follows;

H1: There is a positive relationship between health literacy level and healthy lifestyle behaviors.

The population of the study consisted of 175 students studying at a vocational college in Kastamonu province. As the entire universe was aimed to be reached, sampling was not taken. The questionnaire was conducted between 18.03.2019 and 10.04.2019 with 149 students who could be reached and volunteered to participate in the study.

### 2.1. Data Collection Tools of Research

A questionnaire was used as a data collection tool. This questionnaire consisted of three parts. In the first part demographic questions, in the second part “Adult Health Literacy Scale”, in the third part “Healthy Lifestyle Behavior Scale II” were included. In the data analysis of the study, SPSS statistics (v.22) package program was used. Analysis; frequency analysis, mean, Mann-Whitney U test, Kruskall Wallis Test and correlation analysis were performed.

*Adult Health Literacy Scale*

The scale, which was developed by Sezer and Kadıoğlu (2014) and tested for reliability and validity, includes 22 items related to health information and drug use in order to determine the adequacy of adult individuals in health literacy and one form of knowing the location of organs in the body. 13 of the questions in the scale were yes / no, 4 were filling in the spaces, 4 were multiple choice and 2 were matching. Scoring of the questions was done separately for each question type. Yes / no answers were given 1 point for positive markers, 0 point for negative markers, 1 correct answer for gap filler questions, 0 point for wrong answer. In multiple choice questions, 1 point was given to those who mark two and more than two correct answers, and 0 point was given to those who did not know at all or those who marked the wrong answer with the correct one. In the case of matching type questions, those who matched more than two correctly were given 1 point and the others were given 0 point. The scores that can be obtained from the scale vary between 0-23. As the score obtained from the scale increases, the level of health literacy increases (Sezer and Kadıoğlu, 2014: 166-167).

*Lifestyle Behavior Scale II*

The Healthy Lifestyle Behavior Scale was developed by Walker, Sechrist and Pender (1987), revised again in 1996 and named the "Healthy Lifestyle Behavior Scale II ((Walker et al., 1996). The scale measures health-promoting behaviors of an individual in relation to a healthy lifestyle. The scale consists of 52 items and has 6 sub-factors. Sub-dimensions are spiritual development, health responsibility, physical activity, nutrition, interpersonal relationships and stress management. The general score of the scale indicates healthy lifestyle behaviors. All statements in the scale have a positive meaning. The rating is 4-point likert. It is accepted as Never (1), sometimes (2), often (3), regularly (4). The lowest score is 52 and the highest score is 208 for the whole scale. The Turkish validity and reliability study of the scale was conducted by Bahar, Beşer, Gördes, Ersin and Kıssal (2008). In this study, the reliability value of the scale was found to be Cronbach Alpha 0.88.

**Table 1. Lifestyle Behavior Scale II Scoring**

| Sub- dimensions and Scale | Question No. in the Scale | The Lowest Score | The Highest Score | Score Obtained in the Study |
|---|---|---|---|---|
| *Health Responsibility* | *3,9,15,21,27,33,39,45, 51* | *9* | *36* | *20.62* |
| *Physical Activity* | *4,10,16,22,28,34,40,46* | *8* | *32* | *17.47* |
| *Nutrition* | *2,8,14,20,26,32,38,44, 50* | *9* | *36* | *20.14* |
| *Spiritual Development* | *6,12,18,24,30,36,42,48 ,52* | *9* | *36* | *27.17* |
| *Interpersonal Relations* | *1,7,13,19,25,31,37,43, 49* | *9* | *36* | *25.61* |
| *Stress Management* | *5,11,17,23,29,35,41,47* | *8* | *32* | *20.00* |
| *Total Scale* | *1-52 Scale Items* | *52* | *208* | *131.02* |

*Health responsibility* is individuals' feeling of responsibility actively for their own well-being. It is to take care of their health, to learn about health, to apply for professional help when necessary. Physical activity involves the regular practice of light, moderate and heavy exercises. It is carried out in a planned manner as part of daily life. Nutrition determines the value of an individual in selecting, organizing and choosing food. Spiritual development focuses on the development of internal resources. Development can take place through relationship and transcendence. Transcendence provides inner peace, creating the possibility to provide opportunities for new experiences other than who we are and what we do. Establishing relation is to be in relation to the universe and feel in harmony. Improvement is to work for purposes in life and maximize the power of the individual towards the state of well-being. Interpersonal relationships are relationships with others. It requires the use of communication to establish a meaningful relationship other than causal requirements. Communication involves sharing thoughts and feelings through verbal and non-verbal messages. Stress management is the ability of an individual to identify and activate physiological and psychological resources to reduce or effectively control tension (Bahar et al., 2008).

### 2.2. Findings

The distribution of the students participating in the study according to demographic characteristics is shown in Table 2.

**Table 2. Distribution of Participants by Demographic Characteristics**

| Demographic Features | | Frequency (f) | Percent (%) |
|---|---|---|---|
| Age Variable | 18 | 18 | 12.2 |
| | 19 | 37 | 25.0 |
| | 20 | 47 | 31.8 |
| | 21 and Over | 34 | 23.0 |
| Gender Variable | Male | 55 | 37.2 |
| | Female | 93 | 62.8 |
| Department Type Variable | Cookery | 21 | 14.2 |
| | Horse Breeding | 17 | 11.5 |
| | Banking and Finance | 24 | 16.2 |
| | Public Finance | 37 | 25.0 |
| | Accounting and Tax Practices | 11 | 7.4 |
| | Health Institutions Management | 38 | 25.7 |
| Class Level Variable | Class I | 106 | 71.6 |
| | Class II | 42 | 28.4 |
| Family Income Status (TL) Variable | 0-1999 | 28 | 18.9 |
| | 2000-3499 | 67 | 45.3 |

| | | | |
|---|---|---|---|
| | 3500 and Over | 42 | 28.4 |
| Chronic Disease Condition Variable | Yes (have chronic disease) | 17 | 11.5 |
| | No (no chronic disease) | 131 | 88.5 |
| Health Related Course Status Variable | Yes (took lessons) | 48 | 32.4 |
| | No(didn't take lessons) | 98 | 66.2 |
| Presence of Health Workers in the Family Variable | Yes | 19 | 12.8 |
| | No | 129 | 87.2 |
| Use of Technology Status in Obtaining Health Related Information Variable | Yes | 109 | 73.6 |
| | No | 39 | 26.4 |

According to Table 2, 31.8% of the students are in the 20-year age group, 62.8% are women, 25.7% are in the associate degree department of Health Institutions Management and 71.6% are in the first grade. 45.3% of the students who participated in the study had a family income of 2000-3499 TL and 11.5% had chronic disease. It is seen that 66.2% of the students did not take any courses related to health, 87.2% did not have health workers in their families and 73.6% did not use technology to obtain information about health.

**Table 3. Findings for Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales by Gender**

| **Scale and Subscales** | **Gender Variable** | | | |
|---|---|---|---|---|
| | **Male n:55 $\bar{x}$±sd*** | **Female n:93 $\bar{x}$±sd** | ***Z-Value*** | **p** |
| General Health Literacy | 13.69±2.25 | 14.03±2.87 | -0.875 | 0.382 |
| Health Responsibility | 20.37±5.82 | 20.77±3.97 | -0.849 | 0.396 |
| Physical Activity | 19.15±4.92 | 16.47±4.49 | -3.165 | **0.002** |
| Nutrition | 20.69±4.33 | 19.81±3.91 | -1.413 | 0.158 |
| Spiritual Development | 27.39±4.99 | 27.04±4.13 | -0.794 | 0.427 |
| Interpersonal Relationships | 24.90±5.37 | 26.03±6.01 | -0.867 | 0.386 |
| Stress Management | 19.76±3.71 | 20.13±3.40 | -0.536 | 0.592 |
| General Healthy Lifestyle Behaviors | 132.29±23.03 | 130.27±17.67 | -0.859 | 0.390 |

***sd:Standart Deviation.**

The statistical results for the comparison of adult health literacy and healthy lifestyle behaviors scale and subscales by gender are presented in Table 3. When Table 3 is analyzed, the responses of the participants to the physical activity dimension show a significant difference according to gender ($p < 0.05$). When the arithmetic means are examined, it is found that male participants have higher scores. The physical activity dimension generally includes exercises, muscle strengthening and physical actions. In this respect, male students' willingness to muscle strengthening, sports organizations and weight loss applications can be relatively effective in this way. General health literacy, health responsibility, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scales do not show significant differences according to gender ($p > 0.05$).

**Table 4. Findings for the Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales by Age**

| Scale and Subscales | Age Variable | | | | | |
|---|---|---|---|---|---|---|
| | 18 Age n:18 $\bar{x}$±sd | 19 Age n:37 $\bar{x}$±sd | 20 Age n:47 $\bar{x}$±sd | 21 and Over n:34 $\bar{x}$±sd | Chi Square | p |
| General Health Literacy | 13.22±1.69 | 13.43±2.84 | 14.02±2.55 | 14.32±2.82 | 5.643 | 0.130 |
| Health Responsibility | 19.14±4.27 | 20.78±4.40 | 20.76±4.67 | 20.41±5.39 | 1.609 | 0.657 |
| Physical Activity | 17.74±3.72 | 16.33±4.34 | 17.76±5.34 | 17.89±5.30 | 1.910 | 0.591 |
| Nutrition | 18.94±3.42 | 20.19±4.24 | 19.90±4.19 | 20.88±4.34 | 1.568 | 0.667 |
| Spiritual Development | 26.01±5.48 | 26.04±4.64 | 27.73±3.58 | 27.53±4.56 | 5.129 | 0.163 |
| Interpersonal Relationships | 27.55±10.55 | 25.37±5.22 | 25.85±4.63 | 24.89±4.85 | 1.426 | 0.699 |
| Stress Management | 20.72±3.72 | 19.46±2.89 | 20.37±3.69 | 19.50±3.76 | 5.045 | 0.169 |
| General Healthy Lifestyle Behaviors | 130.13±23.39 | 128.20±19.79 | 132.39±18.24 | 131.12±21.07 | 2.512 | 0.473 |

The results of the analysis of the comparison of adult health literacy and healthy lifestyle behaviors scale and subscales according to age variable are presented in Table 4. When Table 4 is analyzed, general health literacy, health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors do not show significant differences according to age ($p > 0.05$).

**Table 5. Findings for the Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Class Variable**

| Scale and Subscales | Class Variable | | | |
|---|---|---|---|---|
| | **Class I n:106 $\bar{x}$±sd** | **Class II n:42 $\bar{x}$±sd** | ***Z-Value*** | **P** |
| General Health Literacy | 13.65±2.71 | 14.54±2.40 | -1.929 | 0.054 |
| Health Responsibility | 20.39±4.72 | 21.22±4.74 | -1.050 | 0.294 |
| Physical Activity | 17.53±4.94 | 17.30±4.56 | -0.030 | 0.976 |
| Nutrition | 19.84±4.09 | 20.88±4.02 | -1.736 | 0.083 |
| Spiritual Development | 26.89±4.47 | 27.87±4.40 | -1.392 | 0.164 |
| Interpersonal Relationships | 25.50±6.28 | 25.87±4.34 | -1.344 | 0.179 |
| Stress Management | 19.98±3.64 | 20.03±3.22 | -0.038 | 0.969 |
| General Healthy Lifestyle Behaviors | 130.16±20.39 | 133.19±18.18 | -1.487 | 0.137 |

The results of the analysis of the comparison of adult health literacy and healthy lifestyle behaviors scale and subscales according to class variable are presented in Table 4.. When Table 5 is analyzed, general health literacy, health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scales do not show statistically significant differences according to the level of education of students ($p > 0.05$).

**Table 6. Findings for the Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Chronic Disease Variable**

| Scale and Subscales | Chronic Disease Variable | | | |
|---|---|---|---|---|
| | **Have Chronic Disease n:17 $\bar{x}$±sd** | **No Chronic Disease n:131 $\bar{x}$±sd** | ***Z-Value*** | **P** |
| General Health Literacy | 14.58±3.41 | 13.81±2.54 | -0.925 | 0.355 |
| Health Responsibility | 23.94±5.35 | 20.19±4.49 | -2.759 | **0.006** |
| Physical Activity | 18.05±6.04 | 17.39±4.66 | -0.142 | 0.887 |
| Nutrition | 21.14±5.09 | 20.01±3.94 | -0.320 | 0.749 |
| Spiritual Development | 27.41±5.75 | 27.14±4.29 | -0.247 | 0.805 |
| Interpersonal Relationships | 24.55±5.74 | 25.75±5.80 | -0.931 | 0.352 |
| Stress Management | 19.67±4.21 | 20.04±3.43 | -0.754 | 0.451 |
| General Healthy Lifestyle Behaviors | 134.78±26.49 | 130.54±18.81 | -0.253 | 0.801 |

The statistical results for the comparison of adult health literacy and healthy lifestyle behaviors scale and subscales according to chronic disease variable are presented in Table 6. When Table 6 is analyzed, the responses of the students to the health responsibility dimension shows a significant difference according to the presence or absence of chronic disease in the students ($p < 0.05$).

According to the results, the arithmetic mean of the responses of the students with chronic illness to the health responsibility dimension is higher. The health responsibility dimension includes the individuals' consultation with a doctor or health personnel, reading health-related books and watching TV programs, and physical control of their body. Consulting with doctors or other health stuff about drugs that should be used continuously, receiving training from health care providers on chronic diseases (diabetes education, etc.), using this service with relatively greater need for health care, being in the hospital or other health institutions during the use of the service may raise self-awareness and awareness about healthy living to students with chronic illness. General health literacy, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scales do not show significant difference according to chronic disease variable ($p > 0.05$).

**Table 7. Findings for Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Health Related Course Variable**

| Scale and Subscales | Health Related Course Variable | | | |
|---|---|---|---|---|
| | **Took Lessons n:48 $\bar{x}$±sd** | **Didn't take lessons n:98 $\bar{x}$±sd** | ***Z-Value*** | **P** |
| General Health Literacy | 14.87±2.54 | 13.45±2.61 | -2.891 | **0.004** |
| Health Responsibility | 22.44±4.75 | 19.78±4.52 | -3.086 | **0.002** |
| Physical Activity | 18.26±5.67 | 17.16±4.34 | -0.983 | 0.326 |
| Nutrition | 21.00±4.39 | 19.79±3.89 | -1.834 | 0.067 |
| Spiritual Development | 28.83±4.42 | 26.41±4.29 | -2.890 | **0.004** |
| Interpersonal Relationships | 26.38±4.67 | 25.28±6.29 | -1.680 | 0.093 |
| Stress Management | 20.10±3.25 | 19.99±3.67 | -0.008 | 0.993 |
| General Healthy Lifestyle Behaviors | 137.05±19.35 | 128.43±19.49 | -2.550 | **0.011** |

The results of the analysis for comparing adult health literacy and healthy lifestyle behaviors scales and subscales according to the students' taking health related course variable are presented in Table 7. When Table 7 is analyzed, the responses of the students to the dimensions of general health literacy, health responsibility, spiritual development and general healthy lifestyle behaviors scale show a statistically significant difference according to the variable of taking health related courses ($p < 0.05$). When the arithmetic means are examined, it is seen that the average scores of the students taking courses for all dimensions and scales are higher. In health related courses; activities such as providing information about diseases, providing information about health protection and promotion, promotion of first aid and similar practices might have positive effects on students' attitudes and behaviors related to health. On the other hand, physical activity, nutrition, interpersonal relationships and stress management dimensions do not show statistically significant difference according to the health related course variables ($p > 0.05$).

**Table 8. Findings for Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Presence of Health Workers in the Family**

| Scale and Subscales | Presence of Health Workers in the Family | | | |
|---|---|---|---|---|
| | Yes n:19 $\bar{x}$±sd | No n:129 $\bar{x}$±sd | *Z-Value* | P |
| General Health Literacy | 13.05±3.29 | 14.03±2.54 | -1.214 | 0.225 |
| Health Responsibility | 21.93±5.85 | 20.43±4.53 | -1.467 | 0.142 |
| Physical Activity | 19.53±4.83 | 17.16±4.76 | -1.829 | 0.067 |
| Nutrition | 21.21±4.27 | 19.98±4.04 | -0.848 | 0.397 |
| Spiritual Development | 27.86±4.65 | 27.07±4.44 | -0.730 | 0.465 |
| Interpersonal Relationships | 25.14±4.19 | 25.68±5.99 | -0.442 | 0.658 |
| Stress Management | 20.65±3.76 | 19.90±3.48 | -0.641 | 0.521 |
| General Healthy Lifestyle Behaviors | 136.34±21.63 | 130.24±19.46 | -1.387 | 0.165 |

The results of the analysis for comparing adult health literacy and healthy lifestyle behaviors scales and subscales according to presence of health workers in the family variable are presented in Table 8.When Table 8 is analyzed, general health literacy, health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scales do not show a significant difference according to the presence of health workers in the family ($p > 0.05$).

**Table 9. Findings for Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Use of Technology Status in Obtaining Health Related Information Variable**

| Scale and Subscales | Use of Technology Status in Obtaining Health Related Information Variable | | | |
|---|---|---|---|---|
| | **Yes n:109 $\bar{x}$±sd** | **No n:39 $\bar{x}$±sd** | ***Z-Value*** | **p** |
| General Health Literacy | 14.28±2.54 | 12.84±2.71 | -2.439 | **0.015** |
| Health Responsibility | 20.87±4.60 | 19.93±5.06 | -1.123 | 0.262 |
| Physical Activity | 17.31±4.78 | 17.91±4.96 | -0.523 | 0.601 |
| Nutrition | 20.12±4.10 | 20.20±4.08 | -0.223 | 0.824 |
| Spiritual Development | 27.20±4.42 | 27.07±4.62 | -0.024 | 0.981 |
| Interpersonal Relationships | 25.38±4.92 | 26.23±7.76 | -0.092 | 0.927 |
| Stress Management | 20.00±3.39 | 19.97±3.89 | -0.035 | 0.972 |
| General Healthy Lifestyle Behaviors | 130.91±18.92 | 131.34±22.25 | -0.279 | 0.781 |

The results of the analysis for the comparison of adult health literacy and healthy lifestyle behaviors scales and subscales according to use of technology status in obtaining health related information are presented in Table 9. When Table 9 is analyzed, the responses to the general health literacy scale differ significantly according to use of technology status in obtaining health related information ($p < 0.05$). According to the results, the scores of the students using technology to obtain health information are found to be higher. It can be said that the use of technology in health-related issues is becoming more and more widespread and accelerating day by day. In addition, a lot of health-related information can be accessed by using technology today. The fact that such information contributes to the health literacy of the participants may have been effective in producing such results. Health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scales do not show a significant difference according to the use of technology variable in obtaining information about health ($p > 0.05$).

**Table 10. Findings for Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Family Income Status**

| Scale and Subscales | Family Income Status | | | | |
|---|---|---|---|---|---|
| | 0-1999 TL n:28 $\bar{x}$±sd | 2000-3499 TL n:67 $\bar{x}$±sd | 3500 and Over n:42 $\bar{x}$±sd | Chi Square | p |
| General Health Literacy | 14.07±2.46 | 13.71±2.52 | 14.45±2.94 | 0.745 | 0.689 |
| Health Responsibility | 21.22±4.23 | 20.22±5.06 | 20.74±4.80 | 1.757 | 0.415 |
| Physical Activity | 17.58±4.07 | 16.75±4.51 | 18.91±5.52 | 3.798 | 0.150 |
| Nutrition | 19.65±4.05 | 20.38±4.34 | 19.95±4.05 | 0.356 | 0.837 |
| Spiritual Development | 26.79±3.85 | 26.98±4.68 | 27.92±4.48 | 1.696 | 0.428 |
| Interpersonal Relationships | 25.06±4.64 | 25.98±4.64 | 24.76±5.40 | 2.020 | 0.364 |
| Stress Management | 20.45±3.28 | 19.60±3.27 | 20.41±4.05 | 1.185 | 0.553 |
| General Healthy Lifestyle Behaviors | 130.89±16.98 | 129.94±20.48 | 132.72±20.65 | 0.745 | 0.689 |

The results of the analysis for comparing adult health literacy and healthy lifestyle behaviors scale and subscales according to the income status variable of the participants' family are presented in Table 10. When Table 10 is analyzed, general health literacy, health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scale and sub-dimensions do not show a significant difference according to the family income status variable ($p > 0.05$).

**Table 11. Findings for Comparison of Adult Health Literacy and Healthy Lifestyle Behaviors Scale and Subscales According to Department Type Variable**

| Scale and Subscales | Department Type Variable | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Cookery n:21 $\bar{x}$±sd | Horse Breeding n:17 $\bar{x}$±sd | Banking and Finance n:24 $\bar{x}$±sd | Public Finance n:37 $\bar{x}$±sd | Accounting and Tax Practices n:11 $\bar{x}$±sd | Health Institutions Management n:38 $\bar{x}$±sd | Chi Square | p |
| General Health Literacy | 12.95±2.90 | 14.11±1.96 | 13.62±2.91 | 13.59±2.94 | 13.36±2.20 | 14.97±2.18 | 9.794 | 0.081 |
| Health Responsibility | 23.27±5.80 | 20.78±4.45 | 19.80±4.32 | 19.30±4.43 | 19.24±4.92 | 21.30±4.20 | 8.957 | 0.111 |
| Physical Activity | 18.46±4.86 | 20.78±5.45 | 17.20±4.48 | 16.58±4.71 | 16.77±3.67 | 16.66±4.65 | 10.954 | 0.052 |
| Nutrition | 21.82±4.75 | 21.31±4.07 | 18.45±4.10 | 19.76±3.38 | 20.54±4.59 | 20.00±3.90 | 10.468 | 0.063 |
| Spiritual Development | 27.34±5.07 | 27.53±4.35 | 27.54±4.51 | 26.08±4.31 | 25.00±5.03 | 28.37±3.89 | 7.326 | 0.198 |
| Interpersonal Relationships | 26.60±5.86 | 24.68±4.12 | 25.86±9.29 | 24.74±4.75 | 25.18±5.87 | 26.29±4.46 | 3.004 | 0.699 |
| Stress Management | 20.85±4.41 | 20.44±3.94 | 19.93±3.43 | 19.90±3.21 | 19.05±4.27 | 19.73±2.96 | 1.407 | 0.924 |
| General Healthy Lifestyle Behaviors | 138.36±26.13 | 135.55±19.12 | 128.80±21.04 | 126.38±18.28 | 125.80±23.20 | 132.38±14.36 | 7.009 | 0.220 |

The results of the analysis for comparing adult health literacy and healthy lifestyle behaviors scale and subscales according to the variable of department of participants in which they receive education are presented in Table 11. According to Table 11; general health literacy, health responsibility, physical activity, nutrition, spiritual development, interpersonal relationships, stress management and general healthy lifestyle behaviors scale and dimensions do not differ significantly according to department variable ($p > 0.05$).

**Table 12. Correlation Analysis (n = 148)**

| Healthy Lifestyle Behaviors Scale and Subscales | Adult Health Literacy Scale | |
|---|---|---|
| Health Responsibility | **r**=0.208* | **p=0.011** |
| Physical Activity | **r**=0.186* | **p=0.023** |
| Nutrition | **r**=0.132 | **p**=0.110 |
| Spiritual Development | **r**=0.210* | **p=0.010** |
| Interpersonal Relationships | **r**=0.095 | **p**=0.249 |
| Stress Management | **r**=0.080 | **p**=0.333 |
| General Healthy Lifestyle Behaviors | **r**=0.214** | **p=0.009** |

* = Correlation is significant at 0.05 level.

** = Correlation is significant at 0.01 level.

The findings for the correlation analysis between Adult Health Literacy Scale and Healthy Lifestyle Behavior Scale and their sub-dimensions are shown in Table 12. According to Table 12, there is a positive-weak but significant correlation between health responsibility, physical activity, spiritual development dimensions of healthy lifestyle behaviors scale and adult health literacy scale of health lifestyle behaviors scale. A positive, significant but weak relationship is found between general healthy lifestyle behaviors and adult health literacy. In this direction, H1 hypothesis is accepted. According to these results, as health literacy increases, it can be said that healthy lifestyle behaviors have improved positively.

## 3. DISCUSSION AND CONCLUSION

In the study conducted on the sample of university students studying at the Vocational School, the average score of adult health literacy of the students included in the research was 13.90 ± 2.65 and the average score of healthy lifestyle behavior scale was 131.02 ± 19.78. According to the results, it can be said that the total scale score of the participants had a moderate value. In the study of İnkaya and Tüzer (2018), the average health literacy scale was found to be 16.9 ± 3.2. In the study of Sezer (2012), the average score of adult health literacy scale was found to be 13.10 ± 4.22 and the average score of healthy lifestyle behaviors scale was 130.83 ± 21.22. In the study of İnkaya and Tüzer (2018), adult health literacy scale score of female students was found to be higher than male students ($p < 0.05$). In the same study, as the health literacy increased, the health literacy scale score increased, too. In the study of Sezer (2012), in the statistical comparison of the health literacy scale according to the demographic variables and the mean scores, only significant difference was found in the variables of education level and occupational group of the participants ($p<0.005$). While the level of health literacy was found to be higher in the participants with a university degree and a graduate degree, the participants with an academic profession had higher scores (Sezer, 2012). In the study conducted by Şimşek et al. (2012) with healthy lifestyle behaviors scale, the general scale score and sub-dimensions did not show significant difference according to gender and chronic disease variable, whereas the participants with poor economic status perception was found to be lower on spiritual development, interpersonal relations and scale overall scores. In the study conducted by Bostan and Beşer (2017) on nurses, female nurses had higher scores in the nutrition dimension and the result was found to be significant. In the same study, nurses with higher income than expenditure were found to be statistically significantly higher in all subscales and overall scale scores. Yalçınkaya et al. (2007) conducted a study in the health care workers sample, and the female health workers had higher scores in health responsibility and nutrition dimensions. In addition, the overall healthy lifestyle behaviors scale score of health care workers with undergraduate education level was found to be higher (Yalçınkaya et al., 2007). Özyazıcıoğlu et al. (2011) found that female students' health responsibility, nutrition, interpersonal relations and general scale scores were higher. On the other hand, it was found that those who had a good income according to income status had higher nutritional scores. In line with these results, as health literacy increases, it can be said that healthy lifestyle behaviors have improved positively. In this context;

• Increasing the participation of students in sports activities during the education process and being supported for such sports and social programs by the administrations.

