JOURNAL OF INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT

Vol: 7	e-ISSN	Year
No: 13	2149-9519	2021

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Peer-reviewed journals. The journal, published since 2015, is published twice a year, excluding special issues. The journal includes field studies, reviews and good practice examples in the field of health management. Journal of International Health Sciences and Management

(JIHSAM) is published with the scientific contributions of the International Strategic Health Research Center (ISHRC).

***Web**:* *https://dergipark.org.tr/tr/pub/jihsam*

CONTENTS

Investigation Of The Relationship Between Healthy Lifestyle Behavior Of Health Professionals And Use Of Health Care Services: A Research On Attitudes For Vaccine Applications

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DOİ
https://10.48121/jihsam. 777815

Received
07.08.2020

Accepted
23.01.2021

Published Online
27.04.2021

Key Words
Healthy lifestyle behavior
Healthcare use
Attitude towards vaccine applications
Health professionals

ABSTRACT

The main purpose of this study is to examine the relationship between the healthcare professionals' level of showing healthy lifestyle behavior and their attitudes towards the use of healthcare services. The universe of the research is the middle and