• Developing education policies for health promotion, organizing trainings to increase health knowledge,

• Evaluating the effect of trainings on behavior change,

• Increasing public education for health promotion may be suggested.

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*RESEARCH ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# THE IMPACT OF THE PATERNALIST LEADERSHIP ON ORGANIZATIONAL CYNICISM: A RESEARCH IN THE HEALTH SECTOR

Mustafa NAL[1]

## ABSTRACT

This research was conducted with the aim of examining the relationship between "Paternalist Leadership" behaviors of health managers and organizational cynicism behaviors of employees. There are not many studies examining the relationship between paternalistic behavior and organizational cynicism in health sector. This research was carried out with the aim of eliminating this lack.

Questionnaire method was used in the research and the survey was conducted on 104 people working in a public hospital in Turkey. Regression analysis and correlation analysis were used for data analysis.

As a result of the research, it was determined that the level of paternalist leadership perception was higher and the level of organizational cynicism was lower. It was also found that the paternalist leadership had a negative effect on organizational cynicism. According to these results, as the paternalist leadership behavior of health managers increases, it is expected that the level of employees' organizational cynicism decrease.

In this study, it was determined that organizational cynicism behavior of employees could be affected by paternalist leadership behavior. Paternalist leadership can be said to be an appropriate leadership style for reducing healthcare workers' organizational cynicism.

**Keywords:** Paternalist leadership, Organizational cynicism, Paternalism.

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## 1. INTRODUCTION

Although technology has progressed today, most of the work in the healthcare industry is done by people. Human resources are important in this sector due to the fact that human labor is very intense and the level of specialization is high. Job satisfaction must be ensured and motivated for health employees to work effectively and efficiently. Sometimes, however, organizational distortions cause employees to lose motivation and job satisfaction, and employees may exhibit some negative attitudes towards work, such as not coming to work, neglecting work, abandoning work, or leaving work. One of these negative behaviors is cynical behavior. Such behaviors in health organizations can cause the quality of service to decrease, or even to result in unwanted bad events. The most important persons who can prevent such negative behaviors within the organization are the managers.

Manytypes researches (Nal & Tarım, 2017; Aslan, 2015; Baltacı et al., 2014; Cerit 2012; Pellegrini & Scandura,2006; Chou, 2012) have shown that leadership behaviors that managers show are influential on behaviors such as job satisfaction, organizational justice perception, and job separation.In this study, the effect of perceived paternalist leadership on organizational cynicism will be examined.

A survey conducted in Turkey among the ten countries in terms of paternalism and collectivism, it is determined to be in second place (Aycan et al., 2000). In addition, some studies (Nal & Tarım, 2017; Pellegrini & Scandura, 2006; Yaman, 2011; Türesin, 2012) shows that paternalistic leadership high levels of in Turkey.

Paternalist leadership has a positive impact on the behavior of employees in collectivist cultures (Gelfand, et al., 2007). Researches on paternalistic leadership in Turkey (Göncü, 2006; Erben & Güneşer, 2008; Ertüreten, 2008; Yaman, 2011; Uysal et al., 2012; Büyükyavuz, 2015; Akdeniz, 2016; Nal & Tarım, 2017; Nal, 2018), paternalist leadership has a positive effect on employees' positive organizational behavior (organizational citizenship, organizational justice, motivation, job performance, etc.). It has been seen that paternalist leadership has a negative effect on mobbing and turnover intention in Turkey (Soylu, 2011; Yaman, 2011).

In this study, it was aimed to examine the relationship between "Paternalist Leadership" behaviors of health managers and organizational cynicism behaviors of employees.

### 1.1. Organizational Cynicism

Cynicism originated as a school of idea and a lifestyle in ancient Greece. Cynicism is thought to have come from Cynosarges, a town near Athens where the Greek word dog (kyon) or cynics schools are located. Organizational cynicism is defined as a negative attitude towards the employee's organization. Employees think that there are some shortcomings in the organization and they tend to be humiliating and critical towards the organization. This situation has negative effects on the organization. (Dean et al., 1998). Some of the characteristics of the cynics can be listed as being constant complaints, underestimation of the organization and its colleagues, constant pessimistic expressions, and the feeling of cheating by the organization (Abraham, 2000). Organizational cynicism is expressed as the negative attitudes the employee has developed towards the knitting. These attitudes have three dimensions as cognitive dimension, affective dimension and behavioral dimension (Dean et al.,1998).

Cognitive Dimension: The first dimension of organizational cynicism is the Cognitive that the institution lacks honesty. Therefore, organizational spirituality believes that the practices of their organizations are devoid of principles such as justice, honesty and sincerity and that they betray them. That is why they think they are being deceived more than honesty and they do

not accept the decisions taken in the organization even if they are official reasons (Dean et al., 1998).

Affect Dimension: The affective dimension, which is the second dimension of organizational cynicism, includes the emotional reactions that occur as a result of negative situations occurring within the organization. On the emotional dimension, cynics are observed not only as negative beliefs about the institution but also as cynical senses. When they think of their organization, they may feel distress, disgust and shame (Dean et al., 1998). The affective dimension includes strong emotional reactions such as disrespect, anger, distress, and shame (Abraham, 2000).

Behavior Dimension: On the third dimension of organizational cynicism, the employees can exhibit negative information about the organization, complaints, criticism, mocking and humiliation in relation to the organization.Moreover, organizational cynics may tend to make pessimistic predictions about future movements in the organization.For example, they may predict that when a quality study starts, this study will be abandoned due to its costs (Dean et al., 1998).

When the literature is examined, it can be said that the negative effects of organizational cynicism on the organization are as follows; decrease in organizational performance, decrease in organizational commitment, decrease in job dependence, decrease in labor force turnover, increase of job cuts, sabotage, theft, fraud, organizational shrinkage, increase in job separation rates, disobedience, disobedience, mysterious doubt, increase in absenteeism, increase in emotional exhaustion, adherence to unethical behavior desired by managers, increase in negative attitudes, decrease in motivation, increase in organizational degradation, decrease in self-confidence in employees with disconnection of organizations, reluctance in the effort shown for organizational change, lack of communication and respect shown by their representatives, reduced confidence in leadership, lack of communication and respect shown by the manager (Kalagan, 2009). Organizational cynicism occurs as a result of the failure of the employees to meet their expectations and this creates various psychological consequences. This condition leads to neural and emotional disorders; depression, insomnia, emotional, depression, and disappointment are reported to cause discomfort (Kanter and Mirvis, 1989).

### 1.2. Paternalist Leadership

Paternalistic leadership, which is a leadership style that is collectivist and high-power distance with many countries (Turkey, India, China, and Mexico) is preferred as a model of leadership (Salminen-Karlsson, 2015). Paternalist leadership, which has a cultural trait, is more common in the Pacific Asia, Middle East and Latin American societies (Aycan, 2006).

In paternalist leadership behavior, the leader has to approach his subordinates like a father and treat them like a father (Pellegrini & Scandura, 2006). Paternalist leadership defines leadership in hierarchical relationships to be an approach that leads to the personal and professional lives of subordinates like a family member of the leader, while waiting for the subordinates to show loyalty towards themselves (Gelfand et al., 2007). Paternalist leadership can be defined as a type of leadership that is involved in professional and private life, protecting and supervising like a father for the well-being of its employees (Schroeder, 2011). The leader makes every possible help (including family problems) that they need help to focus on their work, worries them, and expects loyalty from the employees (Anwar, 2013).The researchers interpret the paternalist leadership differently both positively and negatively in the cultural context. For example, while western researchers consider the paternalist leadership to be negative, researchers in the community, where paternalist leadership is widespread, consider the paternalist leadership positively (Salminen-Karlsson, 2015). While the paternalist leader's interest in family life can be perceived by employees as a violation of privacy in individualist cultures, it can be regarded as a desired and expected

event in collectivist cultures (Aycan, 2006). The involvement of the paternalist leader in the lives of subordinates can be seen as part of the leader's anxiety and protection role in high-power eastern culture (Jakson, 2016).

### 1.3. Hypotheses

A study conducted in Turkey among the ten countries in terms of paternalism and collectivism, it is determined to be in second place (Aycan et al., 2000). In different researches, conducted in Turkey (Pellegrini & Scandura, 2006; Aycan, 2006; Yaman, 2011; Türesin, 2012; Nal & Tarım, 2017) was found to be a high level of paternalist leadership.

In addition, many researches conducted on health care workers in Turkey shows that the positive effects of paternalistic leadership on employees behavior (Erben & Güneşer, 2008, Yaman, 2011; Demirer, 2012; Büyükyavuz, 2015; Akdeniz, 2016; Nal & Tarım, 2017; Uğurluoğlu et al., 2018). Additionally, paternalist leadership has been seen a negative effect on mobbing and turnover intention in Turkey (Soylu, 2011; Yaman, 2011). Similarly, in this study, paternalist leadership is expected to have a negative effect on cynicism.

For this research, the following hypotheses were establish.
H1: There is a relationship between paternalist leadership and organizational cynicism.
H1.1: There is a relationship between paternalist leadership and cognitive cynicism.
H1.2: There is a relationship between paternalist leadership and affective cynicism.
H1.3: There is a relationship between paternalist leadership and behavioral cynicism.

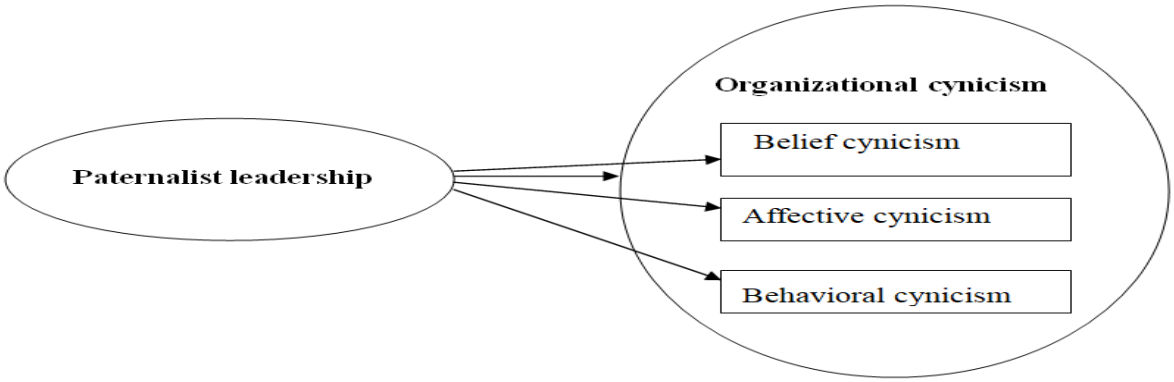


**Figure1. Research model**

The model of the study is shown in Figure 1.

## 2. MATERIALS AND METHODS

### 2.1. Sample and procedure

The aim of this study on health eployees, to determine the impact of paternalistic leadership on organizational cynicism. This is a cross-sectional study in the correlational screening model. Written permission was obtained from the hospital management for the survey application. The universe of the study consisted of 135 health professionals working in a public hospital operating in Turkey. Random sampling was done as sampling choice. Verbal consent was obtained from 104 healthcare workers who participated in the study and a questionnaire was applied to them by face-to-face interview method. The survey was conducted between March and April 2018.

### 2.2. Measures

Questionary technique was used as data collection method. In the first part of the questionnaire, "personal information form" was used to determine the sociodemographic characteristics of the participants, "organizational cynicism scale" in order to measure organizational cynicism levels of participants in the second part and "paternalist leadership scale" to measure paternalist leadership perceptions of participants in the third part.

In order to measure the level of organizational cynicism, 14 items "Organizational Cynicism Scale" developed by Brandes (1997) and adapted to Turkish by Erdost et al. (2007) were used. In the study conducted by Erdost et al. Cronbach Alpha value of the scale was found as 0.913. The scale consists of 5 Likert types and three dimensions (Cognitive, affect and behavior). (Erdost, Karacaoğlu & Reyhanoğlu, 2007). In this study, Cronbach's Alpha value of paternalist leadership scale was found to be 0.93.

The Paternalist Leadership Scale developed by Aycan (2006) was used to measure the perceptual leadership perception. The scale consists of 21 expressions and five dimensions (family atmosphere at work, individualized relationships, involvement in employees' non-work lives, loyalty expectation, status hierarchy and authority) (Aycan, 2006). In the study conducted by Aycan Cronbach Alpha value of the scale was found as 0.85. In this study, Cronbach's Alpha value of organizational cynicism scale was found to be 0.92.

### 2.3. Statistics

In this research, SPSS 16.0 (Statistical Package for the Social Sciences) program was used for data analysis. The descriptive data was distributed in percentage and number, and the data were analyzed by correlation analysis and regression analysis. The significance level (p) in the statistical tests has been accepted as 0.05.

## 3. RESULTS

### 3.1. Demographic Profile of Respondents

The data on demographic and occupational characteristics of health workers are shown in Table 1. Of the health employees participating in the study, 54.8 % (n=57) were female and 45.2% (n=47) were male. The age of included in this study was 47.1% (n=49) of the participants were between the ages of 36-50, 33.7% (n=35) were in the age range of 26-35, 17.3% (n=18) of the participants were between 16 and 25 and 1.9% (n=2) are in the age group of 51 years and over. Participants were 34.7% (n=36) high school, 29.8% (n=31) undergraduate, 26.9% (n=28) pre-license, 4.8% (n=5) postgraduate, and 3.8% (n=4) are doctoral graduates. Participants, 72.1% (n=75) were married, 27.9% (n=29) is single.Of the participants, 35.6% (n=37) were nurses, 17.3% (n=18) office holder, 17.3% (n=18) medical secretaries, 9.6% n=10)health technician, 9,6% (n=10) other health personnel, 8.7% (n=9) physicians and 3.8% (n=4) emergency medical technicians.

**Table 1. Participants demographic characteristics**

| Demographic characteristics | | n | % |
|---|---|---|---|
| **Gender** | Female | 57 | 54.8 |
| | Male | 47 | 45.2 |
| | Total | 104 | 100 |
| **Age** | 16-25 | 18 | 17.3 |
| | 26-35 | 35 | 33.7 |
| | 36-50 | 49 | 47.1 |
| | 51 years and over | 2 | 1.9 |
| | Total | 104 | 100 |
| **Education status** | High school | 36 | 34.7 |
| | Pre-license | 28 | 26.9 |
| | Undergraduate | 31 | 29.8 |
| | Postgraduate | 5 | 4.8 |
| | Doctorate | 4 | 3.8 |
| | Total | 104 | 100 |
| **Marital status** | Single | 29 | 27.9 |
| | Married | 75 | 72.1 |
| | Total | 104 | 100 |
| **Profession** | Nurse | 37 | 35.6 |
| | Office holder | 18 | 17.3 |
| | Medical secretaries | 16 | 15.4 |
| | Health technician | 10 | 9.6 |
| | Other health personnel | 10 | 9.6 |
| | Physician | 9 | 8.7 |
| | Emergency medical technicians | 4 | 3.8 |
| | Total | 104 | 100 |
| **The duration of the study in this hospital** | 0-1 years | 23 | 22.1 |
| | 2-4 years | 25 | 24.0 |
| | 5-10 years | 27 | 26.0 |
| | 11 years and over | 29 | 27.9 |
| | Total | 104 | 100 |
| **Total working time** | 0-1 years | 10 | 9.6 |
| | 2-4 years | 13 | 12.5 |
| | 5-10 years | 34 | 32.7 |
| | 11 years and over | 47 | 45.2 |
| | Total | 104 | 100 |

### 3.2. Findings related to research hypotheses

The average score of the scales was as found the paternalist leadership perception score average 3.40±0.75, the organizational cynicism score average 2.04±0.86, the cognitive cynicism score average 2.11±1.05, the affective cynicism score average 1.83±0.95, behavioral cynicism score average 2.35±0.91.

Pearson Correlation analysis was applied to reveal the relationship between the variables in the hypotheses. The correlation analysis findings for revealing the relationship between paternalist leadership and organizational cynicism are shown in Table 2. According to the analysis of the correlation between the paternalist leadership and organizational cynicism; there was a negative and statistically weak relationship between the paternalist leadership and organizational cynicism ($r=-0.330$; $p<0.01$). There was a negative and statistically moderate

relationship between the paternalist leadership and cognitive cynicism (r=-0.439; p<0.01). There was a negative and statistically weak relationship between the paternalist leadership and affective cynicism (r=-0.228; p<0.05). There was not statistically relationship between the paternalist leadership and behavioral cynicism (p>0.05).

**Table 2. Descriptive statics and correlation analysis findings (N=104)**

| Variables | Mean | S.S. | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| **1. Paternalist leadership** | 3.40 | 0.75 | 1 | -.330** | -.439** | -.228* | -.135 |
| **2. Organizational cynicism** | 2.04 | 0.86 | | 1 | .915** | .921** | .735** |
| **3. Cognitive cynicism** | 2.11 | 1.05 | | | 1 | .742** | .568** |
| **4. Affective cynicism** | 1.83 | 0.95 | | | | 1 | .551** |
| 5. **Behavioral cynicism** | 2.35 | 0.91 | | | | | 1 |

*: p<0.05, **: p<0.01

Table 3 shows the results of simple linear regression analysis of the paternalist leadership on organizational cynicism. While simple linear regression analysis was used, paternalist leadership was defined as an independent variable, whereas organizational cynicism and other dimensions were defined as dependent variables.

As a result of this research, it was found that paternalist leadership had a negative effect on organizational cynicism (β=-0.378, t=-3.527, p<0.05). According to this result, H1 hypothesis is accepted.

Paternalist leadership was found to be a negative effect on cognitive cynicism, and this effect was statistically significant (β=-0.439, t=-4.941, p<0.05). According to this result H1.1 hypothesis was accept.

It was found that paternalist leadership had a negative effect on affective cynicism, and this effect was statistically significant (β=-0.228, t=-2.366, p<0.05). According to this result, H1.2 hypothesis was accepted.

Paternalist leadership was not found to be statistically significant on behavioral cynicism (p>0.05). According to this result, H1.3 hypothesis was reject.

**Table 3. Simple linear regression analysis**

| | **Independent variable: Paternalist leadership** | | | | | | |
|---|---|---|---|---|---|---|---|
| **Dependent variables** | B | Beta (β) | t | $R^2$ | Adjusted $R^2$ | F | p |
| **Organizational cynicism** | -.378 | -.330 | -3,527 | .109 | .100 | 12.441 | .000 |
| **Cognitive cynicism** | -.615 | -.439 | -4.941 | .193 | .185 | 24.412 | .000 |
| **Affective cynicism** | -.289 | -.228 | -2.366 | .052 | .043 | 5.597 | .020 |
| **Behavioral cynicism** | -.164 | -.135 | -1.378 | .018 | .009 | 1.899 | .171 |

## 4. DISCUSSION

This research was conducted with the aim of examining the effect of paternalist leadership behaviors on cynicism behaviors of health employees.

In this study, the paternalistic leadership perceptions of health professionals were found as high (3.43±0.79). In the other studies conducted in Turkey (Pellegrini and Scandura, 2006; Aycan, 2006; Yaman 2011; Türesin, 2012; Nal & Tarım, 2017) It was found that paternalistic leadership perception had high levels (Pellegrini & Scandura, 2006; Aycan, 2006; Yaman, 2011; Türesin, 2012; Nal, & Tarım, 2017).

As a result of the research, it was determined that paternalist leadership behavior had a negative effect on organizational cynicism, cognitive cynicism and affective cynicism. According to these findings, H1 hypothesis, H1.1 hypothesis, and H1.2 hypothesis were accepted. According to this result, as the paternalist leadership behavior of health managers increases, it can be said that the level of organizational cynicism of employees decreases. According to these results, it is probable that cynicism behaviors of employees decrease as health managers increase paternalistic leadership behavior. Furthermore, it can be said that paternalist leadership is a suitable leadership style for reducing healthcare workers' organizational cynicism level.

Some studies on teachers found a negative relationship between paternalistic leadership and organizational cynicism (Mete and Serin, 2015; Aslan, 2016).
Durmaz (2019) found a negative relationship organizational cynicism whith benevolent leadership and moral leadership in their study on teachers. However he found a positive relationship between authoritarian leadership and organizational cynicism.
Few studies have examined the relationship between paternalistic leadership and organizational cynicism. The results of this research support the results of the studies conducted in different sectors.

### 4.1. Limitations and Future Research

In addition, this research was conducted on 104 health workers. The results of this study are limited only to the hospital works. Future research can be done on a larger sample.
Because paternalizm has a cultural trait, paternalist leadership behaviors can produce different results in different cultures. Therefore, this research may be repeated in different cultures. In addition, the effects of paternalist leadership on different organizational behaviors can be investigated in future research.

## 5. CONCLUSIONS

Research shows that a high level of paternalistic leadership in Turkey. Therefore, it is important to investigate the impact of paternalistic leadership on employee behavior in Turkey. He has not seen any other research conducted in the health sector in Turkey that examines the relationship between organizational cynicism and paternalistic leadership. In this article, it is emphasized that the organizational cynicism behaviors of health workers will decrease as the paternalist leadership behavior of the managers increases. In addition, this study showed that paternalist leadership has a negative effect on all dimensions of organizational cynicism. As a result, it can be said that paternalist leadership is an effective leadership model in health sector in Turkey.

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*RESEARCH ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# A FUTURISTIC STUDY ABOUT THE FUTURE OF HEALTH SECTOR*

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## ABSTRACT

Numerous innovations have occurred in the health sector from past to present. With the technological benefits of globalization and the era we are in, a great progress has been made in many subjects such as new treatment methods, robotic surgery, artificial organ production, genome research and so on. This development and change in the sector continues with an increasing momentum and there is a curiosity about what may happen in the years to come. In this context, it is aimed to examine the predictions about the future of health sector with a futurist approach in this study. The participants of the study consisted of 36 students studying at the 4th grade of the Department of Health Management at Süleyman Demirel University where they are taking "New Directions in Health Management" course. In the research, the students were given a form to explain 10 different titles about what kind of changes would be different from the present in the health sector in the years of 2050. Content analysis, which is one of the qualitative data analysis methods, was used in the analysis of the data formed as a result of deciphering the answer given. According to the answers received from the students, it is understood that technology is the basis of the changes and transformations that will occur in the health sector in the following years. In the answers given by the students, the predictions that the need for manpower will decrease in the health sector, the supply of remote health services and robotic surgery acting with artificial intelligence will widespread step forward.

**Keywords:** futurism, health sector, health management, technology, content analysis

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## 1. INTRODUCTION

In our age, health institutions are obliged to make innovations with the internal and external effects of many factors. Increasing competition with globalization is an external factor that provides the condition of innovation in health institutions besides the innovations of organizational culture are among the internal factors. The factors such as organizational culture, technological developments, increasing competition environment, global marketing conditions and so on are among the components which provide the environment for innovator ideas (Thakur et al., 2012: 564). Health sector is a sector where labor is heavily involved, health expenditures are high and is in development and change day by day. With the increasing costs and the number of patients and inadequate health personnel and health institutions, many progresses occur in the health sector with the purposes of providing more effective control of treatment processes and so on (Kaçmaz, 2015: 116-123). On issues such as eliminating extreme poverty and hunger, reducing child mortality and improving maternal health, fighting HIV/AIDS/malaria-like diseases, ensuring environmental sustainability, drug supply, access to health which are also mentioned in the WHO report in 2003, developing international partnerships in countries is among the millennium targets in the field of health (WHO, 2003: 28). In the line with these objectives mentioned in the WHO report, studies have been carried out for global health programs where Access to health has become more widespread, and beyond these, global competitive environments have been created.

At the same time, with the rapid dissemination of information that is increasing with globalization, it becomes more difficult and important to provide competitive advantage and to meet the needs of patients and staff (Boutros, 2007: 37). In this context, organizations in the health sector are making efforts to sign innovations that may be pioneers in the field.

Innovation in health services is to use proven applications to provide better outcomes to patients and also to improve organizational performance. Together with the innovations in health services, healthcare are enabled to work faster, more efficiently, thus focusing more on the patient and creating effective outputs. Innovations in the health sector occur with effective use of technology (Thakur et al., 2012: 563). Since stethoscope is considered the most advanced health technology in early 19$^{th}$ century, numerous technological developments have taken place (Porsche Consulting, 11). With the effects of factors such as developing technology, global marketing conditions and so on, developing new drugs and therapies and producing new medical devices will continue in the health sector (Thimbleby, 2013: 160). Innovations like mobile health, portable technologies in the health sector, remote access to services, and development of health behaviors through mobile applications take place in the sector (Kaçmaz, 2015). The innovations (digital hospitals, mobile health, telemedicine and robotic applications, big data) that emerge as a result of information and communication technologies appearing in the health sector show themselves under the concept of e-health. As a result of the active use of technology in the health sector, telemedicine applications become widespread, which means that the provision of health services is possible remotely and patient follow-up can be performed remotely, and robotic applications can be effectively used in health service delivery to reduce the burden of health personnel. In addition, as a reflection of information technologies in the health sector, patient records are kept in electronic environment and the information and data sets produced here constitute big data. These data sets can be easily transferred with mobile health devices (Kılıç, 2016: 34-40). It is possible to talk about digital hospitals as a result of using these innovations in the health sector in the hospital and integrating all information

systems within the institution with technological infrastructure. Together with digital hospitals, a paperless hospital model can be made and all operations will be carried out through automation systems to manage health services. In digital hospitals, it will be possible for individuals to access patient data securely from anywhere, and personnel will be able to save time, increase efficiency and provide better quality services (Ak, 2010: 2; Avaner ve Avaner, 2018: 5).

This development and change in the health sector is going on with increasing momentum and what is going to happen in the coming years is a matter of curiosity. In this context, the ideas about the future design of the health sector will be examined in a work in a futuristic approach. Futurism is an innovative art movement of opposing traditional methods and accepted norms (Altay, 2011: 19; Yenidoğan, 2013: 2). Futurism is a concept that emerged as the emergence of the art movement which has the meaning of 'futurity' as a result of the Italians' entering the age of technology and searching for progressive art (Kaplanoğlu, 2008: 177). Futurist studies are also carried out to foresee the future and predict. As Aksungur and Koca (2018: 194) stated in their study, the origin of the word comes from the word 'future' and the word 'futurism' means futurity, future design. In this context, in this study, it is provided to tackle the future design of the health sector from the perspective of health management students with the futuristic approach. Futurist approaches are important for the health sector as a whole and the institutions within the sector to provide clues to develop policies and strategies against the changes that will occur in the external environment. With the forecasts, the actors will have to prepare themselves for the future and develop their weaknesses that are threatened by changes.

## 2. MATERIALS AND METHODS

The aim of this study is to predict what kind of developments can be experienced in the 2050s in the health sector which has been changing and developing from past to present within the framework of the opinions of the students who are receiving undergraduate education in health management with a futuristic approach.

The participants of the study consisted of 36 students studying at the 4$^{th}$ grade of the Department of Health Management at Süleyman Demirel University where they are taking "New Directions in Health Management" course.

In the research, as a data collection tool, the students were given a paper which includes a statement *"In the 2050s identify the 10 different headlines of what kind of changes will occur in the health sector different from now and explain them with justification."* Content analysis, which is one of the qualitative data analysis methods, was used in the analysis of the data formed as a result of deciphering the answer given.

Lewis-Back (1990: 5) defined content analysis as the process of classifying texts in itself into more relevant, analyzable data groups. Kızıltepe (2017: 253-254), on the other hand, stated content analysis as a method used to determine the existence of sentences, words, concepts, etc. in the texts and to put them into numbers. The aim of content analysis is to systematically examine the contents of a particular form (Mayring, 2004: 266). It is understood that the findings obtained by grouping the data contained in the text into certain themes and concepts through content analysis will be presented to the reader in an understandable way (Çiçek et al., 2010: 197). Within the scope of the study, the data consisting of the answers obtained within

the framework of the questions directed to the students about the future of health sector were analyzed by grouping in certain themes and the results were presented to the reader.

## 3. FINDINGS

Table 1 shows the results obtained by analyzing the estimates of the research group about the changes in the health sector in the 2050s.

**Table 1.** Estimates of Changes in the Health Sector in the 2050s

| Top themes | | Sub-themes | | Sample quotations |
|---|---|---|---|---|
| 1 | Technology (137) | Reducing the number of employees (35) | | robots will replace manpower |
| | | | | physicians will not be needed |
| | | | | number of health personnel will decrease |
| | | Distance healthcare delivery (25) | | remote diagnosis and treatment facilities |
| | | | | it will be able to examine in virtual environment |
| | | | | online physician service will be possible |
| | | Artificial intelligence/Robotic surgery (22) | | robotic surgery will spread |
| | | | | surgery will make artificial intelligence |
| | | Medical advances (19) | Genome researches (12) | cloning will become widespread |
| | | | | it will develop genome and genetics |
| | | | | it will be intervened in the zygote |
| | | | Remedy of death (5) | death and diseases will cure with the advancement of technology |
| | | | Hibernation (1) | people can be frozen until diseases are cured |
| | | | Clinical diagnostic systems (1) | develop clinical diagnostic systems |
| | | Technological developments (10) | | there will be technological advances |
| | | | | technology to be used very intensely |
| | | Artificial organs (9) | | 3D organ production will be made |
| | | | | artificial organs in the body will multiply |
| | | Digitalization (7) | | archive system will be digitalized |
| | | | | digital hospitals will increase |
| | | Microchips (6) | | chips will be inserted into the human body |
| | | Telemedicine (3) | | telemedicine will become widespread |
| 2 | Diseases (34) | New diseases will emerge (14) | | diseases will change |
| | | | | new diseases will emerge |
| | | Increase in Diseases (11) | Mental illnesses (9) | the importance given to mental illnesses will increase |
| | | | | mental health centers will become widespread |
| | | | Cancer (1) | cancer cases and treatment centers will increase |
| | | | Obesity (1) | increasing obesity efforts will increase |
| | | Diseases will be cured (9) | | it will find cures for incurable ailments |
| | | | | it will cure cancer |
| 3 | Pharmaceuticals (23) | Pharmaceuticals (23) | | developments in the pharmaceutical sector |
| | | | | drug addiction will increase |
| | | | | pharmacies will take the medicine home |
| 4 | Healthcare services (17) | Healthcare services (17) | | gaining importance of preventive health services |
| | | | | aesthetic surgery applications will increase |
| | | | | there will be changes in diagnosis and treatment |
| 5 | Patient profile (15) | Patient profile (15) | | health literacy will increase |

| | | | |
|---|---|---|---|
| | | | patient profile will change |
| 6 | Sectoral (14) | Sectoral (14) | private sector's share in health will increase |
| | | | hospitals will be like trading |
| | | | health services will be privatized |
| 7 | Hospitals (14) | Hospitals (14) | hospitals will like hotels and recreational facilities |
| | | | new hospitals will emerge |
| | | | hospital buildings will be destroyed |
| 8 | Access and treatment time (13) | Waiting times (9) | waiting times will be reduced |
| | | | loss of time will decrease |
| | | | procedures will be reduced |
| | | Ambulance services (4) | ambulances will arrive immediately |
| | | | ambulance system will develop |
| 9 | Management (13) | Management (13) | management understanding will change |
| | | | the number of managers will decrease |
| | | | the importance of health management will increase |
| 10 | Problems (11) | Problems (11) | the importance of health management will increase |
| | | | health violence will decrease |
| | | | ethical dimension will gain importance |
| 11 | Life expectancy (10) | Aging (3) | elderly health will be important |
| | | | geriatric hospitals will increase |
| | | Elder tourism (3) | elderly tourism will advance |
| | | Long life (4) | human life will prolong |
| 12 | Health tourism (7) | Health tourism (7) | health tourism will develop |
| 13 | Society (7) | Society (7) | social inequality will increase |
| | | | organ donation will become widespread |
| 14 | Specialization (6) | Specialization (6) | new areas of expertise in medicine will emerge |
| | | | there will be extreme specializations |
| 15 | Financial (5) | Financial (5) | health expenditures will increase |
| | | | financial problems will arise |
| 16 | Personnel (5) | Personnel (5) | employee quality will increase |
| | | | the importance of engineers and technicians will increase |
| | | | new job descriptions in health will emerge |
| 17 | Euthanasia (5) | Euthanasia (5) | euthanasia will become widespread |
| 18 | Physicians (5) | Physicians (5) | medical profession will lose importance |
| 19 | Natural methods (4) | Natural methods (4) | the trend towards natural treatment methods will increase |
| | | | orientation to alternative medicine will increase |

Within the scope of the study, the answers of 36 students in 10 titles and consisting of 360 items in total were subjected to coding by content analysis and 19 top themes were obtained from the determined codes. The top themes obtained from the answers examined and the examples cited together with the themes under these themes are shown in Table 1.

When the findings were examined in detail; the top theme of “technology” (137) having the highest frequency distribution has 9 sub-themes; “reducing the number of employees” (35), “distance health service delivery” (25), “artificial intelligence/robotic surgery” (22), “medical advances” (19), “technological developments” (10), “artificial organs” (9), “digitalization” (7), “microchips” (6), “telemedicine” (3). The sub-theme of medical advances is subdivided into “genome researches” (12), “remedy for death” (5), “hibernation” (1) and “clinical diagnostic systems” (1). In the answers received from students regarding the future of health sector; with

the development and diffusion of technology in health institutions, manpower will be replaced by robots, health employees will not be needed, robotic surgery applications will be developed, microchips can be placed in human body in this way or treatment can be provided without any need for health services and treatment and digitalization will be seen in all areas of health institutions. In addition, it was stated that 3-dimensional organ production will become widespread, artificial organs that will take place in human body will increase, genome and genetic developments will be experienced, diseases can be treated in the womb and sex-like zygote interventions can be performed.

Within the theme of diseases (34), which is another top theme, it is seen that there are sub-themes such as "new diseases will emerge" (14), "increase in diseases" (11) and "diseases will be cured" (9). In the responses, it was seen that there will be remedies for diseases that are not yet treated, such as cancer, diseases will change, some diseases will disappear and new diseases will be replaced, and as a result of technological developments, people will get lonely and increase in mentally based diseases.

Other top themes derived from responses to the future of the health sector include "pharmaceuticals" (23), "health services" (17), "patient profile" (15), "sectoral" (14), "hospitals" (14), "Access and treatment time" (13), "management" (13) , "problems" (11), "life expectancy" (10), "health tourism" (7), "society" (7), "specialization" (6), "financial"(5), "personnel" (5), "euthanasia" (5), "physicians" (5), "natural methods" (4). In addition, "life expectancy" from these top themes; "aging" (3), "elderly tourism" (3) and "long life" (4). Under the top theme of the pharmaceuticals, there are expressions that changes and transformations will occur in the pharmaceutical sector, addiction to the drug will increase and remote access to the drug will be possible. Considering other top themes; it is stated that there will be changes in the patient profile and the patients will be more conscious, as well as the changes in the demand for health services will increase the demand for aesthetic surgery applications and more importance will be given to preventive health services. It is believed that the share of the private sector in the health sector will increase further, that the hospitals will become commercial business logic and that the building structures will be in the comfort of a hotel-rest facility.

When future trends are considered, speed will become an indispensable part of life as a result of developing technology and it is thought that waiting times and procedural procedures will decrease in hospitals. It is foreseen that, as a reflection of technological developments and developing treatment methods, prolongation of life span will occur and the importance given to elderly care centers will increase. Technological infrastructure to be located in health institutions and the importance of engineers and engineers in the system will increase and the value attributed to physicians will decrease in the future. As a result of these additional implementations, it is expected that health expenditures will increase. Since the health institutions that need to keep up with the change will have to develop in managerial sense, the importance attributed to the management of health institutions will increase and the educated individuals will become preferable to the administrative levels are among the predictions of the students for the future.

## 4. CONCLUSION

Vogenberg and Snatilli's (2018) study of "Healthcare Trends for 2018" in the American healthcare market included new trends in the field of health, including increasing costs and increasing the strength of health insurance; to provide economic benefits at the point of cost with the innovations made in the field of health; In order to ensure the sustainability of rural health services with the increase of population, telemedicine, tele-health, wearable technology and so on the need to combine it with developments; improving accessibility of health care

through technological advances; private sector and public sector which will support innovations in health market will be seen to take roles in changing shares.

In the interview titled "*What will healthcare look like in 2030?*" similar to the basic question of our study; diagnostic tools will be developed and physicians will be used to develop the best patient-specific treatments, new methods such as creating personalized lifestyles and regular check-ups to prevent diseases before they occur, increase in non-communicable diseases and elderly population, although it does not increase life quality and duration much, it is stated that there are expectations that processes can increase costs (Goy, 2017).

According to the answers received from the students; "technology" is the basis of the changes and transformations that will occur in the health sector in the following years. When the frequency distribution of the answers received from the students is examined, it is seen that the technology has the highest distribution by far, and the technology has an indirect effect on the contents of the other top themes. According to the statements of the students; technology is the backbone of future expectations in the health sector and technology is expected to shape the future of the sector.

As a result of the study it is understood that, in the year 2050, there will be a rapid increase in the technological developments in the health sector compared to today, as a result of which areas such as robotic surgery, genome projects, wearable technology will develop and thus the diseases which cannot be cured will be eliminated, as well as technological developments by increasing remote access opportunities to health services, such as waiting staff problems that will eliminate the problems. In addition, it is stated that as a result of developing technology, prolonged life span and expected increases in quality of life, healthcare expenditures will increase more than today and more private sector will have a say in health services and the need for health managers who have received training in the field to manage this change and transformation and the importance will increase.

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*RESEARCH ARTICLE*

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# THE PERCEIVED SOCIAL SUPPORT AND PSYCHOSOCIAL HEALTH STATUS IN WOMEN WITH INTENDED AND UNINTENDED PREGNANCY*

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## ABSTRACT

Pregnancy intention can change emotional response, psychological adjustment and care requirements for pregnancy. In a relatively few studies, the effect of pregnancy intention on psychosocial health and perceived social support was examined. This study aims to compare the perceived social support and psychosocial health in pregnant women according to their pregnancy intention. This descriptive study was conducted in the obstetrics and gynecology outpatient clinic of a public hospital in Turkey. In the study, 342 women aged between 18-49 years who were in gestational age of >10 weeks were included. The data were collected using a Personal Information Form, the Pregnancy Psychosocial Health Assessment Scale (PPHAS), and the Multidimensional Scale of Perceived Social Support (MSPSS). It was determined in the study that 31.6% of the women in the antenatal period continued an unintended pregnancy. PPHAS scores (3.69 vs. 3.91) and MSPSS scores (68.41 vs. 72.25) of the unintended pregnant women were lower than intended ones ($p<0.05$). There was a positive correlation between MSPSS and PPHAS mean scores of women in both unintended ($r=0.271$, $p=0.004$) and intended pregnancies ($r=0.181$, $p=0.006$). The unintended pregnant women perceived less friend support, were need psychosocial health counseling more, complained more about anxiety and stress symptoms, experienced the problems of spouse relationships more and were more disadvantaged in domestic violence ($p<0.05$). Healthcare professionals should consider that the women being in the antenatal period and having the history of unintended pregnancy may have less social support and more psychosocial health care needs while determining their care needs.

**Keywords:** Maternal health, psychosocial health, social support, unintended pregnancy

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## 1. INTRODUCTION

Pregnancy and motherhood are mostly pleasing and special life experiences for women. However, a positive pregnancy and childbirth experience is closely associated with an intended and desired pregnancy (Yıldız, 2011; İşiten, 2014; Koyuncu and Yılmaz, 2015). Intended pregnancy occurs in a planned and requested time period by the couples (Santelli et al., 2003; Agida et al., 2016). On the other hand, unintended pregnancy occurs when the couples do not have any intention about having any or more child(ren) or she becomes pregnant before their planned date (Santelli et al., 2003; Karaçam et al., 2011; Agida et al., 2016). A great majority of pregnancies worldwide takes place unintendedly. It has been reported that 40% of 213.4 million pregnancies were unintended in 2012 (Sedgh et al., 2014; Agida et al., 2016). Turkey is one of countries having a high rate for unintended pregnancy. In Turkey, approximately 1.9 million pregnancies occur each year and almost 30% of these pregnancies are unintended (Karaçam et al., 2011; Hacettepe University Institute of Population Studies, 2014; İşiten, 2014). Although it is difficult to explain the causal relationships, many studies have reported that unintended pregnancies and unplanned births lead to fetal and maternal health problems (Santelli et al., 2003; Erol et al., 2010; Karaçam et al., 2011; Çapık and Pasinlioğlu, 2014; Goossens et al., 2016; Abajobir et al., 2017; Shahry et al., 2016).

Psychosocial health is a multi-dimensional concept related to the perceptions, emotions, and behaviors of an individual covering mental, emotional, social and spiritual dimensions of health (Maxson et al., 2016). It is stated that psychosocial health includes psychological and social areas such as depression, stress, and self-efficacy (Yıldız, 2011; Maxson et al., 2016). The psychosocial health of a pregnant woman is closely associated with the general health and birth outcomes (Yıldız, 2011; Gümüşdaş, et al., 2014; Maxson et al., 2016; Aksay et al., 2017).

Social support is defined as the presence of people who provide material and moral support to other people experiencing generally stress or difficult situations. (Kroelinger and Oths, 2000; Atasever and Altun, 2017). Pregnant women with high level of social support are less affected by physical and psychological changes experienced during pregnancy, have a more satisfied pregnancy, acquire the motherhood role more rapidly, and have fewer problems after the birth (Mermer et al., 2010; Abdollahpour et al., 2015). The World Health Organization (2016) involves social support in maternal care and emphasizes that antenatal care, psychosocial assessment and emotional support are important for positive pregnancy experiences.

In literature, it is stated that pregnancy intention may be one of important variables influencing psychosocial health (Dibaba et al., 2013; Bahadır-Yılmaz and Küçük, 2015; Abajobir et al., 2016; Barton et al., 2017), and social support can play an important role in maintaining the pregnancy in a healthy manner in unintended pregnant women (Abdollahpour et al., 2015; Goossens et al., 2016). Previous studies have revealed that pregnancy intention is a factor affecting the psychological distress, the prevalence of psychological disorders, especially anxiety and depression increases in unintended pregnancies, and the perinatal depression risk is double in these pregnancies (Dibaba et al., 2013; Bahadır-Yılmaz and Küçük, 2015; Abajobir et al., 2016; Barton et al., 2017). In the study by Abdollahpour et al. (2015), it was found that family and social support were associated with complications and outcomes of pregnancy and social support was lower in high risk and unintended pregnancies. Additionally, it can be asserted that social support in unintended pregnancies can support the mental health of pregnant women by acting as a buffer and decrease possible psychological distress and depressive symptoms during antenatal and postnatal periods when the increasing

importance and effect of social support on promoting the maternal and infant health, preventing many diseases and increasing the life expectancy are taken into account (Dibaba et al., 2013; Abdollahpour et al., 2015; Barton et al., 2017). In some studies, it was found that social support perception and having an intended pregnancy affected mental status of pregnant women positively (Atasever and Altun, 2017; Barton et al., 2017).

The determination of the pregnancy intention, psychosocial health and social support sources in the antenatal period is an important step in identifying the caring strategies for reducing negative effects of unintended pregnancies on maternal and fetal health (Abajobir et al., 2016). There are studies indicating that the pregnancy intention is associated with social support and psychosocial health but the number of these studies is limited. Information about the effects of pregnancy intention on psychosocial health is often based on the studies focusing on mental health problems such as depression and anxiety (Dibaba et al., 2013; Bahadır-Yılmaz and Küçük, 2015; Atasever and Altun, 2017; Barton et al., 2017). This restricts the evaluation of psychosocial health as a whole with its mental, emotional, social and spiritual dimensions and complicates the understanding of the psychosocial reactions and psychosocial care needs developing against unintended pregnancy.

## 2. MATERIALS AND METHODS

This descriptive study was conducted between September 2015 and July 2016. The aim of this study was to compare the perceived social support and psychosocial health in pregnant women according to their pregnancy intention. The study was conducted in a public hospital providing secondary healthcare service in a city located in the northeastern Turkey. The pregnant women in the age range of 18-49 years, who applied to the study hospital for receiving antenatal care and completed the current legislative period in Turkey for voluntary termination of pregnancy (gestational age of >10 w), were included in the study. It was not possible to determine how many women aged 18-49 years had presented to the outpatient departments for receiving antenatal care from the automation system of the study hospital so we used the sample size from unknown population when selecting the sample. Using the sample size from unknown population formula with a 95% confidence interval ($\alpha$=0.05) and p-value of 0.28 (Bahadır-Yılmaz and Küçük, 2015), the minimum number of women required in the sample was calculated as 313. The study was completed with 342 pregnant women meeting the aforementioned criteria, since involving a greater number of pregnant women had neither cost nor work load for the study.

The data were collected using personal information form prepared in accordance with the literature as well as Pregnancy Psychosocial Health Assessment Scale (PPHAS) developed by Yıldız (2011) and Multidimensional Scale of Perceived Social Support (MSPSS) adapted into Turkish and then revised by Eker et al (2001).

*Personal information form:* This form prepared in accordance with the literature includes eight questions for determining socio-demographic characteristics of the women and nine questions for determining current pregnancy-related characteristics of the women.

*Pregnancy Psychosocial Health Assessment Scale (PPHAS):* It was developed by Yıldız in 2011 to evaluate the psychosocial health status of women during pregnancy period using a holistic approach. PPHAS evaluates the psychosocial health status of women during pregnancy period, their problems for which characteristics, and psychosocial health care needs. The five-point Likert type scale is composed of a total of 46 items and six subscales (Pregnancy and Husband Relationship, Anxiety and Stress, Domestic Violence, Psychosocial Health Counseling Requirements, Family Features, Pregnancy-Related Physical-Psychosocial

Changes). The total and subscale scores of PPHAS are obtained from the calculation of item mean scores of the participants. While the highest score to be obtained from the overall PPHAS and its subscales is 5, the lowest one is 1. While increases in the total and subscale scores of PPHAS indicate the positive characteristics about the psychosocial health during pregnancy, the decreases signify the problems about the determined characteristic. So, total and subscale scores going from 5 to 1 indicate that there are problems about the specified characteristic. For example, 1 point indicates very poor psychosocial health. Cronbach's alpha value reported for the scale is 0.93 (Yıldız, 2011). In this study, Cronbach's alpha value of the scale was determined as 0.88.

*Multidimensional Scale of Perceived Social Support (MSPSS):* MSPSS is a scale that assesses subjectively the adequacy of social support received from three sources (Family, Friend, and Significant other). MSPSS which was developed by Zimet et al. (1988), was adapted into Turkish by Eker et al. (2001), and revised was used in the present study. The scale consists of totally 12 items and 3 subscales. Each subscale of the scale has 4 items scored between 1-7 points. Total and subscale scores of the scale are obtained by summing the scores of the items. The lowest and highest scores are between 12-84 for the overall scale and 4-28 for the subscales. While high scores obtained from MSPSS and its subscales signify perceived social support is high, low scores indicate perceived social support is low. Cronbach's alpha value reported for the scale is 0.89 (Eker et al., 2001). In this study, Cronbach's alpha value of the scale was determined as 0.90.

The data of the study was collected in a room by the researchers by a face-to-face interview. Each interview lasted 15-20 minutes. The women who declared that their current pregnancies were intended and occurred at the right time or after the desired one were included in the "intended pregnancy" group; on the other hand, the women who stated that their current pregnancy was unintended or occurred in an unplanned time were included in the "unintended pregnancy" group (Santelli et al., 2003). The statistical evaluation for the study was conducted in the SPSS IBM (16.0) program. The normality of the data and homogeneity of variance between groups were tested using Shapiro-Wilk and Levene test, respectively. Descriptive analyses such as means and Standard Deviation (SD) were used for presenting the data. The chi-square ($X^2$) or Fisher's exact test for categorical variables and Independent samples t test or Mann–Whitney U test for continuous variables were performed. Pearson correlation test was used to evaluate the relationships between the scales. The statistical significance level was identified as $p < 0.05$.

For this study, Ethics Committee approval was obtained from Artvin Çoruh University (Permission no. 1397. dated January 1, 2015). The participants were informed about the purpose of the study and their verbal consents were obtained.

## 3. RESULTS

This study was completed with 342 pregnant women having a mean age of 28.54 (SD=5.26; Median: 28; Min-Max: 18-42). Of the women, most of whom were married (98.0%, n=335) and unemployed (72.5%, n=248) 39.5% (n=135) had primary and secondary school education, 29.8% (n=105) had high school education and 30.7% (n=102) had university level education. The mean marriage/relationship duration of women were 66.39 month (SD= 61.34; Median: 48; Min-Max: 1-312) and most of them described their financial situation as "middle-low" (54.1%, n=185). The mean age of husband/partner of women was 32.63 (SD=5.47; Median: 32; Min-Max: 19-50); their education level was mainly in high school (35.1%, n=120). The mean number of living children of women was 1.37 (SD=0.91; Median:

1; Min-Max: 1-5). Gestational weeks at the time of participation of women were 21.11 week (SD=12.0; Median: 21; Min-Max: 10-45) and most of them were multigravida (61.1%, n=209). The rate of husband/partner desiring the current pregnancy of women was 98.2% (n=336). Thirteen percent of women (n=44) reported having health problems related to pregnancy, 7.6% (n=26) reported going to a psychologist or psychiatrist during the current pregnancy, 9.4% (n=32) reported to smoke during the pregnancy and 91.2% (n=312) reported to feel ready for motherhood.

In the study, 68.4% (n=234) of the women became pregnant intentionally and 31.6% (n=108) became pregnant unintentionally. Table 1 shows the comparison of some sociodemographic characteristics of the intended and unintended pregnant women. The mean age (t=-4.117, p=0.000), husband/partner's mean age (t=-3.504, p=0.001), duration of marriage (U=17116.5, p=0.000), number of living children (U=17846.0, p=0.000) and describing financial situation as "middle-low" were higher ($X^2$=6.098, p=0.013) in unintended pregnant women than intended pregnant women (p<0.05). Pregnancy intention did not show a significant difference in terms of the other sociodemographic characteristics (p>0.05).

**Table 1. The comparison of the intended and unintended pregnant women in terms of some sociodemographic characteristics (n=342)**

| | **Intended Pregnancy (n=234)** | **Unintended Pregnancy (n=108)** | **Test value** | **p** |
|---|---|---|---|---|
| | **Mean(SD)** | **Mean(SD)** | | |
| **Age (year)** | 27.76(4.99) | 30.23(5.45) | t= -4.117 | 0.000 |
| **Husband/partner's age (year)** | 31.94(5.08) | 34.13(5.98) | t= -3.504 | 0.001* |
| | **Mean Rank** | **Mean Rank** | | |
| **Duration of marriage/relationship(months)** | 152.35 | 212.99 | U=17116.5 | 0.000* |
| **Number of living children** | 149.24 | 219.74 | U=17846.0 | 0.000* |
| **Marital status** | **n(%)** | **n(%)** | | |
| Married | 228(97.4) | 107(99.1) | *NA* | 0.439 |
| Not living with a partner | 6(2.6) | 1(0.9) | | |
| **Educational level** | | | | |
| Primary and secondary education | 83(35.4) | 52(48.2) | | |
| High school | 72(30.8) | 30(27.7) | $X^2$=5.489 | 0.064 |
| University and higher | 79(33.8) | 26(24.1) | | |
| **Partner's educational level** | | | | |
| Primary and secondary education | 68(29.0) | 40(37.0) | | |
| High school | 85(36.4) | 35(32.4) | $X^2$=2.177 | 0.336 |
| University and higher | 81(34.6) | 33(30.6) | | |
| **Employment status** | | | | |
| Yes | 68(29.1) | 26(24.1) | $X^2$=0.922 | 0.337 |
| No | 166(70.9) | 82(75.9) | | |
| **Self-reported financial situation** | | | | |
| High | 118(50.4) | 39(36.1) | $X^2$=6.098 | 0.013* |
| Middle-Low | 116(49.6) | 69(63.9) | | |

NA: Not appropriate, Fisher's Exact test was used. * p< 0.05

Table 2 shows the comparison of the intended and unintended pregnant women in terms of some characteristics related to current pregnancy. The rates of not desiring the current pregnancy by the husband/partner (Fisher's Exact test, p=0.001), multigravidity ($X^2$=22.777, p=0.000), receiving psychological support during pregnancy ($X^2$=4.419, p=0.035), smoking during pregnancy ($X^2$=15.622, p=0.000), and not feeling ready for motherhood were ($X^2$=5.164, p=0.023) statistically higher in those in unintended pregnancy group than those in intended pregnancy group (p<0.05). Pregnancy intention did not show a significant difference in terms of the gestational age (U=14178.0, p=0.069) and presence of health problems related to pregnancy ($X^2$=3.126, p=0.084).

**Table 2. The comparison of the women with intended and unintended pregnancies in terms of some characteristics related to their current pregnancies (n=342)**

| | **Intended Pregnancy (n=234)** | **Unintended Pregnancy (n=108)** | **Test value** | **p** |
|---|---|---|---|---|
| | **Mean Rank** | **Mean Rank** | | |
| **Gestational age (week)** | 164.91 | 185.78 | U=14178.0 | 0.069 |
| | **n(%)** | **n(%)** | | |
| **Gravida** | | | | |
| Primary gravida | 111(47.4) | 22 (20.4) | $X^2$=22.777 | 0.000* |
| Multigravida | 123(52.6) | 86 (79.6) | | |
| **Status of desiring pregnancy by the husband/ partner** | | | | |
| Yes | 234(100) | 102(94.4) | *NA* | 0.001* |
| No | - | 6(5.6) | | |
| **Having health problem related to pregnancy** | | | | |
| Yes | 25(10.7) | 19(17.6) | $X^2$=3.126 | 0.084 |
| No | 209(89.3) | 89(82.4) | | |
| **Going to a psychologist or psychiatrist during pregnancy[a]** | | | | |
| Yes | 13(5.5) | 13(12.0) | $X^2$=4.419 | 0.035* |
| No | 221(94.5) | 95(88.0) | | |
| **Smoking during pregnancy[b]** | | | | |
| Yes | 12(5.1) | 20(18.5) | $X^2$=15.622 | 0.000* |
| No | 222(94.9) | 88(81.5) | | |
| **Feeling ready for motherhood** | | | | |
| Yes | 219(93.6) | 93(86.1) | $X^2$=5.164 | 0.023* |
| No | 15(6.4) | 15(13.9) | | |

NA: Not appropriate, Fisher's Exact test was used. * p< 0.05

[a] In the study, there were no pregnant women who were diagnosed with a psychiatric disease or were treated for a psychiatric disease during pregnancy. [b]There were no women drinking alcohol in the study.

In the study, PPHAS and MSPSS mean scores of the women were 3.84±0.52 and 71.04±0.52, respectively. PPHAS total mean scores was 3.69 (SD=0.52) in women with unintended pregnancy and 3.91(SD=0.51) in women with intended pregnancy. MSPSS total mean scores was 68.41(SD=13.46) in women with unintended pregnancy and 72.25 (SD=11.89) in women

with intended pregnancy. In the study, there was a positive correlation between MSPSS and PPHAS mean scores of women in both unintended (r=0.271, p=0.004) and intended pregnancies (r=0.181, p=0.006).

The comparison of PPHAS and MSPSS mean scores of the intended and unintended pregnant women were shown in Table 3. PPHAS (t=3.642, p=0.000) and MSPSS total mean scores (t=2.657, p=0.008) and some subscale mean scores were found to be significantly lower in women with unintended pregnancy ($p<0.05$). The subscales differences were found at 'Pregnancy and Husband Relationship' (t=3.405, p=0.001), 'Anxiety and Stress' (t=2.250, p=0.025), 'Domestic Violence' (t=2.599, p=0.010), 'Psychosocial Health Counseling Requirements' (t=3.050, p=0.002) of PPHAS, and 'Friends' (t=2.923, p=0.004) of MSPSS ($p<0.05$). The differences in the other scale subscales examined were not statistically significant ($p>0.05$).

**Table 3. The Comparison of PPHAS and MSPSS mean scores of the intended and unintended pregnant women.**

| | **Intended Pregnancy (n=234)** | **Unintended Pregnancy (n=108)** | **Test value** | **p** |
|---|---|---|---|---|
| **Subscales of PPHAS** | **Mean (SD)** | **Mean (SD)** | | |
| Pregnancy and Husband Relationship | 3.78(1.01) | 3.39(0.92) | t=3.405 | 0.001* |
| Anxiety and Stress | 3.54(0.66) | 3.37(0.64) | t=2.250 | 0.025* |
| Domestic Violence | 4.74(0.38) | 4.62(0.43) | t=2.599 | 0.010* |
| Psychosocial Health Counseling Requirement | 3.86(0.64) | 3.63(0.69) | t=3.050 | 0.002* |
| Family Features | 3.39(1.27) | 3.26(1.18) | t=0.873 | 0.383 |
| Pregnancy-Related Physical-Psychosocial Changes | 3.95(0.68) | 3.86(0.68) | t=1.158 | 0.248 |
| **PPHAS Total** | 3.91( 0.51) | 3.69(0.52) | t=3.642 | 0.000* |
| **Subscales of MSPSS** | | | | |
| Family | 25.57(3.73) | 24.87(4.22) | t=1.529 | 0.127 |
| Friends | 23.23(5.43) | 21.17(7.19) | t=2.923 | 0.004* |
| Significant other | 23.44(5.32) | 22.36(6.04) | t=1.681 | 0.094 |
| **MSPSS Total** | 72.25(11.89) | 68.41(13.46) | t=2.657 | 0.008* |

PPHAS, Pregnancy Psychosocial Health Assessment Scale; MSPSS, Multidimensional Scale of Perceived Social Support.
*p< 0.05

## 4. DISCUSSION

This study revealing that 31.6% of the women in the antenatal period continued an unintended pregnancy supports the results of local and national studies reporting that unintended pregnancies and births are still common in Turkey (Karaçam et al., 2011; Hacettepe University Institute of Population Studies, 2014; Bahadır-Yılmaz and Küçük, 2015). The studies conducted with women in the antenatal period in different centers in Turkey have reported that the rate of unintended pregnancy varies between 19.3 % and 47.3% (Erol et al., 2010; Bahadır-Yılmaz and Küçük, 2015; Özşahin et al., 2018). According to the report of the Turkey Demographic and Health Survey in 2013, 11.2% of the births of 15-49 year-old married women within the last five years were intended and 12.5% were unintended births. It

was also reported in the same study that total intended fertility rate was 1.9 and this rate was 17% less than actual total fertility rate which was 2.3 children. The rates of unintended pregnancy vary among societies based on economic, sociocultural, legal, and political differences in matters about pregnancy, curettage, and having a child (Santelli et al., 2003; Sedgh et al., 2014; Agida et al., 2016). The rates of unintended pregnancy in women during the antenatal period have been found to be 8.6% in Scotland (Lakha and Glasier 2006), 17% in Iran (Asadi Sarvestani et al., 2017), 54.5% in Nepal (Bastola et al., 2015). It can be recommended to increase the rate of using effective contraceptive methods in the society and extend accessible family planning consultancy services covering all the needers in order to reduce unintended pregnancies and births.

Socioeconomic status is one of the possible determinants of pregnancy intention (Santelli et al., 2003; Sedgh et al., 2014; Hall et al., 2016). Agida et al. (2016), stated that with increasing age, the likelihood of having at least one child and reaching the desired family size generally increases in women, and accordingly the likelihood of wanting a new child decreases. Similarly, in this study, the age, gravida, marriage duration and the number of living children were higher in women who reported unintended pregnancies. In addition, unintended pregnancies were more frequent in women who have stated their financial status as "middle-low". These results are consistent with most of previous studies (Erol et al., 2010; Goossens et al., 2016; Shahry et al., 2016; Asadi Sarvestani et al., 2017). However, differently from some studies (Erol et al., 2010; Goossens et al., 2016; Shahry et al., 2016) no significant correlation was determined between the women in terms of educational level, marital status, employment status, and the intended status of pregnancy in the present study. A small number of women who were employed and did not have civil marriage may have affected these results. In the literature, there are studies reporting that unintended pregnancies are more prevalent in young women and socio-economic status is not associated with unintended pregnancies (Ikamari et al., 2013; Tebekaw et al., 2014). In their study, Hall et al. (2016) reported that it is difficult to identify the major determinants of unintended pregnancies by reporting research inconsistencies in the determinants of unintended pregnancies. Further studies are needed on the sociodemographic determinants of pregnancy intention.

Perceptions surrounding decisions of women about pregnancy intention and unintended pregnancy are mostly affected by male partners (Asadi Sarvestani et al., 2017). Parallelly, the present study showed that the pregnancy intention of the woman may be influenced by the pregnancy intention of the spouse/partner. In addition, the gestational weeks of the women declaring that they had intended and unintended pregnancies were found to be similar in this study. Generally, it is stated that women may have more positive declarations about their pregnancy intention due to the progress of gestational week or seeing a smiling baby after delivery (Santelli et al., 2003). However, there is insufficient evidence to suggest that unintended pregnancy declarations may occur more frequently during early gestational weeks and that an unintended pregnant woman can adapt to pregnancy as pregnancy progresses (Abajobir et al., 2016). In the study by Demirtaş and Kadıoğlu (2014), it was determined that the planning of pregnancy affected pregnancy adaptation; however, pregnancy adaptation did not differ according to the gestational trimesters. Unintended pregnancies should be addressed as risky all stages of pregnancy and all couples should be questioned in terms of pregnancy intention in the antenatal period (Erol et al., 2010; Goossens et al., 2016; Abajobir et al., 2017).

In similar with literature, the rate of smoking during pregnancy in this study was higher in unintended pregnancies (Bahadır-Yılmaz and Küçük, 2015; Barton et al., 2017). It is required

to question these women in terms of smoking in every antenatal follow-up and help women to quit smoking. Differently from previous studies (Bahadır-Yılmaz and Küçük, 2015; Goossens et al., 2016; Abajobir et al., 2017), a significant difference could not be found between the intended and unintended women in terms of experiencing health problems related to pregnancy in the present study. This finding may be influenced by cross-sectional questioning of pregnancy-related health problems.

PPHAS total mean score of the women participating in this study was 3.84. This result indicated that these women had a moderate level of psychosocial health, and highness of the mean scores obtained from the PPHAS signifies that the characteristics about the psychosocial health during pregnancy are positive (Yıldız, 2011). In the present study, the PPHAS total mean score was lower (3.13 vs. 3.64) in unintended pregnant women than intended ones. There are studies reporting that PPHAS scores of Turkish women are lower with the score of 3.13 and higher with the score of 4.14 (Gümüşdaş, et al., 2014; Aksay et al., 2017). In a study using the same scale, these scores were determined to be 3.02 in women who had planned pregnancy and 2.91 in those who had unplanned pregnancy (Özşahin et al., 2018). These differences in PPHAS scores may be associated with fact that the methods, regions, and samples of the studies were not similar. However, this study and previous different studies (Bahadır-Yılmaz and Küçük, 2015; Koyuncu and Yılmaz, 2015; Ali, 2016; Özşahin et al., 2018) support that psychosocial health of women with unintended pregnancies may be negatively affected.

The areas in which women have problems related to psychosocial health in unintended pregnancies are not clear in the literature. A systematic review and meta-analysis study revealed that the unintended pregnancies were associated with spouse/partner violence and negative effects on maternal mental and physical health (Abajobir et al., 2017). It was found in a qualitative study that women had more family problems, experienced economic, social and relational problems, and were deprived of emotional support in unintended pregnancies (Akbarzadeh et al., 2016). In a study conducted in Iran, weakness, fatigue, irritability, sadness, not feeling safe, and deterioration in social activities related to family, neighbor and community were found to be widespread in women with unintended pregnancy (Ali, 2016). In a study conducted in Turkey, it was reported that unplanned pregnancy was a determinant of domestic violence and more problems related to marriage and family were observed in this pregnancy (Bahadır-Yılmaz and Küçük, 2015). Some studies have reported that stress and anxiety affect the maternal mental health negatively and women with unintended pregnancy experience more anxiety, stress, and violence (Abajobir et al., 2016; Goossens et al., 2016). In the present study, it was determined that the women with unintended pregnancy went to a psychologist or psychiatrist more frequently during pregnancy and felt themselves less prepared for motherhood. This can be associated with the decrease in coping capacities of women who have less social support and difficulties in accepting pregnancy as well as difficulties they experience during the adaptation to pregnancy and motherhood and therefore the need for more professional support (Mermer et al., 2010; Demirbaş and Kadıoğlu., 2014). This opinion is supported by the fact that the positive correlation was determined between the social support scores and psychosocial health scores in this study. In parallel, in some studies, the perceived social support in pregnancy was found associated positively with mental health (Atasever and Altun, 2017; Barton et al., 2017). It is thought that as perceived social support increases in pregnant women, psychosocial health may be positively affected. In addition, some subscale scores of PPHAS (Pregnancy and Husband Relationship, Anxiety and Stress, Domestic Violence and Psychosocial Health Counseling Requirement) were found to be significantly lower in women with unintended pregnancy in the present study. These results revealed that unintended pregnant women are need psychosocial health counseling more,

complained more about anxiety and stress symptoms, experienced the problems of spouse relationships more and were more disadvantaged in domestic violence. The common results of the present study and previous studies (Bahadır-Yılmaz and Küçük, 2015; Abajobir et al., 2016; Ali, 2016; Abajobir et al., 2017) on the psychosocial problems in unintended pregnancies include relationship problems, domestic violence, increased anxiety and stress. In accordance with these findings, interventions can be planned to prevent problems that may occur in unintended pregnancies.

In previous studies, MSPSS total score for pregnant women was reported to be between 60.87 and 66.70 (Mermer et al., 2010; Atasever and Altun, 2017). MSPSS total score of the pregnant women in this study was 71.04. This score was 68.41 in women with unintended pregnancy and 72.25 in women with intended pregnancy. This result may be interpreted as good perceived social support by women in the study (Eker et al., 2001). Demirtaş et al. (2014) reported that perceived social support was high in educated women and wanting pregnancy increased the spousal support. The relatively high educational level of the women in the present study may have positively affected their perception of social support. However, the perceived social support level was found lower in unintended pregnant women. In a study conducted on Turkish pregnant women, MSPSS score was found to be 65.77 in the intended pregnancy group and 50.61 in the unintended pregnancy group and the difference was reported to be statistically significant (Atasever and Altun, 2017). Parallelly, the studies conducted in different countries have indicated that social relations of women are impaired in unintended pregnancies and spousal support, social support and contacts reduce in these pregnancies (Kroelinger and Oths, 2000; Dibaba et al., 2013; Goossens et al., 2016; Barton et al., 2017).

Although the social support sources of pregnant women from different cultures may vary, many studies have revealed that husband, mother, father and children of the women are an important social support resource (Mermer et al., 2010; Gümüşdaş et al., 2014; Abdollahpour et al., 2015). Kroelinger et al. (2000) found a significant correlation between spousal support score and unintended pregnancy. In this study, family support did not show a significant difference based on the pregnancy intention, but it was remarkable that the women with unintended pregnancy perceived/received less friend support. The women who reported to have unintended pregnancy may feel more blocked due to the unintended pregnancy. They may be less in touch with their friends or feel more pessimistic about their own social support status. In addition, what happens in the family goes no further in Turkish culture, unintended pregnancy is not welcomed by the society, and there are social expectations about having children might have been be effective in perceiving/receiving friend support less by the women (İşiten, 2014).

A limitation of this study is that there is no standardized measurement tool for the determination of pregnancy intention although valid and reliable measurement tools were used to evaluate psychosocial health and social support in the study. However, there is no valid and reliable scale to be used in the evaluation of unintended pregnancy in Turkey. Other limitations of this study include that the data were based on self-reports and the study was conducted in a single region. Furthermore, the studies examining unintended pregnancies in Turkish pregnant women have not clearly reported mostly how pregnancy intention was assessed; therefore, this caused difficulties in making data comparisons.

## 5. CONCLUSION

Pregnancy intention, psychosocial health status and social support resources of women are the matters required to be considered in the antenatal period. Unintended pregnant women may feel the lack of social support more or may underestimate existing social support sources. In unintended pregnancies, the signs of psychosocial health of women, especially domestic violence, problems with the spouse, anxiety and stress may increase. These women may need more psychosocial counseling. The negative effects of unintended pregnancy on psychosocial health and social support should guide healthcare professionals to evaluate the mental illness and outcomes. In addition, mothers should be assisted in mobilizing and transforming positively the social support systems.

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## Conflicts of interest

The authors declare no competing interest.

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*RESEARCH ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# BENEVOLENCE OR COMPETENCE WHICH IS MORE IMPORTANT FOR PATIENT LOYALTY?

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## ABSTRACT

In an increasingly competitive environment, health institutions and organizations are moving towards the concept of a loyal patient, whose importance is increasing and is thought to be of great benefit to the institutions, but patient loyalty has not been studied extensively through the physicians who make up the majority of the process. In addition, there are no studies in the literature on the helpfulness and competence of doctors who are thought to influence patient loyalty. For this reason, it was aimed to investigate the relationship between benevolence and competence of doctors and patient loyalty. The aim of this study is to measure the effect of doctor-benevolence behaviors and doctor competencies on patient loyalty. The sample of the study consisted of 207 people who received service from a private hospital within the last year. A questionnaire was used as a data collection tool. The questionnaire used consists of four parts and the first part consists of three questions aiming to measure socio-demographic characteristics. In the second and third sections, the scales developed by Nguyen (2010) aiming to measure the physicians' competencies and benevolence were used. In the last chapter, the patient loyalty scale developed by Nguyen and LeBlanc (2001) was used. As a result of the correlation analysis, there was a positively strong relationship between the proficiency levels of the doctors and the level of benevolence, whereas these two variables were positively related to patient loyalty. When the effect coefficients were examined, doctor benolovence ($\beta = 0.404$) affects patient loyalty more than doctor's competence ($\beta = 0.185$). As a result, although the effect of benevolence and competence on loyalty is different, it can be said that the variables are far from being substitutes. The patients will not only want to be treated by the doctors who show the benevolent behavior, but also the doctor's competence.

**Key Words:** Doctor benevolence, doctor's competence, patient loyalty

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## 1. INTRODUCTION

Health care reform in the last two held in Turkey leads to the intensified competition in the health sector (Narc, et al., 2015). In order to gain a competitive advantage in this intense competitive environment, health institutions need to retain existing patients and gain new patients. Because maintaining existing customers is less costly than winning new customers (Reichheld and Sasser, 1990). This situation reveals the importance of patient loyalty (Torres et al., 2009) and therefore, hospitals and scientists have been making great efforts in establishing the concept of loyalty and customer loyalty (Ünal, 2016). According to the literature, three key concepts are required for the patient's commitment. These are determination, satisfaction, and trust (Torres et al., 2009). Patients will trust if they are satisfied with the institution or physician they have received service before. As a result of this confidence, it is highly probable that the individual will tend to choose the same physician or institution again for his later similar service needs. Because of the commitment of the patient who feels the commitment to re-select the same institution or physician, health institutions can increase their income seriously (Montaglione, 1999). Hospitals should produce high values for their patients for high patient loyalty. These high values are various factors such as meeting the customer's expectation, obtaining quality service at an affordable price, and providing positive thoughts in price-benefit comparison (Ünal, 2016). Other factors that affect patient loyalty are the fact that health institutions consider patient complaints (Zhou et al., 2017; Bell and Luddington, 2006), service quality (Lan et al., 2016), patient satisfaction (Kanndampully and Hu, 2007), corporate image (Akbolat et al., 2017), hospital reputation (Amarat, 2017, Turay et al., 2017), trust (Platonova et al., 2008), patient's participation in treatment (Chang and Tseng, 2013) and the reputation of the doctor (Torres et al., 2009). When the literature is examined, it is claimed that the competence and benevolence of the employees contribute to the development of trust and reputation in consumers (Johnson and Grayson, 2003). Therefore, the aim of the study was to examine the effect of the doctors' benevolence behaviors and competencies on patient loyalty and to reveal whether doctor's benign behaviors or doctor's competence had more impact on patient commitment.

## 2. Theoretical Background and Research Hypotheses

### 2.1. Competence and Benevolence of Doctors

#### 2.1.1. Competence

Competence refers to a set of behaviours or attributes that one must demonstrate to work safely and effectively according to set standards. The Royal College of General Practitioners (RCGP, 2018) defines doctor competence as the demonstration of the ability of doctors to perform their expected professional duties according to accepted standards. The concept of competence can be explained by two components (Nguyen, 2010:347). The first component includes the doctors' technical expertise. Technical expertise is associated with the professional training of doctors and refers to the qualifications required to start the job. That is, for them to be a doctor. The second component of competence includes the workers' problem-solving skills. Problem-solving skills involve the ability of workers to manage conflicts with customers. The workers' problem-solving skills are related to their personality traits and social interactions with customers (Hartline et al., 2003).

#### 2.1.2. Benevolence

The concept of benevolence refers to workers' helpful behaviours towards customers, which goes beyond what is stipulated (Mayer et al., 1995). Benevolence is synonymous with the willingness to take into account the customers' needs and interests (Atuahene-Gima & Li, 2002). Considering the sample of this study, benevolence refers to the doctors' additional behaviours while helping patients with the goal of enhancing their comfort. Like competence, benevolence can also be explained by two components. The first component is selfless benevolence (Avcı, 2013: 108). It is defined as an individual's attempt to look after others'

benefits as he or she would look after their own (Nguyen, 2010:348). This means being helpful with no personal material or moral concern. Workers with selfless benevolence behave in this way even though their work does not require such forms of behaviour. The second component is mutual benevolence. It refers to the workers' additional behaviours towards customers with the idea that they will have common interests in the future. Mutual benevolence can be illustrated by the doctors' additional support for patients, as they expect any material or moral benefits in return for their services. Although there is no research reporting that benevolence directly affects doctor reputation, there are findings showing that benevolence is a premise of patient-based perceived corporate reputation (Stockmyer, 2016).

### 2.2. Patient Loyalty

Loyalty is defined by some researchers as the attitude of maintaining a relationship with a service provider (Czepiel and Gilmore, 1987; Moorman et al., 1992). The definition of other researchers is that one of the products or services in a certain category is preferred by the consumer when compared with the others (Durmuş, 2017; Neal, 1999). Patient loyalty; It is defined as the tendency to re-select the same personnel or organization in order to meet the health care needs in the future as a result of the satisfaction of the individuals who feel the need to receive health services and the trust of the service provider and the health professionals serving in the organization (Ünal et al., 2018). Satisfaction with the service received is an important factor for the development of loyalty towards the organization or individual offering services to individuals. Oliver (1999: 34-35) states that the development of loyalty begins with the purchase of services, that the satisfaction of the service received is the second stage, and then that the trust towards the individual or organization providing the service develops and loyalty will be formed. Patient loyalty has a number of benefits for both the patient and the doctor. These benefits include, for patients, a good diagnosis by the physician, a desire to adapt to and continue treatment; for doctors, it is seen as gaining new patients and helping to reduce patient complaints (Torres et al., 2009: 185).

### 2.3 Hypotheses of the Study

There is evidence that the helpfulness and competence of the doctor are positive outcomes in the literature. For example; Kantsperger and Kunz (2010) state that the doctor's helpful behaviors provide confidence in the patient while Torres et al. (2009) state that the doctor's competence is an important indicator of patient confidence. Considering that the patient's trust is directly related to patient commitment (Torres et al., 2009), it is thought that the benevolence and competence of the doctor will affect the patient commitment. Based on this idea and the information in the literature, the following hypotheses have been developed.

H1: There is a relationship between doctor benevolence and patient loyalty.
H2: There is a relationship between the doctor's competence and patient loyalty.
H3: The doctor's benevolence affects patient loyalty.
H4: Doctor's competence affects patient loyalty
H5: The effect of doctor's competence on patient loyalty is higher than the effect of doctor's benevolence.

## 3. MATERIALS AND METHODS

### 3.1. Sample and Data

This study took into consideration the health industry in Turkey. Within the context of the study, the health system has three parties; patients, doctors, and hospitals (public and private). Although the Turkish healthcare system involves family practices, the referral system is not a requirement for patients (Aydın et al., 2017:74). Patients are free to directly choose secondary and tertiary healthcare providers. Several factors influence the patients' choice of hospitals and doctors (Işık et al.,2016: 105). Thus, the fact that the study sample was selected from Turkey strengthens the research context. However, the study is limited to the Sakarya province, which is the most important limitation of the study.

The research was conducted between February and April 2017. The data for this study was collected through a self-administered questionnaire method. This study was performed thanks to the voluntary participants and the aim of the study was explained to them before the questionnaires were given. The participants were informed of the confidentiality and anonymity of the surveys. The study sample consisted of 207 people who were selected through purposive sampling. 62.8% of the participants were women and 49.8% were married. The mean age was 34±11. %29 of the patients received their last healthcare service from a private hospital and 71% from a public hospital. 46.4% of the sample consisted of people who received service from hospitals with training and research functions.

**3.2. Statistical Analysis and Research Model**

**3.3. Measures**

The data was collected using a survey form consisting of four parts:

**Demographic data** involved three questions about sex, marital status, and age.

**The Benevolence, Competence Scale:** The scale developed by Nguyen (2010) measures the doctors' competence (four items), benevolence (five items), and corporate reputation (five items). Cronbach's alpha was found to be 0.820 for the benevolence scale, 0.823 for the competence scale. Cronbach's alpha values for the original version were 0.894 and 0.896 respectively.

**The Patient Loyalty Scale:** The scale developed by Nguyen and LeBlanc (2001) consisted of four items. Cronbach's alpha was found to be 0.897, while that of the original version was 0.860.

The study used a 5-point Likert scale and the participants were asked to choose the most appropriate option ranging from 1 to 5. The scales were adapted to Turkish by the researchers. The following path was followed in the adaptation of the scales to Turkish. The scales were first translated into Turkish by academicians competent in both the source and target languages. The translations were reviewed by subject-matter experts. After their views were taken into account, the statements were translated back into English. The back-translation of the statements were compared to the originals and found to be similar. The data were analyzed using the SPSS statistics and Smart PLS 3 software. SPSS statistics was used for descriptive statistical analysis, regression analyze, correlation analyze and validity and reliability analysis. Smart PLS was used for confirmatory factor analyze. The construct validity of the scales were then analyzed. As seen in Table 1, the construct validity of the scales was in agreement with the originals.

**Table 1. Factor Loadings of the Scales**

| | BEN | COM | LOY |
|---|---|---|---|
| LOY1 | | | 0.882 |
| LOY2 | | | 0.835 |
| LOY3 | | | 0.862 |
| LOY4 | | | 0.884 |
| COM1 | | 0.845 | |
| COM2 | | 0.831 | |
| COM3 | | 0.833 | |
| COM4 | | 0.715 | |
| BEN1 | 0.779 | | |
| BEN2 | 0.747 | | |
| BEN3 | 0.769 | | |
| BEN4 | 0.757 | | |
| BEN5 | 0.737 | | |

Table 2 shows the results of the SEM analysis. Accordingly, the average variance extracted (AVE) for each construct in the model ranged from 0.575 to 0.750; the composite reliability (CR) ranged from 0.871 to 0.923. Thus, these values are above the threshold values. These results support the reliability and construct validity of the research model.

**Table 2. Average Variance Extracted and Composite Reliability Values of the Scales**

| Scales | AVE≥50 | CR≥70 |
|---|---|---|
| 1. Competence (COM) | 0.575 | 0.871 |
| 2. Benevolence (BEN) | 0.652 | 0.882 |
| 3. Patient Loyalty (LOY) | 0.750 | 0.923 |

The discriminant validity test was one of the validity tests used in the study. To ensure the discriminant validity, the square root of every AVE must be greater than the correlation between any pair of variables (Cengız and Ozkara, 2016). Table 3 shows the relevant results. Accordingly, the square roots of AVE of every variable were found to be greater than the correlation coefficient of other variables in the model. Thus, the results showed that the factors achieved adequate discriminant validity.

**Table 3. Discriminant Validity Values**

| | 1 | 2 | 3 |
|---|---|---|---|
| $\sqrt{AVE}$ | **0.758** | **0.808** | **0.866** |
| 1. Competence (COM) | 1 | | |
| 2. Benevolence(BEN) | 0.711 | 1 | |
| 3. Patient Loyalty(LOY) | 0.561 | 0.482 | 1 |

## 4. RESULTS

### 4.1. Correlation Analysis

Table 4 shows the results of the correlation analysis in which the relationship between the variables used in the study is examined. Accordingly, there are positive relationships between all three variables. When the correlation coefficients were taken into consideration, the correlation coefficient (r = 0.536) of the charitable behaviors of the doctors was higher than the

correlation coefficient (r = 0.474) of the doctor's competence (H1 and H2 accepted). Accordingly, helpful behaviors of doctors play a more important role in patient loyalty.

**Table 4. Correlation Analysis**

| | **1** | **2** | **3** |
|---|---|---|---|
| **Doktor Competence (1)** | 1 | | |
| **Doktor Benolovence (2)** | 0,716 | 1 | |
| **Patient Loyalty (3)** | 0,474 | 0,536 | 1 |

### 4.3. Regression Analysis

Table 5 shows the results of a regression model established to determine the effect of doctor's competence and doctor benolovence behaviour on patient loyalty. Accordingly, the established model is statistically significant and usable (F = 44,573, p = 0,000). The model explains 29.7% of the total variance. According to the regression model, doctor competence and doctor benolovence have a positive effect on patient loyalty. When the effect coefficients were examined, doctor benolovence (β =0.404) affects patient loyalty more than doctor's competence (β = 0.185) (H3, H4 and H5 accepted).

**Tablo 5: The Effect of Doctor Competence and Doctor Benolovence on Patient Loyalty**

| **Model** | **Non-standardized Coefficients** | | **Standardized Coefficients** | **T** | **p** |
|---|---|---|---|---|---|
| | **B** | **Std. Error** | **β** | | |
| Constant | 1,170 | 0,253 | | 4,623 | 0,000 |
| Competence (COM) | 0,195 | 0,088 | 0,185 | 2,209 | 0,028 |
| Benevolence(BEN) | 0,481 | 0,100 | 0,404 | 4,827 | 0,000 |
| **R** = 0,551 | **$R^2$** = 0,297 | **F** = 44,573 | | **p** = 0,000 | |

## 5. DISCUSSION AND CONCLUSIONS

In the changing and developing health sector, the sustainability and strategic superiority of the hospitals and patient commitment is an important factor. The fact that hospitals have affiliated patients means that these individuals will choose the same hospital again if they need it. This situation plays an important role in ensuring the sustainability of hospitals (Chaska, 2006). In addition, it is known that connected patients are more resistant to the strategies of competing hospitals (Akbar and Parvez, 2009). As hospitals increase the number of patients connected to them, they can reach potential patients more easily. In terms of patients, the physician should demonstrate his / her competencies and helpfulness behaviors. However, this will create a commitment for the patients.

This study contributes to the patient loyalty literature in two ways. Firstly, a positive relationship between doctor's competence and benevolence patient loyalty was determined. In the literature, a study conducted especially in the health sector has not been found. However, it is determined that the competence and benevolence of the employees, although not directly, create trust in customers and this trust is associated with customer loyalty (Sun and Lin, 2010). In addition, empirical findings suggest that employees' helpful behaviors and competencies increase corporate reputation. Increasing the reputation of the organization indirectly affects customer loyalty (Nguyen, 2010). The second important contribution of the study to the patient loyalty literature is to find out that doctor benevolence behaviors affect patient loyalty more than competence. No similar studies have been found in the literature regarding this finding.

This finding can be explained as follows; patients may experience information asymmetry related to the health services provided to them (Bilgili and Ecevit, 2008: 202), and this may have led to a greater impact on the patient's loyalty by their benevolence behavior.
Although the results of the study were found to have more effects on doctor's benevolence than doctor's competence, both factors showed a significant effect on patient commitment. This can be interpreted in a way that patients will not only want to receive treatment from doctors who display benevolence behaviors but also the competence of the doctor.

## 6. STUDY LIMITATIONS AND SUGGETIONS

The research has many limitations. This is the first research of the edges may be performed only in a private hospital in Turkey. This situation limits the generalizability of the research. For this reason, it is recommended that researchers repeat the research in different geographies. In addition, asymmetry of patients may have an important mediator role. For this reason, it is recommended to use information asymmetry as a mediating role in future studies.

## 7. ETHICAL APPROVAL

Official authorities' permission was obtained to collect data before the survey was implemented. The approval of the Ethics Committee of Sakarya University (Ref No: 61923333/050.99/) was also obtained. The participants were informed of the confidentiality and anonymity of the surveys.

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*RESEARCH ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# EVALUATION OF HEALTHY LIFESTYLE BEHAVIORS OF UNIVERSITY STUDENTS

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## ABSTRACT

The aim of this study was to evaluate the healthy lifestyle behaviors of university students.
Research has been applied to Selcuk University Alaeddin Keykubat campus students located in the center of Konya. The research was carried out at the Faculty of Dentistry, Faculty of Literature, Faculty of Science, Faculty of Fine Arts, Faculty of Law, Faculty of Economics and Administrative Sciences, Faculty of Communication, Faculty of Engineering, Faculty of Architecture, Faculty of Health Sciences, Faculty of Medicine, Faculty of Medicine, Faculty of Veterinary Medicine Faculty, Faculty of Arts and Design, Faculty of Technology, Faculty of Tourism, Faculty of Sports Sciences. The study was developed by Walker et al. (1996) and the Turkish version was adapted by Bahar et al. (2008). Research is descriptive and ıt used that quantitative research method. İn this survey, Data which were collected using the face-to-face survey method, was analyzed and interpreted by SPSS program.
36,5% of the students who participated in the survey were male and 63,5% were females. Educational status of the mothers of the students participating in the survey: 72,5% are primary school graduates, 15,3% are high school graduates, 2,2% are associate degree graduates and 9,6% are undergraduate graduates. Educational status of fathers of students participating in the survey: 49,3% are primary school graduates, 31,3% are high school graduates, 5,2% are associate graduates and 14,3% are undergraduate graduates. students who participated in the survey, 81% of them were in the nuclear family, and 19% of them were in the large family. About 10,3% of the surveyed students, have between 0 and 1000₺ , 37,7% between 1001 and 2000₺, 31% between 2001 and 3000₺ and finally 20,9% with 3001 ₺ and over monthly family income. 14.8% of the students who participated in the survey live in villages or towns before coming to university, 25,4% of them live in counties, 32,3% of them live in cities and 27,6% of them live in big cities.
The dimension, which is most related to the scale, "Health responsibility" dimension. "Stress management", "physical activity", "nutrition", "interpersonal relations", "self-realization" dimensions follows this dimension in turn. A significant difference was observed in the physical activity dimension ($p<0,05$). Male physical activity averages are higher than ladies. It has been found that students who are involved in the research have no chronic illnesses, have a higher self-realization rate than students with any chronic illness. . It has been determined that the average of nutritional behaviors of the students' who was living in the village before the university was lower than the average of the nutritional behaviors of the students living in the big cities before the university.

**Keywords:** Health, Behavior, Healthy Lifestyle Behaviours.

**A R T I C L E I N F O**

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## 1. INTRODUCTION

Since the existence of human beings, health, healthy life and form has played an important role. One of the goals that human beings desire and desire is a healthy way of life. But sometimes this has not been possible. Because of the reasons caused by human beings or natural disasters, it is not easy to live a healthy lifestyle. As human beings develop themselves and fulfill the requirements of civilization, levels of being healthy and living styles have improved. The way of life is the individual life habits that are simply done unconsciously every day and whose results are accepted. These habits affect health positively or negatively (Kiray Vural 1998: 39-43). For a healthy life, the skills that can control and direct that life (formulate the problem, find solutions, make decisions, and then apply these decisions) must have the ability to effectively resolve conflicts, communicate effectively and actively intervene on its own behalf. Healthy lifestyle is defined as the control of all behaviors that can affect the health of the individual and the selection of the behaviors that are appropriate to his, her health status in the regulation of daily activities. An individual who transforms these behaviors into attitudes can maintain a state of health as well as improve health status (Özkan and Yılmaz, 2006: 24-28). Healthy lifestyle behaviors; It is defined as the whole of the behaviors that the individual believes and applies in order to stay healthy and to protect from diseases (Özkan and Yılmaz 2008: 90-105). Healthy lifestyle, the ability to control their behavior could affect the health of the individual, while organizes daily activities is defined as the selection of appropriate behavior to their health status. The individual who transforms these behaviors into attitudes can maintain a healthy state and improve his health status (Zaybak and Fadıloğlu 2004: 77-95). Developments in medical and health services, sick people before they try to improve that, then they are looking for ways of prevention of these diseases has been observed. For this to protect people from getting sick, allowing them to be healthy throughout life it has been developed for many applications. Today, all of these practices are called “Healthy Lifestyles (Hardrick et al. 1996: 106-112). Healthy lifestyle, which can affect the health of individuals, to control the behavior of all, the arrangement has been described as the embodiment of their daily activities by selecting the appropriate behavior to their health status. This behavior of individuals who transform into attitudes, such as the state can continue to be healthy, you can bring a better level of health status (Bozhüyük 2010). Healthy lifestyle behaviors are not intended to prevent any disease or disorder, an individual's overall health and well being further aims to improve (Armstrong and Walnut 2007: 211-220). Pender in 1982 stated that the development of health as a component of a healthy lifestyle. According to Pender, healthy lifestyle behaviors; self-actualization, health responsibility, exercise, nutrition, stress management and interpersonal includes support (Pender and Barkauskas 1992: 278-290).

In this study, health lifestyle behaviors of university students were emphasized. In addition, the research focuses on the components that affect students' health lifestyle behavior

## .2. MATERIALS AND METHODS

The aim of this study was to determine and evaluate healthy lifestyle behaviors of Selcuk University students. This research has been applied to other university students before and it has not been applied to Selçuk University students, which emphasizes the importance of this research. Quantitative research design was used in the research; descriptive findings were presented. Quantitative research is the study that requires the collection and analysis of quantitative data in its simplest sense. The most decisive feature of descriptive research is that

the research results describe a situation but do not make comparisons to explain this situation. (Büyüköztürk et al 2013). The study was applied to the students studying at Konya Selçuk University. University faculties included in the research; Faculty of Engineering, Faculty of Health Sciences, Faculty of Veterinary Medicine, Faculty of Agriculture, Faculty of Art Design, Faculty of Communication, Faculty of Dentistry, Faculty of Arts, Faculty of Science, Faculty of Fine Arts, Faculty of Law, Faculty of Economics and Administrative Sciences, Faculty of Architecture, Technical Education, Faculty of Technology, Faculty of Tourism, Faculty of Sport Sciences. The universe of the research consists of 90 thousand people. To determine the sample size Altunışık et al (2012) it was utilized easily generated by the sample table. Healthy Lifestyle Behaviors Scale II was used in the study. It was developed by Walker et al. (1996) and its Turkish adaptation was made by Bahar et al. (2008). The scale consists of 52 items and has 6 sub-factors. Subgroups; Self-realization with 0.747 cronbach-alpha value (6,12,18,24,30,36,42,48,52), Cronbach's alpha value of 0.798-health responsibility (3,9,15,21,27,33,39,45,51), Physical activity with 0,823 cronbach-alpha value (4,10,16,22,28,34,40,46), Nutrition with cronbach-alpha value of 0,635 (2,8,14,20,26,32,38,44,50), Interpersonal relations with 0.726 cronbach-alpha value (1,7,13,19,25,31,37,43,49) ve It is stress management with 0.658 cronbach-alpha value (5,11,17,23,29,35,41,47). Findings evaluating the SPSS obtained in this study (Statistical Package for Social Sciences) for descriptive statistical methods using Windows 21.0 program (frequency, percentage, average, standard deviation) and independent samples t-test for analysis of variance and correlation tests were used. In order to test the reliability of the scale, the reliability test was performed and the cronbach-alpha value of the scale was found to be 0.911.

The studies are divided into three sections as instant, cross-sectional and longitudinal according to the time of data collection (Büyüköztürk et al. 2013). Accordingly, the data needed for the research were collected instantly within a specified interval. The data were collected by the researchers by using the questionnaire technique with the students of Selçuk University. The data obtained from the surveys are the first step in the study control data transferred to a computer and arranged made incorrect data. Statistical analyzes were performed on computer. Descriptive data on, independent sample t-tests for independent samples correlation analysis was performed by one-way analysis of variance.

The hypotheses of the research are listed below:

Hypothesis 1: Ho = There is no significant relationship between the gender of the students and the average health responsibility.
Hypothesis 2: Ho = There is a significant relationship between the gender of the students involved in the study and the average physical activity behavior.
Hypothesis 3: Ho = There is no significant relationship between gender and mean nutrition behavior of the students.
Hypothesis 4: Ho = There is no significant relationship between the gender of the students involved in the study and the average of self-realization behavior.
Hypothesis 5: Ho = There is no significant relationship between the gender of the students involved in the study and the mean interpersonal relationship behavior.
Hypothesis 6: Ho = There is no significant relationship between gender and mean stress management behavior of the students.
Hypothesis 7: Ho = There is no significant relationship between the mother education level of the students included in the study and the mean of healthy lifestyle behavior.
Hypothesis 8: Ho = There is no significant relationship between the father's educational status of the students involved in the study and the average physical activity behavior.

Hypothesis 9: Ho = There is no significant relationship between the chronic disability of the students involved in the study and self-actualization behavior average
Hypothesis 10: Ho = There is no significant relationship between the place where most of the students' lives go through and the mean nutrition behavior.

## 3. FINDINGS

The socio-demographic characteristics of the students in the study and the descriptive statistical findings examining the attitudes of the students regarding the scales used in the research are as follows:

Table 1. Demographic data of the participants

| **Gender** | (n) | (%) |
|---|---|---|
| Female | 258 | 63,5 |
| Male | 148 | 36,5 |
| **Mother Education** | **(n)** | **(%)** |
| Primary school | 296 | 72,5 |
| High school | 62 | 15,3 |
| Associate degree | 9 | 2,2 |
| Undergraduate | 39 | 9,6 |
| **Father Education** | **(n)** | **(%)** |
| Primary school | 200 | 49,3 |
| High school | 127 | 31,3 |
| Associate degree | 21 | 5,2 |
| Undergraduate | 58 | 14,3 |
| **Father Job** | **(n)** | **(%)** |
| Pensioner | 72 | 17,7 |
| Artisan | 63 | 15,5 |
| Officer | 85 | 20,9 |
| Worker | 93 | 22,9 |
| Farmer | 34 | 8,4 |
| Unemployed | 22 | 5,4 |
| Self-employment | 37 | 9,1 |
| **Family structure** | **(n)** | **(%)** |
| Nuclear family | 329 | 81,0 |
| Extended family | 77 | 19,0 |
| **Family revenue** | **(n)** | **(%)** |
| 0-1000 | 42 | 10,3 |
| 1001-2000 | 153 | 37,7 |
| 2001-3000 | 126 | 31,0 |
| 3001- and over | 85 | 20,9 |
| **Where Most of Their Lives Pass** | **(n)** | **(%)** |
| Village-town | 60 | 14,8 |
| County | 103 | 25,4 |
| City | 131 | 32,3 |
| Big city | 112 | 27,6 |
| **Total** | **406** | **100,0** |

As can be seen in Table 1, 81% (329) of the students included in the research were raised in nuclear families and 19% (77) grew up in extended families. Approximately 10.3% (42) of the students included in the research were 0 to 1000, 37.7% (153) of 1001 to 2000, 31% (126) of 2001 and 3000 and finally 20.9% of the students ( 85) Monthly family income of 3001 pounds or more. 14.8% (60) of the students who participated in the research were located in villages or towns where most of their lives were spent, 25.4% (103) were in districts, 32.3% (131) were in cities and 27.6% ( 112) in the metropolitan. 63.5% (258) of the participants were female and 36.5% (148) were male students. 72.5% (296) of the students have primary

school, 15.3% (62) high school, 2.2% (9) associate degree, 9.6% (39) have undergraduate mother education level. Similarly, 49.3% (200) of primary school students, 31.3% (127) of high school students, 5.2% (21) of associate degree, 14.3% (58) of the students included in the research. father has undergraduate education.

**Table 2. Findings of correlation analysis in order to examine the relationship between health lifestyle behavior sub-dimensions of the students and the scale**

| | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| 1- General | | | | | | | |
| 2- Health responsibility | r | ,793** | | | | | |
| | p | ,000 | | | | | |
| 3- Physical activity | r | ,754** | ,532** | | | | |
| | p | ,000 | ,000 | | | | |
| 4- Nutrition | r | ,724** | ,611** | ,546** | | | |
| | p | ,000 | ,000 | ,000 | | | |
| 5- Self-realization | r | ,649** | ,323** | ,278** | ,243** | | |
| | p | ,000 | ,000 | ,000 | ,000 | | |
| 6- Interpersonal relations | r | ,713** | ,452** | ,336** | ,317** | ,647** | |
| | p | ,000 | ,000 | ,000 | ,000 | ,000 | |
| 7- Stress management | r | ,779** | ,536** | ,488** | ,444** | ,506** | ,503** |
| | p | ,000 | ,000 | ,000 | ,000 | ,000 | ,000 |

As shown in Table 2, Correlation analysis was performed to examine the relationship between health lifestyle behavior subscales and scale. According to the results of the analysis, the ilişkili health responsibility ”dimension is the most related dimension to the scale. This in order; stress management, physical activity, nutrition, interpersonal relationships, self-realization dimensions.

**Table 3. Findings of t-test analysis in independent groups conducted between the gender and healthy lifestyle behavior sub-dimensions of the students included in the study.**

| Cinsiyet | | n | Mean | sd | se | t | p |
|---|---|---|---|---|---|---|---|
| Health responsibility | Female | 258 | 2,3867 | ,51319 | ,03195 | 1,450 | 0,148 |
| | Male | 148 | 2,3063 | ,57839 | ,04754 | | |
| Physical activity | Female | 258 | 2,2306 | ,61593 | ,03835 | -2,314 | 0,021 |
| | Male | 148 | 2,3792 | ,63461 | ,05216 | | |
| Nutrition | Female | 258 | 2,3092 | ,44314 | ,02759 | 1,040 | 0,299 |
| | Male | 148 | 2,2575 | ,54341 | ,04467 | | |
| Self-realization | Female | 258 | 3,1318 | ,42652 | ,02655 | 1,401 | 0,162 |
| | Male | 148 | 3,0646 | ,48614 | ,03996 | | |
| Interpersonal relations | Female | 258 | 2,9832 | ,42574 | ,02651 | 0,649 | 0,517 |
| | Male | 148 | 2,9512 | ,50549 | ,04155 | | |
| Stress management | Female | 258 | 2,5780 | ,45722 | ,02847 | -0,735 | 0,463 |
| | Male | 148 | 2,6140 | ,50443 | ,04146 | | |
| General | Female | 258 | 2,6033 | ,35824 | ,02230 | 0,203 | 0,840 |
| | Male | 148 | 2,5955 | ,39726 | ,03265 | | |

In Table 3, t-test analysis was performed in independent groups between the gender and healthy lifestyle behavior sub-dimensions of the students included in the study. According to the analysis results; No significant difference was found between gender and health responsibility, nutrition, inter-personal relationships, stress management, and self-actualization ($p > 0.05$). Therefore, Hypothesis 1, Hypothesis 3, Hypothesis 4, Hypothesis 5,

Hypothesis 6 were accepted. There was a significant difference in physical activity dimension ($p < 0.05$). The average physical activity of males is higher than females. Hypothesis 2 was therefore rejected.

**Table 4. The variance test in independent groups between the mother education level of the students included in the study and the mean of healthy lifestyle behavior.**

| Mother Education | n | Mean | Sd | F | p | Post Hoc |
|---|---|---|---|---|---|---|
| 1- Primary school | 296 | 2,5655 | 0,36041 | 3,351 | 0,019 | 1 < 2 |
| 2- High school | 62 | 2,7098 | 0,34737 | | | |
| 3- Associate degree | 9 | 2,6572 | 0,53584 | | | |
| 4- Undergraduate | 39 | 2,6786 | 0,4242 | | | |
| Total | 406 | 2,6004 | 0,37247 | | | |

When Table 4 is examined, an analysis of variance was performed in independent groups in order to examine the relationship between the mean healthy lifestyle behavior of the students included in the study and the mother's educational status, and a significant difference was found regarding the mother's educational status ($p < 0.05$). According to the results, it was found that the ratio of healthy lifestyle behavior level of the students whose mother education level is high school level is higher than the ratio of the healthy lifestyle behavior level of the students whose mother education level is primary school level. Therefore, Hypothesis 7 is rejected.

**Table 5. The variance test in independent groups between the educational status of the students and the mean of physical activity behavior of the students included in the study.**

| Father Education | n | Mean | Std. Deviation | F | p | Post Hoc |
|---|---|---|---|---|---|---|
| 1- Primary school | 200 | 2,1869 | ,59889 | 3,769 | 0,011 | 1<4 |
| 2- High school | 127 | 2,3484 | ,60229 | | | |
| 3- Associate degree | 21 | 2,3393 | ,51104 | | | |
| 4- Undergraduate | 58 | 2,4634 | ,75073 | | | |
| Total | 406 | 2,2848 | ,62613 | | | |

When the Table 5 is examined, an analysis of variance was performed in independent groups to find out the relationship between the mean healthy lifestyle behavior of the students included in the study and father's educational status, and a significant difference was found regarding the father's educational status ($p < 0.05$). It was found that the ratio of healthy lifestyle behavior level of the students at the level of education is higher than the ratio of the healthy lifestyle behavior level of the students whose father education level is at primary school level. Hypothesis 8 was therefore rejected.

**Table 6. Chronic illnesses situation of students involved in research with the ability to self-fulfilling behavior between independent groups t test average**

| chronic disease | | n | Mean | sd | t | p |
|---|---|---|---|---|---|---|
| Self-realization | Yes | 41 | 2,9024 | ,51651 | -3,109 | 0,002 |
| | No | 365 | 3,1303 | ,43644 | | |

When Table 6 was examined, t-test analysis was performed in independent groups between the chronic discomfort status and self-actualization behavior of the students included in the study. According to the results of the analysis, a significant difference was found between chronic discomfort and self-actualization ($p < 0.05$). According to the table, it was found that the students who did not have any chronic illness had higher self-realization rate than the students who had any chronic illness. Therefore, Hypothesis 9 is rejected.

**Table 7. Test of variance in independent groups between the place where the majority of the students' lives lived and the mean nutrition behavior.**

| Beslenme | n | Mean | sd | F | p | Post hoc |
|---|---|---|---|---|---|---|
| 1- Village-town | 60 | 2,3852 | ,57951 | 4,106 | 0,007 | 1<4 |
| 2- County | 103 | 2,3128 | ,42715 | | | |
| 3- City | 131 | 2,3401 | ,48682 | | | |
| 4- Big city | 112 | 2,1607 | ,44615 | | | |
| Total | 406 | 2,2904 | ,48209 | | | |

When Table 7 is examined, the variance test was performed in independent groups between the place where the majority of the students' lives lived and the mean nutrition behavior. According to the results of the analysis, a significant relationship was found between the place where most of the students' lives before the university and their feeding behaviors ($p < 0.05$). According to the table, it was found that the average nutrition behavior of the students living in the village before the university was lower than the average of the nutrition behavior of the students living in the metropolitan cities. Therefore, Hypothesis 10 is rejected.

## 4. DISCUSSION

In this study conducted to learn healthy lifestyle behaviors of Selçuk University students, the results of students' healthy lifestyle behaviors were examined in two parts. In the first part, the results of the demographic data and descriptive statistics of the participants are given and in the second part the analyzes of the scales are mentioned.

The majority of the participants were female students (63.5%). In a 617-person study conducted by Çepni (2010) for Gazi University students, 56.56% were women and 41.17% were men. In a study conducted by Kasapoğlu (2015) for 711 students, 39.7% were male and 60.3% were female. Yıldırım (2005) conducted a study of 1001 students by 39.8% women and 60.2% men. Bozhüyük (2010) conducted a study of 801 students by 60% of women and 40% of men. 72.5% of the students who participated in the study had primary school, 15.3% had high school, 2.2% had associate degree, and 9.6% had undergraduate mother education (72.5%). The majority of the students included in the research have primary school mothers' education level. In a study conducted by Kasapoğlu (2015) for 711 students, 10.1% were illiterate, 11.0% were illiterate, 66.5% were primary school, 10.4% were high school, 2.0% were university or older It has. In the study of 1001 students by Yıldırım (2005), 45.8% were primary school, 21% high school, 12.1% secondary school, 13% not literate, 8.1% associate degree / The undergraduate mother has educational status.

Of the students participating in the research, 49.3% had primary education, 31.3% had high school, 5.2% had associate degree and 14.3% had undergraduate father education. Most of the students included in the research have primary school father education level (49.3%). In the research conducted by Kasapoğlu (2015) for 711 students, 2.1% is not literate, 7.2% is

literate, 61.7% is primary school, 21.5% is high school, 7%, 5 of them have university education or higher education. In a study conducted by Yıldırım (2005) for 1001 students, 28.1% was primary school, 31.1% was high school, 15.6% was secondary school, 3.5% was not literate, 21.8% i has associate degree / undergraduate father education status. 81% of the students participating in the research have nuclear family and 19% have extended family structure. Kasapoğlu (2015) conducted a 711-person survey of students with 74.8% nuclear family, 21.2% extended family, 3.9% has a fragmented family structure. For individuals to gain and maintain a healthy lifestyle; individual, cultural and socioeconomic conditions are effective (Baltaş 2007). The statistical relationship between gender and healthy lifestyle behaviors sub-dimensions was determined. However, there is a significant relationship between gender and physical activity subscale. Accordingly, it is seen that men give more importance to physical activity than women. In a study conducted by Çepni (2010), 617 students reported that the average physical activity of men was higher than that of women. Significant relationship was found between mother education level of students and healthy lifestyle behavior. It was found that the students with maternal education at high school level were higher than the healthy lifestyle behavior level of students with maternal education at primary school level. As the mothers with high school level of education have higher and better rates of education than mothers with primary school level, the healthy lifestyle and responsibility of the students are higher depending on their mothers' education level. Yıldırım (2005) conducted a study of 1001 students. It was found that the education level of the mothers was higher than the ones with high school education. Significant relationship was found between father education level of students and healthy lifestyle behavior. It was found that the rate of healthy lifestyle behavior of the students whose father education level was at the undergraduate level was higher than the ratio of the healthy lifestyle behavior level of the students whose father education level was at primary school level. Fathers with higher education have higher and better levels of education than fathers with primary education, and their healthy lifestyle and responsibility are higher depending on their fathers' education. Yıldırım (2005) did not find any significant relationship between father's educational status and healthy lifestyle behavior in a 1001-person study. When the relationship between the chronic discomfort and healthy lifestyle of the students included in the study is examined, it is found that the students who do not have chronic discomfort have higher self-realization rate than the students who have chronic discomfort. Participants who do not have any chronic illnesses are more likely to want to achieve something in their lives than participants who have any chronic illnesses. In a study conducted by Çepni (2010) on 617 students, no significant relationship was found between chronic discomfort and healthy lifestyle. Yıldırım (2005) did not find any significant relationship between chronic discomfort and healthy lifestyle. When the relationships between the place where the majority of the students 'lives live and healthy lifestyle are examined, there is a significant relationship between the place where the majority of the students' lives live and nutrition behavior. According to this, it was found that the average nutrition behavior of the students living in metropolitan cities was higher than the average eating behavior of the students living in villages or towns. Therefore, the size or smallness of the place where a large part of the students' lives have an important effect on their nutrition. Yıldırım (2005) did not find a significant relationship between the place where the majority of their lives and healthy lifestyle were found.

## 5. CONCLUSION

In this study conducted to investigate the health lifestyle of students;

- Health is the most important health responsibility that affects the lifestyle. t has been stress management, physical activity, nutrition, interpersonal relationships and self-realization.

- Men's physical activity behavior is higher than that of women.
- It was found that the ratio of healthy lifestyle behavior level of the students whose mother education level is high school is higher than that of the students whose mother education level is primary school.
- It was found that the rate of healthy lifestyle behavior level of the students whose father education level is at the undergraduate level is higher than that of the students whose father education level is at primary school level.
- It has been found that students who do not have any chronic illness have higher self-realization rate than students who have any chronic illness.
- Before the university, it was found that the average nutrition behavior of the students living in the village was lower than the average eating behavior of the students living in the metropolitan cities.

Women use health services more. This is due to the fact that there are diseases against women and they are physically weak. As a result of this study, it is seen that women exhibit less physical activity than men. In order to increase the physical activity behavior of women, studies should be conducted for women. At this point, the Ministry of Health should increase the efforts of women to adopt a healthy lifestyle. It is seen that education level has an effect on healthy lifestyle.

In this study, it is seen that the education level of parents of students affects healthy lifestyle. Increasing health literacy of parents, especially health education level, has a great impact on children. Again, it is recommended to conduct studies at this point.

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*RESEARCH ARTICLE*

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# DELIVER PREFERENCE AND INFLUENCING FACTORS IN WOMEN GIVING BIRTH

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## ABSTRACT

This study was planned to determine the birth preferences of women with vaginal, cesarean and both vaginal and cesarean delivery experience. A total of 600 women were sampled. The reasons for choosing vaginal birth of women participating in our work are to be natural and suitable for baby, less pain and bleeding in postpartum period, easier return to normal life and earlier discharge. In our study, the reasons for choosing cesarean birth were determined as indications and doctor's decision, less pain and more comfort, baby safety, no perineal tears, short duration of operation and easy management.

**Keywords:** Birth preference, cesarean birth, fear of birth, vaginal birth, pain

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## 1. INTRODUCTION

Pregnancy and birth, together as a psysiological event, are important sources of stress for women. During this period, women are concerned about how the birth type will happen. Because the way of delivery is one of the important issues that should be decided during pregnancy (Gozukara, & Eroglu, 2008; Kocak, & Ozcan, 2018).

To determine the optimal birth preference for every pregnant woman; it is critical to provide high quality, patient-centered care in obstetrics. Although vaginal birth continues to be the most common form of birth, cesarean rates in the world are increasing day by day (Hamilton, Hoyert, Martin, Strobino, & Guyer, 2013; United States Department of Health and Human Services, 2013).

Cesarean rates in Brazil also began to increase in the mid-1990s. In 2009, cesarean rates exceeded normal birth rates and reached 52% in 2010 (Domingues, et al., 2014). The United States has reported that about 1.3 million women have delivered by cesarean section each year (Shorten, Shorten, Keogh, West, & Morris, 2005). Cesarean rates on the numbers that WHO has proposed are 35-45% in USA, Taiwan, Australia, UK, New Zealand and Canada (Chen, & Hancock, 2012).

Cesarean delivery is also common in Turkey. Cesarean ratios, which were 37% according to 2008 TNSA data, increased to 48% compared to 2013 data (TNSA, 2013). These rates are much higher in the world than in the 15% recommended by the World Health Organization in Turkey (Domingues, et al., 2014).

It is noteworthy that, in studies conducted with pregnant women or postpartum women, women prefer mostly vaginal birth. Factors such as new clinical guidelines aiming at lowering the rate of caesarean section, prenatal counseling, inclusion of patients in birth selection are attributed to this increase (ACOG, 2014).

The International Federation of Gynecology and Obstetrics (FIGO) states that the cesarean section should be done for medical reasons, not on demand. The American Association of Gynecology and Obstetrics (ACOG) stated in 2008 that they did not find cesarean section as appropriate before the 39th week of pregnancy (ACOG, 2010). It is emphasized that, except for medical reasons, cesarean section should be avoided from non-indication cesarean sections when considering the heavy burdens brought to mother and baby health (Ozkana, Sakal, Avcı, Civil, & Tunca, 2013).

The studies have shown that factors such as education level of mother, socio-economic background, advanced age, hospital, living in urban area, physician working in private sector, the thought of necessity of old cesarean cases to be delivered by cesarean section also increase the birth rate by cesarean section. Another important reason that has a role in increasing the rate of cesarean section is the mother's request (Domingues, et al., 2014; Ozcan, Arar, & Cakır, 2018; Ozkana, Sakal, Avcı, Civil, & Tunca, 2013).

In a study conducted, cesarean rates were reported as 26.4% in low-risk nulliparous women and 89.9% in low-risk women who had previously delivered cesarean (Hamilton et al., 2013). Especially vaginal birth after cesarean section and elective cesarean section are very controversial issues. In this case, women should be educated about these issues and the choice of birth should be decided together (Shorten, Shorten, Keogh, West, & Morris, 2005; Takegata, Haruna, Morikawa, Yonezawa, Komada, & Severinsson, 2018).

Pregnancy causes both stress and depression in women. By postponing their birth preferences, women stated that this ambiguity would be an advantage in terms of depression and anxiety. In

a study that assessed the birth preferences of pregnancies during the 28th week of pregnancy, it is stated that women still did not decide. In the study, the determined birth preference during early weeks or even during the first pregnancy checks was suggested to remove uncertainties and to help person to be self-prepared (Shorten, & Shorten, 2014).

Co-operation with health personnel is recommended according to the specific characteristics and values of pregnant women (Kaimal, & Kuppermann, 2012). Although women often state that they want to participate in the prenatal decision-making process, there is a controversial issue where the patient preferences are included (Moffat, et al., 2007).

For this reason, women-centered care is important in determining the birth preference. Women-centered care includes informing the woman about the birth option before the cesarean section and explaining the risks of cesarean section. Women-centered care deals with maternal and infant health and includes three goals. These; selection, maintenance and control (Chen, & Hancock, 2012). When considering the form of birth, the woman's cultural and social values, reproductive planning, and personal needs should be considered together with the participation of the woman (Kingdon, et al., 2009; NIH, 2006).

The reduction of cesarean birth rates and the support of women for vaginal birth are important objectives. Pregnant woman's choice of birth should be questioned, how vaginal birth should be perceived, potential outcome should be assessed (Yee, et al., 2015).

Studies conducted up to now have focused on which birth choice preferences and possible effects to women especially during pregnancy period. This study was planned to determine the birth preferences of women with vaginal, cesarean and both vaginal and cesarean delivery experience.

## 2. MATERIALS AND METHODS

This study is descriptive and cross-sectional. The population of the study consists of women who applied to a public hospital and gave birth. The study sample consisted of women who applied to the hospital within the specified time period. During this time, approximately 550 women were interviewed. The women were divided into three groups according to the type of birth. A total of 600 samples were completed to synchronize the groups. 200 women in cesarean section, 200 women in vaginal delivery group and 200 women in both cesarean and vaginal delivery groups were included. In order to carry out the study, permission of the institution and the ethics committee was obtained. The data were collected within a period of 6 months between 15.01.2018/15.07.2018.

Criteria to be included in the study are being in the 18-50 age range, the woman accepting to participate voluntarily, the woman does not have cognitive problems, and the woman has given birth.

Before the study, each woman was interviewed face-to-face, the purpose of the study was explained to participants and their informed verbal approval was taken. Questionnaires were filled out one by one by the requesting women themselves or the researchers who read questions.

### 2.1. Data Collection Tools

In the study, a questionnaire consisting of a total of 42 questions covering the socio-demographic characteristics of women and their obstetric characteristics such as birth, pregnancy, abortion, abortion, birth type, pre- and post-natal and postnatal problems and experiences were created by researchers.

### 2.2. Implementation Permit of the Research

For the implementation of the research, the permission was obtained from Gümüşhane Unıversıty Scıentıfıc Research and Publıshıng Commıttee (Approval Number= 95674917-604.01.02-E.825).

### 2.3. Statistical Analysis

Obtained data were evaluated with statistical package program and error checks, tables and statistical analyzes were performed. Percentage, mean and chi-square tests were used for statistical evaluation.

## 3. RESULTS

The average age of the women is 36.42±8.91 (*min*=18, *max*=60) and the marriage age is 20.64±3.58. Some socio-demographic characteristics of women are given in Table 1.

**Table 1.** Some socio-demographic characteristics of women

| **Women's educational status** | ***n*** | ***%*** | **Husband's educational status** | ***n*** | ***%*** |
|---|---|---|---|---|---|
| Primary-secondary education | 273 | 47.9 | Primary-secondary education | 199 | 33.7 |
| High school | 192 | 33.8 | High school | 251 | 42.4 |
| Bachelor-prelicense | 104 | 18.3 | Bachelor-prelicense | 141 | 23.9 |
| Total | 569 | 100.0 | Total | 591 | 100.0 |
| **The place life mostly passed** | ***n*** | ***%*** | **Income status** | ***n*** | ***%*** |
| Village | 150 | 25.3 | Less income than expenses | 120 | 20.6 |
| District | 135 | 22.8 | Income equal expenses | 399 | 68.7 |
| Province | 307 | 51.9 | More income than expenses | 62 | 10.7 |
| Total | 592 | 100.0 | Total | 581 | 100.0 |

47.9% of women had primary and secondary education, 42.4% of their husbands had high school graduates. 51.9% spent mostly their lives in province and 68.7% have equal income to their expenses.

As a result of evaluation of participants' pregnancy and birth stories; the mean pregnancy number was 3.62±2.86 (*min*=1, *max*=25), the mean number of the births was 2.77±1.64 (*min*=1, *max*=12), the mean miscarriage number was 1.17±1.79 (*min*=0, *max*=19) and the mean abortion number was 0.61±0.7 (*min=0, max=3*).

51.3% of the women stated that they had been educated about birth, 51% of the educated ones were took education from health personnel, 30.9% were informed from their friends and close environment, and 50.8% stated that their births were at home. Participants' birth preferences are given in Table 2.

**Table 2.** Deliver preferences of the participants

| **Deliver type and preferences** | | |
|---|---|---|
| **Deliver type** | ***n*** | ***%*** |
| Vaginal delivery | 200 | 33.3 |
| Cesarean section | 200 | 33.3 |
| Vaginal / cesarean delivery | 200 | 33.4 |
| Total | 600 | 100.0 |
| **Preference before birth** | ***n*** | ***%*** |
| Vaginal delivery | 455 | 82.9 |
| Cesarean section | 54 | 9.9 |
| Not decided | 40 | 7.2 |
| Total | 549 | 100.0 |
| **Preference after birth** | ***n*** | ***%*** |
| Vaginal delivery | 440 | 75.5 |
| Cesarean section | 115 | 19.7 |
| Vaginal / cesarean delivery | 28 | 4.8 |
| Total | 583 | 100.0 |

82.9% of the women stated that they preferred vaginal before giving birth, and 75.5% stated that they preferred vaginal birth after giving birth. Of the participants, 45.7% stated that normal birth and intervention when needed were the most appropriate type of birth in terms of mother and baby health, and 82.0% stated that the most important factor in determining the type of birth was baby health.

44.7% of the women stated that the type of delivery affected the infant care, 37.9% stated that the delivery type affected the sexual life and 72.3% stated that their ideas about the delivery type were asked. 83.1% of the participants stated that they went to regular health checks, 37.7% had problems with breastfeeding, 62.8% received postpartum care, 59.8% received postpartum care from midwives and nurses. Table 3 shows the vaginal and cesarean birth preferences of women.

**Table 3.** The reasons why women prefer vaginal or cesarean delivery

| **Reasons of birth preference** | | |
|---|---|---|
| **Vaginal delivery preferences*** | ***n*** | ***%*** |
| Becoming a natural event | 276 | 46.0 |
| More suitable for baby | 187 | 31.2 |
| Less pain and bleeding after birth | 147 | 24.5 |
| Easier return to normal life | 141 | 23.5 |
| Early discharge | 66 | 11.0 |
| **Cesarean section preferences*** | ***n*** | ***%*** |
| Indication status and doctor's decision | 148 | 24.6 |
| Less pain and more comfort | 81 | 13.5 |
| Safety of baby | 63 | 10.5 |
| Perineal rupture does not occur | 24 | 4 |
| Having a short transaction | 15 | 2.5 |
| Easy to manage | 5 | 0.8 |

***more than one answers given***

46.0% of the women stated that they preferred cesarean delivery with vaginal birth due to a natural event, 24.6% with indications and doctor's decision. Table 4 summarizes the ways of giving birth and getting postpartum care, problems with breastfeeding, sexual life and infant care.

**Table 4.** Women's preferences for giving birth and problems with postpartum care, breastfeeding, sexual life and infant care

| **Delivery Type** | **Postpartum care*** | | | | | |
|---|---|---|---|---|---|---|
| | **Yes** | | **No** | | **Total** | |
| | ***n*** | ***%*** | ***n*** | ***%*** | ***n*** | ***%*** |
| Vaginal delivery | 91 | 46.0 | 107 | 54.0 | 198 | 100.0 |
| Cesarean section | 129 | 65.2 | 69 | 34.8 | 198 | 100.0 |
| Vajinal and cesarean birth | 153 | 77.3 | 45 | 22.7 | 198 | 100.0 |
| | | | | | ***$X^2$: 21.196, p: 0.000*** | |
| **Delivery Type** | **Breastfeeding problems*** | | | | | |
| | **Yes** | | **No** | | **Total** | |
| | ***n*** | ***%*** | ***n*** | ***%*** | ***n*** | ***%*** |
| Vaginal delivery | 66 | 33.3 | 132 | 66.7 | 198 | 100.0 |
| Cesarean section | 93 | 47.0 | 105 | 53.0 | 198 | 100.0 |
| Vajinal and cesarean birth | 65 | 32.8 | 133 | 67.2 | 198 | 100.0 |
| | | | | | ***$X^2$: 10.851, p: 0.004*** | |
| **Delivery Type** | **Effect on sexual life*** | | | | | |
| | **Yes** | | **No** | | **Total** | |
| | ***n*** | ***%*** | ***n*** | ***%*** | ***n*** | ***%*** |
| Vaginal delivery | 47 | 26.0 | 134 | 74.0 | 181 | 100.0 |
| Cesarean section | 67 | 35.4 | 122 | 64.6 | 189 | 100.0 |
| Vajinal and cesarean birth | 100 | 51.3 | 95 | 48.7 | 195 | 100.0 |
| | | | | | ***$X^2$: 26.277, p: 0.000*** | |
| **Delivery Type** | **Effect on infant care** | | | | | |
| | **Yes** | | **No** | | **Total** | |
| | ***n*** | ***%*** | ***n*** | ***%*** | ***n*** | ***%*** |
| Vaginal delivery | 60 | 31.4 | 131 | 68.6 | 191 | 100.0 |
| Cesarean section | 105 | 53.6 | 91 | 46.4 | 196 | 100.0 |
| Vajinal and cesarean birth | 97 | 48.7 | 102 | 51.3 | 199 | 100.0 |
| | | | | | ***$X^2$: 21.196, p: 0.000*** | |

****percentage line was used.***

There was a significant correlation between the type of the delivery and postpartum care ($X^2=21.196$, $p=0.000$), problems with breast feeding ($X^2=10.851$, $p=0.004$), effect on sexual life ($X^2=26.277$, $p=0.000$) and effect on infant care ($X^2=21.196$, $p=0.000$). It was determined that the situations of taking postpartum care, problems with breastfeeding, effect on sexual life and infant care were common in cesarean section. Table 5 compares the type of delivery with prenatal and postnatal preferred types of delivery.

**Table 5.** Comparison of the type of delivery with prenatal and postnatal preferred types of delivery.

| Delivery Type | Preference before giving birth* | | | | | |
|---|---|---|---|---|---|---|
| | Vaginal Delivery | | Cesarean Section | | Not decided | |
| | *n* | *%* | *n* | *%* | *n* | *%* |
| Vaginal delivery | 178 | 39.1 | 12 | 22.2 | 3 | 7.5 |
| Cesarean section | 142 | 31.2 | 32 | 53.3 | 10 | 25.0 |
| Vajinal and cesarean birth | 135 | 29.7 | 10 | 18.5 | 27 | 67.5 |
| Total | 455 | 100.0 | 54 | 100.0 | 40 | 100.0 |
| | | | | | | ***$X^2$: 45.505, p: 0.000*** |
| **Delivery Type** | **Preference after giving birth*** | | | | | |
| | **Vaginal Delivery** | | **Cesarean Section** | | **Vaginal or Cesarean** | |
| | ***n*** | ***%*** | ***n*** | ***%*** | ***n*** | ***%*** |
| Vaginal delivery | 183 | 41.6 | 12 | 10.4 | 1 | 3.6 |
| Cesarean section | 129 | 29.3 | 65 | 56.5 | 0 | 0.0 |
| Vajinal and cesarean birth | 128 | 29.1 | 38 | 33.1 | 27 | 96.4 |
| Total | 440 | 100.0 | 115 | 100.0 | 28 | 100.0 |
| | | | | | | ***$X^2$: 100.344, p: 0.000*** |

***column percentage used.***

There was a statistically significant relationship between the delivery type of women and their preferences of before *($X^2$=45.505, p=0.000)* and after *($X^2$=100.344, p=0.000)* they give birth. It was determined that women generally preferred vaginal birth before and after they give birth. Regardless of the type of their delivery, women generally preferred vaginal birth before and after they give birth.

A further significant difference was found between the educational status of women and the way of giving birth (*$X^2$=46.437, p=0.000*). Cesarean rates are higher among women with a bachelor's degree, and cesarean delivery rates are increasing as education level increases. There was no significant difference between the working status of women and the way of giving birth (*$X^2$=7.820, p=0.098*). There was a significant difference between the place where the life passed and the way of birth (*$X^2$=18.755, p=0.001*). Cesarean rates are significantly higher for women living in the province than for those living in the village. There was a significant difference between the status of receiving education about delivery and the way of giving birth ($X^2$=38.011, $p$=0.000). Cesarean rates are higher among women who receive education about birth. There was a significant difference between birth place and delivery type (*$X^2$=87.809, p=0.000*). Vaginal birth rates are higher among women who have a home birth story.

## 4. DISCUSSION

Examination of specific indications for caesarean delivery has a wide clinical picture ranging from a situation in which vaginal birth is contraindicated (such as a full placental previa) to a complete implementation depending on the preference of the patient (Kaimal & Kuppermann, 2012; Nakamura-Pereira, Esteves-Pereira, Gama, & Leal, 2018). These clinical tables need to be evaluated very well. Cesarean delivery should be assessed properly and the patient should be supported in cases such as cesarean delivery without any problems for vaginal delivery, deterioration or decrease of fetal heart rate in vaginal birth (ACOG, 2010; Barber, Lundsberg, Belanger, Pettker, Funai, & Illuzzi, 2011). It is very important that the informed consent of the woman is taken in this process in order to make the most appropriate decision for the woman between the patient and the health personnel and to evaluate the risks, benefits and alternatives (ACOG, 2010). As mentioned in the studies, it is important to take the idea of the patient in this process and 72.3% of the women in our study stated that they have taken their ideas about birth preference.

Women's educational status is lower than their peers. Cesarean rates are higher among women with higher education levels. Studies have indicated that higher education level is a cesarean section indication (Ozkana, Sakal, Avcı, Civil, & Tunca, 2013). Cesarean rates are higher among women who live in province and who had the birth story in the hospital. Studies have reported the need for taking into account the women's health and health stories, educational status, socio-demographic characteristics, previous medical experiences and how their health outcomes were assessed as well as their preferences of vaginal delivery or cesarean section (Arcia, 2013; Wu, Kaimal, Houston, Yee, Nakagawa, & Kuppermann, 2014; Yee & Simon, 2010). Some of the factors that influence women's birth preferences have also been identified in our study. Factors among women with vaginal birth are low educational level, living in a village, birth story at home.

Nearly half of the women stated that they were trained about birth, and nearly half of the trainees were trained by health care workers, and the majority were trained by their friends and close environment.

In our study, although 82.9% of the women before the birth and 75.5% of the women after the birth stated that their preference was vaginal delivery, only 33.9% of the women had vaginal deliveries. In most of the conducted studies, it was stated that women were usually prefer vaginal birth (Fuglenes, Aas, Botten, & Oian, 2012; Karlstrom, Nystedt, Johansson, & Hildingsson, 2010). In the study of Wu et al, although vast majority of women prefer vaginal birth, it was stated that the 26-36$^{th}$ week pregnant women still had no a planned vaginal or cesarean delivery type (Wu, Kaimal, Houston, Yee, Nakagawa, & Kuppermann, 2014). In the study conducted by Yee et al, 59-75% of women who delivered by cesarean section stated that they wish to give vaginal delivery if they do give birth again. The average of natural, spontaneous, uncomplicated vaginal delivery preference scores was reported to be high risk tolerance for unplanned cesarean section. It has been suggested that uncomplicated cesarean delivery and vaginal birth are regarded as equivalent. Because women's perception as vaginal birth also includes major perineal lacerations. In this sense, the importance of patient education and counseling is emphasized. Women should be given extensive training covering maternal and neonatal outcomes. In addition to increasing the quality of obstetric care, focus on patient education and patient preferences has also been shown to reduce cesarean rates (Yee et al., 2015).

The reasons for choosing vaginal birth of women participating in our work are to be natural and suitable for baby, less pain and bleeding in postpartum period, easier return to normal life and earlier discharge.

In a conducted study, women preferred vaginal birth even though cesarean rates were high. It was stated that vaginal delivery is especially faster and easier to heal. In the preference for delivery type, positive experiences, positive birth stories in or around the family are effective. Mostly, primiparous women were scared of vaginal birth (Attanasio, Kozhimannil & Kjerulff, 2018; Domingues et al., 2014).

In our study, the reasons for choosing cesarean birth were determined as indications and doctor's decision, less pain and more comfort, baby safety, no perineal tears, short duration of operation and easy management.

In the study conducted by Domingues et al., Cesarean delivery preferences include being more secure for the baby, lack of knowledge of women, having gestation with assisted reproductive techniques and prevention of perineal injuries. To provide the best practices during antenatal care, women need to be provided with the necessary training, confidence and empowerment. It is also stated that it is important to avoid early referral to the hospital. Since vaginal birth is

preferred and cesarean delivery rates are high, it is necessary for the pregnant women to be supported for vaginal delivery (Domingues et al., 2014).

In vaginal birth, psychological support is offered to relieve women's anxieties in response to pre-existing negative birth stories (Kringeland, Daltveit & Moller, 2010). It is important to provide guidance to vaginal delivery by pharmacologic and non-pharmacologic methods to women who want caesarean section due to birth pain (NICE Clinical Guideline, 2011).

In the conducted study, it was stated that the rate of cesarean section in the primiparous women was worryingly high. Because cesarean section will be preferred in the future pregnancies. Studies have shown that vaginal birth after cesarean section is successful in 70% of cases, but only 14.8% of them prefer vaginal delivery after cesarean section and 62% of them prefer cesarean section without any indication. In this study made in Brasil, it was stated the acceptance of physicians as once a cesarean always a cesarean (Domingues et al., 2014).

Newborns born with caesarean section have more newborn deaths, longer hospital stay, shortness of breath problems, surgical damage and breastfeeding problems (Chen & Hancock, 2012; Heinzmann et al., 2009; MacDorman, Declercq, Menacker, & Malloy, 2008). Tachypnea in babies born to cesarean is twice as much as those in vaginal deliveries (Chen, & Hancock, 2012). The likelihood of uterine rupture in recurrent cesarean sections is also increasing (Chen & Hancock, 2012; Rossi & D'addario, 2008).

In a study of birth preferences at the 6th week of the long-term postpartum period, it was stated that the majority of women (82.3%, n=192) preferred cesarean delivery for fear of vaginal birth. The reason for this is attributed to inadequate support by counseling programs (Pang et al., 2008). Some of the reasons for choosing birth with elective cesarean are the potential risks of birth (anal / urinary incontinence, perineal disorders, pain during labor, long duration of action and superficial tears). Unlike gynecologists, urogynecologists and colorectal surgeons have emphasized that these risks are minimal and it is emphasized that midwives who are the closest consultant to share this information with pregnant women is an important factor in their decisions on the type of delivery (Turner, Young, Solomon, Ludlow, Benness, & Phipps, 2008).

In studies, it should be noted that the reasons for preferring cesarean birth due to rectal trauma and sexual dysfunction are myths (Chen, & Hancock, 2012; Klein, 2005). As a result of our study, it was determined that especially cesarean section women had more sexual problems and breastfeeding problems, difficulties in baby care and more postnatal care.

## 5. CONCLUSION

Although the vast majority of women prefer vaginal birth, the cesarean delivery was made due to reasons such as health status, fears, requests. For a healthier generation, it is important that women are supported in vaginal birth. For this, it is important for midwives, nurses and obstetricians who give care in the first step to inform the patients about the birth options and to look at their preferences and attitudes. Psychological support for those with negative birth stories and fears, encouragement of women, alternative options are needed.

**Author Contribution**

Study conception and design: HO, NKB, RHA

Data collection: HO, NKB, RHA

Data analysis and interpretation: HO, NKB, RHA

Drafting of the article: HO, NKB, RHA

Critical revision of the article: HO

**Conflict of Interest:** The authors declare no conflict of interest.

**Ethical Statement**

The name of the ethics committee is Gümüşhane Unıversıty Scıentıfic Research and Publıshıng Commıttee.
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*REVIEW ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# HOSPICE-PALLIATIVE CARE INTERNATIONAL ORGANIZATIONS AND COUNTRIES

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## ABSTRACT

The increasing number of hospice and palliative care centers around the world in the 1990s led to the emergence of international associations of hospice and palliative care. Today, there are many organizations working on hospices in many parts of the world, providing coordination among its members and trying to adopt the importance of hospices to societies. Under the leadership of World Palliative Care Association (WPCA), they came together in other international organizations and established an internet magazine under the name of-E-Hospice for the purpose of to draw attention to the importance of palliative care and hospices, to give information about their activities and to announce the developments in the fields of palliative care and hospice to the wider masses. E-Hospice magazine is published in many world languages, especially English. Apart from this international journal, there are media outlets, televisions and websites. Hospice and palliative care centers have become one of the most important elements of modern health care. Many international organizations operating in the field of health and social services around the world draw attention to the importance of hospices.

**Keywords:** Hospice, palliative care, organizations

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# 1. INTRODUCTION

## 1.1 Hospice and Palliative Care International Organizations

### World Health Organization (WHO)

The World Health Organization (WHO) was established on 7 April 1948 in Geneva, Switzerland, under the United Nations. The World Health Organization (WHO) made its first studies in 1989 on the concepts of palliative care and hospice. World Health Organization; palliative care is an approach that improves the quality of life of patients and their relatives who encounter problems arising from life-threatening diseases by preventing or eliminating all physical, psychosocial and mental problems, especially pain, by early detection and effective evaluation ". In 2014, the standards set by the Palliative Care Association were adopted by the World Health Organization. With this report, the World Health Organization (WHO) has initiated efforts to introduce palliative care and hospices in order to open palliative care and hospices in the member states of the United Nations (Kömürcü ve Tanrıverdi, 2016).

### World Palliative Care Association (WPCA)

One of the most important organizations on a global scale is the World Palliative Care Association (WPCA), which works on the Hospice and Palliative care centers and works to spread these health institutions to all the world countries. The most important task of the World Palliative Care Association (WPCA) is to raise awareness on hospice and palliative care in the world and to draw attention to these areas. International Palliative Care Association (IAHPC), The European Association for Palliative Care (EAPC), African Palliative Care Association (APCA), Asia Pacific Hospice And Palliative Care Network (AHPN), American Academy of Hospice and Palliative Care (AAHPM) ("World Palliative Care Association", 2017).

As a result of the studies carried out by the World Palliative Care Association (WPCA), the World Health Organization (WHO) has increased its activities on hospice and palliative care.

### Hospice-Palliative Care International Organizations and Countries

In 2014, with the support of the World Palliative Care Association, the Executive Board of the World Health Organization (WHO) adopted a report on palliative care. With this report, the World Health Organization (WHO) has accepted the necessity of increasing the number of hospices and increasing the standards of hospices. The World Palliative Care Association (WPCA) adopted the report to the World Health Organization, which stated that 40 million people around the world need hospice and palliative care each year, and that 18 million people die due to various diseases ("World Palliative Care Association", 2017).

### International Palliative Care Association (IAHPC)

The International Association for Palliative Care (IAHPC) was founded in 1980 by Josefina Magno. It is the International Hospitals Institute, founded in 1980 by Josefina Magno, the pioneer of the International Association for Palliative Care (IAHPC). After the establishment of this institute, there has been a significant increase in scientific studies on hospice and palliative care in America. Subsequently, the International Association of Palliative Care (IAHPC) was established in 1997, with the merger of the Hospice Physicians Academy, the American Hospital and the Academy of Palliative Medicine, the International Institute of Hospitals and the School of Medicine (International Palliative Care Association, 2017).

In 1997 Roger Woodruff was elected chairman of the board. Roger Woodruff served until 1999. In 2000, Eduardo Bruera was elected Chairman of the Board of Directors, a position he held until the end of 2004. In 2005, Kathleen Foley was elected chairman of the board of directors and held this position until the end of 2007. In 2008, Roberto Wenk was appointed

as the Chairman of the Board of Directors and he continued this duty until the end of 2013. Today, IAHPC is chaired by Lukas Radbruch, Germany's representative. The International Association for Palliative Care (IAHPC) also carries out press and publication activities. The Journal of Palliative Medicine and the Journal of Pain and Palliative Care are published by the International Association of Palliative Care (IAHPC), which shows the developments in palliative care and hospice. The main task of the IAHPC is to ensure the development of palliative care and hospice models in each country, and to provide the necessary resources for these studies by correcting the conditions. According to the organizational philosophy of IAHPC, developing countries should benefit from the accumulated experience and professional expertise in palliative care and hospice in developed countries ("International Palliative Care Association, 2017).

**The European Association for Palliative Care (EAPC)**

The European Palliative Care Association (EAPC) was established on December 12, 1988 under the leadership of 42 founding members. The aim of the EAPC is to promote palliative care in Europe, to promote palliative care services and hospices, and to increase interest in these institutions. There are 57 associations based on hospice, palliative care and cancer in 32 European countries of the European Palliative Care Association. European Palliative Care Association (EAPC); There are 32 members in the UK, Germany, France, Austria, Netherlands, Slovakia, Norway, Sweden, Switzerland, Ireland, Denmark, Ukraine, Croatia, Hungary, Greece, Romania, Moldova, Czech Republic, Spain, Portugal and Malta. The International Association for Palliative Care (IAHPC) works in coordination with the World Health Organization ("European Palliative Care Association", 2017).

The world palliative care organization works in cooperation with all health organizations in the world. EAPC has gathered its studies under the titles of education, ethics, organization, clinical care and research on its official website. EAPC continues its activities by following the developments seen in health management, nursing, social services and medical sciences and carries out projects related to its member countries every year. Apart from these projects, statistical information about the hospice and palliative centers of EAPC members is shared. The EAPC plays an important role

in the dissemination and organization of hospices throughout Europe, and in raising palliative care and hospice standards ("European Palliative Care Association, 2017).

**African Palliative Care Association (APCA)**

The African Palliative Care Association (APCA) was founded in 2002 in Cape Town, South Africa, under the leadership of 28 palliative care centers. APCA continued to operate in other countries of Africa within a short period of time. The African Palliative Care Association (APCA), which opened offices in Tanzania in 2004 and in Kampala, the capital of Uganda in 2005, is now known as Uganda, Botswana, Malawi, Kenya, South Africa, Mozambique, Rwanda, Ivory Coast, Senagal, Nambia, Nigeria, Zambia, Zimbabwe, Cameroon, Tunisia, Morocco, Egypt. The African Palliative Care Association (APCA) is the most important regional organization operating throughout Africa ("African Palliative Care Association, 2017).

Identification of patients who need to stay in hospice and palliative care centers, presence of caregivers to be employed in these centers, training of health personnel, increasing sensitivity to hospice and palliative care, promotion of hospice and palliative care centers, carrying out activities in coordination with African governments and member associations support, acting jointly with academic institutions, media and media activities are within the scope of APCA. APCA cooperates with International Palliative Care Association (IAHPC) and World Palliative Care Association (WPCA) in palliative care and hospice studies and carries out international projects ("African Palliative Care Association, 2017).

**Asia Pacific Hospice and Palliative Care Network (AHPN)**

The Asia Pacific Hospice and Palliative Care Network (AHPN) was established through a series of meetings from 1995 to 2001. The first meeting was held in Japan in 1997. The third meeting was held in Hong Kong in 1997, while the fourth meeting was held in Japan in 1998. The fifth meeting was held again in May 1999 in Hong Kong. After the fifth meeting, the name and organizational structure of the Asia Pacific Hospice and Palliative Care Network (AHPN) began to become clearer and the secretariat was established in 1999 in Singapore. The first general meeting was held on May 1st, 2001 in Taipei, Taiwan. APHN's founding members include fourteen founding members, including Australia, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Taiwan, Thailand and Vietnam. In the establishment of AHPN, Sinagapur Hospice Council and National Cancer Center, Hong Kong Hospice Care Promotion Association and Taiwan Hospice Foundation carried out important works. The activities of these institutions and the donations they make have a significant effect on the establishment of AHPN. Sixteen general meetings were held in May 2001 from the first general meeting held in Taipei, Taiwan until 2016. The last general meeting was held in Hue, the former capital of Vietnam and Assoc. Dr. Cynthia Goh has been elected ("Asia Pacific Hospice and Palliative Care Network", 2017).

Since its inception, APHN has been working to improve the quality of hospice and palliative care in Asia Pacific countries. The most important goal of APHN is to identify people who need palliative care. In this context, it continues to work for more people to benefit from palliative care and hospices. APHN, in coordination with regional and international organizations, gives importance to education and research ((Asia Pacific Hospice and Palliative Care Network ", 2017)

**American Academy of Hospice and Palliative Care (AAHPM)**

AAHPM was established in 1988 under the leadership of 250 founding members. Shortly after its establishment, it has started its newsletter and publication activities since 1990. In 1997, the institution began to publish books as a centerpiece for palliative care and hospices, and in the same year began training for hospice and palliative medicine services throughout the United States ("American Academy of Hospice and Palliative Care 201, 2017).

The American Academy of Hospice and Palliative Care (AAHPM) has become one of the most important organizations in the United States to train palliative care specialists providing specialized training for palliative care and hospice. In 2003, the number of its members approached one thousand four hundred, and the AAHPM played an important role in the development of the national palliative care program in the United States and the establishment of the American Academy of Palliative Care. They carried out studies with the American Physicians Association and made efforts to spread and spread the hospice and palliative care centers. In collaboration with universities, they carried out scientific activities in the field of hospice and palliative care. As of 2013, the number of members exceeded five thousand. Today, AAHPM continues its activities with many pediatric health organizations and organizations throughout the USA, especially the Palliative Nurses Association ("American Academy of Hospice and Palliative Care, 2017).

The American Academy of Hospice and Palliative Care (AAHPM) carries out activities to increase the number and standards of hopsis and palliative care centers throughout the United States, and continues to publish and publish through various magazines. In 2016, Professor Christian T. Sinclair was elected President of the AAHPM. A strategy guideline covering the years 2016-2020 to increase the number of American nursing homes and palliative care centers and to increase the quality of care has been published. ("American Hospice and Palliative Care Academy, Strategic", 2017).

**2. PALLIATIVE CARE AND HOSPICE CENTERS IN AMERICAN and EUROPEAN COUNTRIES**

According to World Health Organization (WHO) data for 2013, 9% of deaths in the world are injuries, 25% are infectious diseases and 66% are non-infectious diseases with fatal effects. All of these diseases require palliative care. According to the 2013 World Health Organization (WHO) data, 40 million people in the world need hopsis and palliative care. 48% of the patients in need of palliative care and hospice were female and 52% were male. While 25% of these patients are adults in the 15-59 age group, 6% are in the 0-14 age group. 69% of children are adults over 60 years of age. Most of the patients in need of hospice and palliative care are the middle and old age group and 6% of them are two million four hundred thousand children. This demonstrates the importance of child hospices for children, especially in underdeveloped and developing countries (WHO, January 2014).

Hospice services include the services provided in order to reduce the pain and pain and to facilitate the transition to death by continuing the necessary treatment and care services during the transition from life to death. Hospice services must be provided during the terminal period. The ideal treatment and care period for hopsies is at least 3 months. The first hospice in 1974 in the United States today more than 5 thousand hopsis centers and hospice services provided to millions of people in these centers. The average length of service given in hospices in the United States was well below 60 days. While the average was 29 days for 1995, this number decreased by three more days for 2005 to 26 days (Sur, 2015).

Shortening the duration of stay in hospices does not contribute to the quality of life of patients and their families. For this reason, it is necessary to stay in the hospices for at least 3 months in order for the hospice services to be beneficial for the patient and family. Also in the United States, the satisfaction rate of hospice patients and their families with the services provided was evaluated in different sub-groups and this rate remained very low. Although it is not possible to fully satisfy patients and their families in terms of services provided in hopsies, health workers working in hopsies need to work more devotedly, giving more importance to their work (Akbolat et al., 2014).

In America, 44.6% of deaths occurred in hospitals in 2011. From 1998 to 2008, the amount paid by private health insurances to hospices throughout the United States increased by 5 times and reached $ 11.2 billion from $ 2.2 billion. (Sur, 2015).

Since the early 1990s, there has been a significant increase in palliative care and hospice services in Europe, particularly in the UK, Germany, Scandinavian countries and developed countries such as Canada. In 1999, there were 236 palliative care and hospice centers in public health institutions throughout the UK. In 1999, there were 138 centers in the UK providing private palliative care and home hospice services throughout the UK. In addition, 209 palliative care and hospice centers were established in hospitals. It was calculated as approximately 54 palliative patient beds for one million population in the creation of services and hospices. Palliative care is recognized as a specialty in the UK (Kaya, 2015).

According to these countries, although it is too late to include the palliative care and hospice centers in the health system, this area has experienced great developments in Germany in recent years. The German Ministry of Health initiated a study for palliative services and hospices between 1991 and 1996. As a result of this study, more than 4,200 health personnel have been trained for palliative treatment and care services. Palliative care centers were established in 220 hospitals until 2010 and 170 hospice centers were established in addition to these (Kaya, 2015).

## 3. CONCLUSION

Many international organizations operating in the field of health and social services around the world draw attention to the importance of hospices. The first palliative service in Germany Since the opening in 1983, home care and inpatient health care institutions to undertake palliative service units and hospices were established (Bağ, 2012). In the study of Wright et al. (2008), 33% of the 234 countries (78 countries) did not have palliative care activities, 18%

(41 countries) had the capacity of structuring palliative care services, 34% (80 countries) had palliative care local and palliative care services were not integrated to health services in 15% (35 countries) (Şahan uslu ve Terzi, 2015). From the beginning of the 20th century, especially in England and France, the palliative care units that have been established in many European countries have the same from the second half of the century, except for European countries USA, Canada, Japan has been established in many developed countries such as. Palliative in Europe and developed countries care services are usually provided in hospices and the development of palliative care and the establishment of hospices in the aforementioned countries (Haylı, 2017).

Through these institutions and organizations, the process of pre-diagnosis and treatment of diseases, the possibility of children becoming ill, reducing the lethal effects of diseases, and providing pedagogically more accurate, scientific services to children in the terminal care period will be provided.

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*RESEARCH ARTICLE*

JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

# PERFORMANCE ANALYSIS OF OECD COUNTRIES BASED ON HEALTH OUTCOMES AND EXPENDITURE INDICATORS

Arzu YİĞİT[1]

## ABSTRACT

The aim of this study is to analyze the performance of OECD countries based on health expenditure and outcomes indicators by using TOPSIS method which is one of the multi criteria decision making techniques. Another aim of the study is to determine the level of Turkey among OECD countries in terms of health outcomes and expenditures.

The research universe of the study is composed of OECD countries. The research sample was not selected and all 35 OECD countries were included in this study. Research data were obtained from OECD database. MS office excel program was used in the analysis of the research data. Two health expenditures and four health outcome indicators were used to measure the performance of OECD countries. These variables are as follows; expenditure on health of gross domestic product (%), expenditure on health per capita (US$), life expectancy total population at birth (years), ınfant mortality deaths per 1 000 live births, potential years of life lost per 100 000 females, potential years of life lost per 100 000 males. TOPSIS method was used in the analysis of the research data. Also, multidimensional analysis of the health expenditure, life expectancy and ınfant mortality variables used in the research was carried out by 35 OECD countries.

With respect to the findings of the research data, the average performance score of OECD countries was found to as 0.6900. According to health expenditure and outcomes indicators, Solovenia (0.8250), Korea (0.8155) and Israel (0.8113) was found to have the highest performance scores, while the United States (0.3597), Mexico (0.4319) and Turkey (0.5481) was determined to have the lowest performance scores

When the performance of OECD countries is evaluated according TOPSIS, the reason for the difference in performance among countries is that some countries ' performance indicators are very low or very high compared to the average. For example, infant mortality rates are the two highest (Turkey and Mexico) in 35 OECD countries. Turkey in the last 10 years in the infant mortality rate significant gains have been achieved and infant mortality has been considerably reduced but has not yet reached the desired level. Health expenditure is one of the most important factors affecting health outcomes. In addition to health expenditure, many factors influence health outcomes, such as tobacco and alcohol use, access to health services, quality of health services, education, employment, income level, community safety, air and drinking water quality.

**Keywords:** Health, Outcome, Expenditure, Performance, TOPSIS

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## 1. INTRODUCTION

Health system performance measurement is very important to determine whether an effective, efficient and quality health service is provided. Because countries want to determine why countries with similar income and resources do not achieve similar outcomes. With health system performance measurement, will be able to make improvements by identifying their deficiencies of the health inputs and outcomes.

The issue of performance has been the focus of many countries' discussions on the health system. Health systems that exist all over the world are very different from each other because of their different components and combinations (Schütte, Acevedo, and Flahault 2018:1). The main purpose of a health system; to improve the health of the population and to increase the status of health, to provide health services in line with the expectations of people and to protect people from financial risk against disease costs (WHO, 2000: 8). In addition to, a health system of the main objectives are public health promotion, protection and support (Feo, 2008: 225). To achieve this goal, countries have to use their limited resources effectively and efficiently. For decades, countries around the world have been working on how to best configure and adapt health systems to improve the real and sustainable health status of their populations. Today, these countries are increasingly agreeing that better and stronger national health systems are needed to achieve better health outcomes (Ministry of Health, 2012:1-2).

There is an increase in health expenditures in relation to developing technology and economic development level. Even if the method of health financing adopted by the countries changes, the main purpose of health financing is to ensure equitable access among the people, protected from financial risk and to provide a quality service (Tatar, 2011:104). In all countries, especially developed and developing countries, the share of total expenditures allocated to the health sector is increasing (Şener and Yiğit, 2017:287). The average share of OECD countries in gross domestic product (GDP) to health is 8.8%. The highest share among OECD countries is USA (17.2%) and Turkey (4.2%) has the lowest share among these countries (OECD, 2018). Despite this increase in health resources, it is seen that health outcomes are not improving enough (Şener and Yiğit, 2017:287).

Evaluating and comparing the performance of countries' health care systems is often a methodologically difficult process (Asandului, Roman, Fatulescu, 2014:261). Whether or not resources are used efficiently despite this increase in health expenditures is one of the frequently discussed issues in the health sector. Income levels and other health problems of countries are among the important factors affecting health expenditures. For this reason, in order to examine the efficiency of health expenditures made by a country in the functioning of health systems, it is of great importance to make comparisons with the countries in the same income group or with similar countries in terms of geographical location (Çelik, 2011:303). In addition to health expenditures, it is revealed that other determinants of health, such as countries' cultures, people's lifestyles, health systems and health policies of politicians, can have a significant impact on health outcomes (Teleş, Çakmak, Konca, 2018). All over the world, governments are trying to improve their health systems both in the path of human development and in achieving justice in income distribution (Yalçın and Çakmak, 2016:705).

Health systems strengthening is predominantly a national issue, but the commitment of global actors is worth monitoring since they influence financing, national priority and policy approaches. One of the first studies to assess the performance of countries' health systems was conducted in 2000 by the World Health Organization-WHO (Hafner and Shiffman, 2013:41-43). WHO aims to support the development of systematic approaches in order to monitor the performance of countries in a way that allows them to make comparisons between different

levels of the system and between different health systems within the systems (Ministry of Health, 2012:1). There are several factors that influence the performance of health structure. Improvement in the health system can be achieved by minimizing the costs that lead to an increase in outcomes (Adil, Abbas and Yaseen, 2016:83-84).

The aim of this study is to analyze the performance of OECD countries based on health expenditure and outcomes indicators by using TOPSIS method which is one of the multi criteria decision making techniques. Another aim of the study is to determine the level of Turkey among OECD countries in terms of health outcomes and expenditures.

## 2. METHOD

The research universe of the study is composed of OECD countries. The research sample was not selected and all 35 OECD countries were included in this study. Research data were obtained from OECD database. MS Office Excel Program was used in the analysis of the research data. The variables used in the research were selected as performance evaluation criteria. The following six health expenditure and outcome indicators are taken as performance evaluation criteria. The interpretation of the research findings was limited to these six variables.

C1: Current expenditure on health, % of gross domestic product
C2: Current expenditure on health, per capita, US$ purchasing power parities
C3: Life expectancy total population at birth, years
C4: Infant mortality deaths per 1 000 live births
C5: Potential years of life lost, all causes, years lost, /100 000 females, aged 0-69
C6: Potential years of life lost, all causes, years lost, /100 000 males, aged 0-69

TOPSIS (Technique for Order Preference by Similarity to Ideal Solutions) method was used in the analysis of the research data. Parametric and non-parametric productivity methods are generally used to evaluate the health system performance of countries (Şahin, Özcan ve Özgen, 2011:23). In recent years, there has been a lot of research in the literature regarding the use of multi-criteria decision making methods such as TOPSIS. TOPSIS method is based on the fact that the best alternative according to various criteria is the closest to the positive ideal solution and the farthest to the negative ideal solution (Chen, 2000:2; Shafii et al., 2016:141). The best alternative to be chosen should be close to the ideal solution and farthest from the negative ideal solution (Wang ve Elhag, 2006:310). In the case of gains, maximum benefits and minimum costs are to be expected which are closeness to the positive ideal solution, In the negative ideal solution, the opposite is the case (Cheng-Ru et al., 2008:256; Jadidi eta., 2008:763). The TOPSIS method has different processing steps in the decision-making process. These steps are described below (Jadidi et al., 2008:76; Alptekin ve Şıklar, 2009:189-191; Paksoy, 2017:23-26; Çelikbilek, 2018:177-180);

Step 1. Formation of Decision Matrix (A):
Step 2. Create a normalized decision matrix.
Step 3. Create weighted decision matrix.
Step 4. Creating positive Ideal ($S^+$) and Negative Ideal ($S^-$) Solutions:
Step 5. Calculation of relative proximity to the ideal solution.
Step 6. The ideal solution relative to the proximity ($C_i^*$) sorted by value.

As a result of the calculations made according to the method, the scores of OECD countries from each variable were translated into a single score and OECD countries were ranked according to their performance levels. Also, multidimensional analysis of the health

expenditure, life expectancy and ınfant mortality variables used in the research was carried out by 35 OECD countries.

## 3. RESULTS

Using the TOPSIS method implementation steps, countries' performance rankings were made according to health indicators. The first step in performance evaluation according to TOPSIS method is to form a decision matrix. In the research, 35 countries whose superiority is desired to be ranked in the lines of the decision matrix, while there are 6 performance criteria in the columns (Table 1).

Table 1. Decision Matrix Table

| No | Country | C1 | C2 | C3 | C4 | C5 | C6 |
|---|---|---|---|---|---|---|---|
| 1 | Australia | 9,1 | 4.543 | 82,5 | 3,1 | 2.013 | 3.421 |
| 2 | Austria | 10,3 | 5.440 | 81,7 | 3,1 | 1.914 | 3.402 |
| 3 | Belgium | 10,0 | 4.774 | 81,5 | 3,2 | 2.267 | 3.732 |
| 4 | Canada | 10,4 | 4.826 | 81,9 | 4,7 | 2.369 | 3.670 |
| 5 | Chile | 8,1 | 1.915 | 79,9 | 6,9 | 2.815 | 5.099 |
| 6 | Czech Republic | 7,1 | 2.616 | 79,1 | 2,8 | 2.236 | 4.470 |
| 7 | Denmark | 10,2 | 5.183 | 80,9 | 3,1 | 2.141 | 3.319 |
| 8 | Estonia | 6,7 | 2.125 | 77,8 | 2,3 | 2.687 | 6.933 |
| 9 | Finland | 9,2 | 4.173 | 81,5 | 1,9 | 1.786 | 3.789 |
| 10 | France | 11,5 | 4.902 | 82,4 | 3,7 | 2.039 | 4.019 |
| 11 | Germany | 11,3 | 5.728 | 81,1 | 3,4 | 2.130 | 3.758 |
| 12 | Greece | 8,4 | 2.325 | 81,5 | 4,2 | 2.061 | 4.258 |
| 13 | Hungary | 7,2 | 2.045 | 76,2 | 3,9 | 3.136 | 6.595 |
| 14 | Iceland | 8,5 | 4.581 | 82,3 | 0,7 | 1.487 | 2.876 |
| 15 | Ireland | 7,1 | 5.449 | 81,8 | 3,0 | 1.976 | 3.404 |
| 16 | Israel | 7,4 | 2.834 | 82,5 | 3,1 | 1.744 | 3.072 |
| 17 | Italy | 8,9 | 3.542 | 83,3 | 2,8 | 1.690 | 2.965 |
| 18 | Japan | 10,7 | 4.717 | 84,1 | 2,0 | 1.601 | 2.923 |
| 19 | Korea | 7,6 | 2.897 | 82,4 | 2,8 | 1.682 | 3.488 |
| 20 | Latvia | 6,3 | 1.722 | 74,7 | 3,7 | 3.471 | 9.571 |
| 21 | Luxembourg | 6,1 | 6.475 | 82,8 | 3,8 | 1.255 | 2.881 |
| 22 | Mexico | 5,4 | 1.034 | 75,2 | 12,1 | 4.604 | 8.297 |
| 23 | Netherlands | 10,1 | 5.386 | 81,6 | 3,5 | 2.140 | 2.846 |
| 24 | New Zealand | 9,0 | 3.683 | 81,7 | 5,7 | 2.429 | 3.756 |
| 25 | Norway | 10,4 | 6.351 | 82,5 | 2,2 | 1.711 | 2.782 |
| 26 | Poland | 6,7 | 1.955 | 78,0 | 4,0 | 2.685 | 6.749 |
| 27 | Portugal | 9,0 | 2.888 | 81,2 | 3,2 | 1.890 | 4.296 |
| 28 | Slovak Republic | 7,1 | 2.269 | 77,3 | 5,4 | 2.855 | 6.397 |
| 29 | Slovenia | 8,0 | 2.775 | 81,3 | 2,0 | 1.827 | 3.994 |
| 30 | Spain | 8,8 | 3.371 | 83,4 | 2,7 | 1.620 | 3.112 |
| 31 | Sweden | 10,9 | 5.511 | 82,4 | 2,5 | 1.775 | 2.856 |
| 32 | Switzerland | 12,3 | 8.009 | 83,7 | 3,6 | 1.777 | 3.047 |
| 33 | Turkey | 4,2 | 1.194 | 78,0 | 10,0 | 2.985 | 5.013 |
| 34 | United Kingdom | 9,6 | 4.246 | 81,2 | 3,8 | 2.324 | 3.677 |
| 35 | United States | 17,2 | 10.209 | 78,6 | 5,9 | 3.524 | 5.909 |
| Mean | | 8,9 | 4.048 | 80,8 | 3,9 | 2.247 | 4.296 |
| Standard Deviation | | 2,353 | 1983,451 | 2,405 | 2,186 | 686,194 | 1671,220 |
| Minimum | | 4,2 | 1.034 | 74,7 | 0,7 | 1.255 | 2.782 |
| Maximum | | 17,2 | 10.209 | 84,1 | 12,1 | 4.604 | 9.571 |
| Goal | | Min | Min | Max | Min | Min | Min |

**C1:** Current expenditure on health, % of gross domestic product; **C2:** Current expenditure on health, per capita, US$ purchasing power parities, **C3:** Life expectancy total population at birth, years, **C4:** Infant mortality deaths per 1 000 live births; **C5:** Potential years of life lost, all causes, years lost, /100 000 females, aged 0-69; **C6:** Potential years of life lost, all causes, years lost, /100 000 males, aged 0-69

In this context, multidimensional analysis of the health expenditure and outcome variables used in the research was carried out by 35 OECD countries. As clearly shown in Figure 1, Japan has the highest life expectancy and the lowest infant mortality rate by spending $ 4717 per person. However, although the US spends $ 10,209 per person in health, life expectancy is below the OECD average and infant mortality rate is above the OECD average. Mexico and Turkey are the lowest per capita health expenditures in the OECD countries. When the health outcomes of these two countries are examined, life expectancy is below the OECD average.

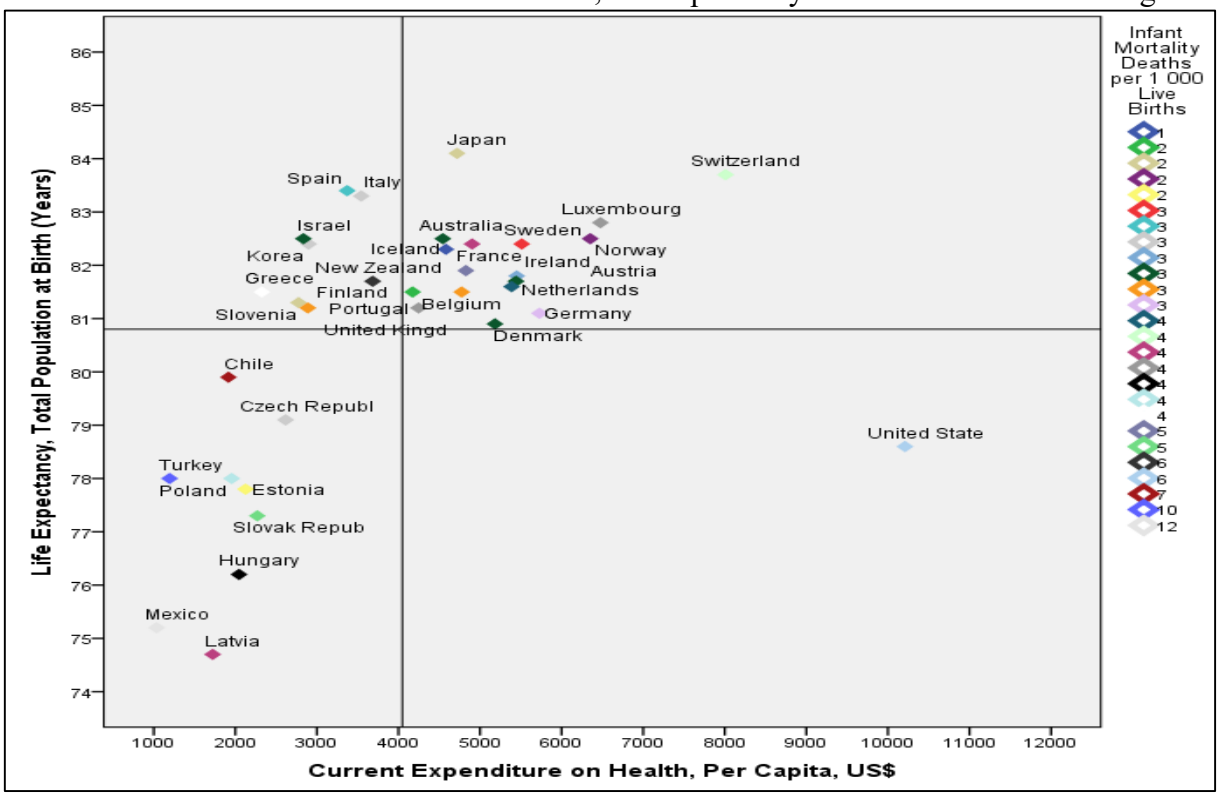


**Figure 1.** Multidimensional Analysis of Life Expectancy and Expenditure Indicators

Health levels of societies; health indicators such as life expectancy at birth, infant mortality rate and year of life lost are measured. In this context, the results of the multidimensional analysis of the health outcomes of OECD countries by research variables are shown in Figure 2. The countries where infant mortality rates and the year of life lost are high and life expectancy is low have been identified as Mexico, Latvia, Hungary, Poland, Turkey, Chile, United States and Slovak Republic.

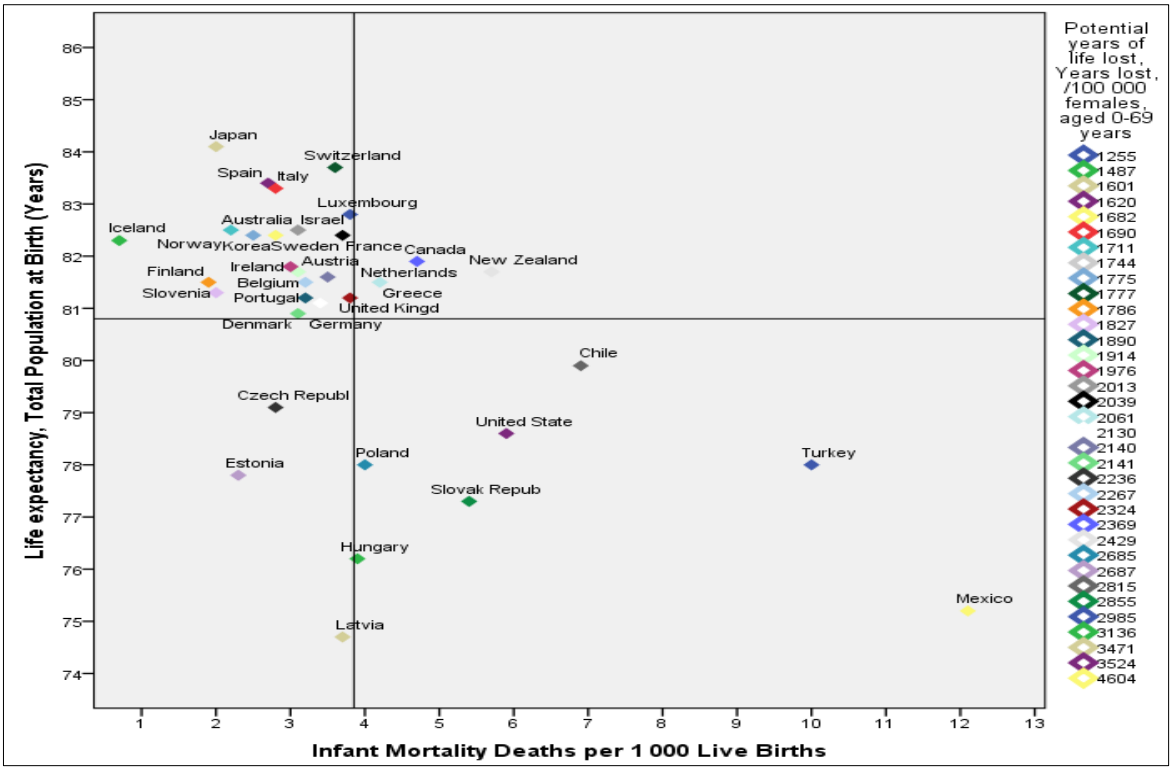


**Figure 2.** Multidimensional Analysis of Life Expectancy and Infant Mortality Deaths

In the second step, a normalized decision matrix was created according to the formulas mentioned in the literature. In the third step, weighting was made in the decision matrix. Equal weight was given to each of the evaluation criteria used in the analysis. In the fourth step after weighting, ideal and negative ideal solution values were calculated. According to the characteristics of health indicators, C3 criterion was maximum and the other criteria were minimum values. As a result of the calculations, both ideal distances and negative ideal distances were calculated based on the solution values. In the research, the calculation tab les made in steps 2-3-4 are given as an additional table at the end of the article.

In the fifth step, after calculating the ideal and negative ideal distances for each decision unit, Ci ideal solution relative proximity values were calculated. In the sixth step, performance ranking of OECD countries according to TOPSIS method was performed (Table 2). According to this method, the value which is close to 1 in $C_i^*$ represents the country with the best performance, while the scores close to 0 represent the country with the worst performance.

With respect to the findings of the research data, the average performance score of OECD countries was found to as 0.6900. According to health expenditure and outcomes indicators, Solovenia (0.8250), Korea (0.8155) and Israel (0.8113) was found to have the highest performance scores, while the United States (0.3597), Mexico (0.4319) and Turkey (0.5481) was determined to have the lowest performance scores (Table 2).

Health spending is the lowest in Turkey and the highest in United States. Since these countries' health outcome values were not at the desired level, the country scored the lowest in the performance rankings.

Table 2. Ranking of OECD Countries by TOPSIS Analysis Results

| No | Country | Si+ | Si- | Ci | Rank |
|---|---|---|---|---|---|
| 1 | Australia | 0,03230 | 0,08695 | 0,7291 | 12 |
| 2 | Austria | 0,03774 | 0,08432 | 0,6908 | 21 |
| 3 | Belgium | 0,03609 | 0,08330 | 0,6977 | 17 |
| 4 | Canada | 0,04226 | 0,07635 | 0,6437 | 28 |
| 5 | Chile | 0,04787 | 0,07610 | 0,6139 | 30 |
| 6 | Czech Republic | 0,02456 | 0,09236 | 0,7900 | 6 |
| 7 | Denmark | 0,03707 | 0,08420 | 0,6943 | 18 |
| 8 | Estonia | 0,03399 | 0,09109 | 0,7282 | 13 |
| 9 | Finland | 0,02756 | 0,09310 | 0,7716 | 8 |
| 10 | France | 0,03992 | 0,07998 | 0,6671 | 25 |
| 11 | Germany | 0,04216 | 0,07970 | 0,6541 | 26 |
| 12 | Greece | 0,03004 | 0,08779 | 0,7451 | 10 |
| 13 | Hungary | 0,04005 | 0,08325 | 0,6752 | 24 |
| 14 | Iceland | 0,02595 | 0,10167 | 0,7967 | 4 |
| 15 | Ireland | 0,03389 | 0,08743 | 0,7207 | 14 |
| 16 | Israel | 0,02220 | 0,09544 | 0,8113 | 3 |
| 17 | Italy | 0,02571 | 0,09371 | 0,7847 | 7 |
| 18 | Japan | 0,03194 | 0,09325 | 0,7449 | 11 |
| 19 | Korea | 0,02160 | 0,09547 | 0,8155 | 2 |
| 20 | Latvia | 0,05358 | 0,08370 | 0,6097 | 31 |
| 21 | Luxembourg | 0,03983 | 0,08839 | 0,6893 | 22 |
| 22 | Mexico | 0,08986 | 0,06832 | 0,4319 | 34 |
| 23 | Netherlands | 0,03882 | 0,08347 | 0,6826 | 23 |
| 24 | New Zealand | 0,04176 | 0,07696 | 0,6482 | 27 |
| 25 | Norway | 0,03985 | 0,08918 | 0,6912 | 20 |
| 26 | Poland | 0,03772 | 0,08494 | 0,6925 | 19 |
| 27 | Portugal | 0,02735 | 0,08984 | 0,7666 | 9 |
| 28 | Slovak Republic | 0,04359 | 0,07800 | 0,6415 | 29 |
| 29 | Slovenia | 0,02057 | 0,09698 | 0,8250 | 1 |
| 30 | Spain | 0,02452 | 0,09458 | 0,7941 | 5 |
| 31 | Sweden | 0,03715 | 0,08854 | 0,7044 | 15 |
| 32 | Switzerland | 0,05388 | 0,07821 | 0,5921 | 32 |
| 33 | Turkey | 0,06440 | 0,07813 | 0,5481 | 33 |
| 34 | United Kingdom | 0,03562 | 0,08241 | 0,6982 | 16 |
| 35 | United States | 0,08422 | 0,04732 | 0,3597 | 35 |

$S^+$: Creating positive ideal solutions; $S^-$: Negative ideal solutions; $C_i^*$ : Alternatives to the ideal solution relative to the proximity.

## 4. DISCUSSION

One of the most discussed issues in measuring performance in the health system is why countries with similar income levels have different health outcomes (De Silva, 2000:1). In the same way, the health outcomes of countries that spend a lot of health may be lower than those that spend less (Blendon et al., 2001: 10). It is argued that there is a strong link between health and economic development worldwide. Having a strong economy brings with it high health outcomes (Adil et al., 2016: 83–84).

With respect to the findings of the research data, the average performance score of OECD countries was found to as 0.6900. According to health expenditure and outcomes indicators, Solovenia (0.8250), Korea (0.8155) and Israel (0.8113) was found to have the highest performance scores, while the United States (0.3597), Mexico (0.4319) and Turkey (0.5481) was determined to have the lowest performance scores. The reason for the difference in

performance among countries is that some countries' performance indicators are very low or very high compared to the average.

In a study conducted by Portafke (2010), health expenditures increased by 0.4% for a 1% increase in GDP per capita. Payne et al. (2007) found that increasing life expectancy had a significant effect on health expenditures. In this case, if the morbidity does not decrease, the increased life expectancy may constitute a pressure factor for health expenditures (Asandului et al., 2014:261). Rivera (2010) emphasizes that investing in preventive treatments may be an important factor in terms of health expenditures. Like investments in all other sectors, spending on health care and health is future-focused (Tüylüoğlu and Tekin, 2009:10). Health expenditures provide for the improvement of the workforce by reducing early death, disability and disease, and are therefore considered investment expenditures (Paglin, 1974:432).

The performance evaluation of the OECD country health system was analyzed by Çelik et al. (2017:279). In the study, it was found that countries' achieving better health outcomes were associated with higher productivity. Although the marginal productivity of inputs on health outcomes decreased, some developed countries and developing countries found that inefficiencies in the use of health inputs were reduced. There is no systematic relationship between the political system of countries and the effectiveness of the health system. Countries' goals on social and health policy and the way to achieve them are a factor that increases the efficiency of health systems(Çelik, Khan, Hikmet, 2017:279-280).

One of the country's health system performance indicators is the disability-adjusted life years (DALY). DALYs is a measure of the burden of disability-causing disease and injury. DALY consists of two components, years lived with disability and years of lost lived (Yiğit and Yiğit, 2019: 228). In this research, YL was used to measure the performance of OECD countries. The health system performance of the countries with low YLL was found to be higher than the other countries.

## 5. CONCLUSION

When the performance of OECD countries is evaluated according TOPSIS, the reason for the difference in performance among countries is that some countries ' performance indicators are very low or very high compared to the average. For example, infant mortality rates are the two highest (Turkey and Mexico) in 35 OECD countries. Turkey in the last 10 years in the infant mortality rate significant gains have been achieved and infant mortality has been considerably reduced but has not yet reached the desired level.

Improving performance of health sector is of particular importance in all countries. As a result of the improvements in health services, life expectancy at birth increases and infant mortality rate decreases. Financing is one of the basic elements determining the structure of health services in health systems. In terms of health expenditure is one of the most important factors affecting health outcomes. In addition to health expenditure, many factors influence health outcomes, such as tobacco and alcohol use, access to health services, quality of health services, education, employment, income level, community safety, air and drinking water quality. The health level of the individual and the society is also an indicator of the level of development of the country. It is also accepted that the health of the individual and society is a function of the environment. One of the factors affecting the health system performance of the countries is the policies that the governments will set for improving the health system.

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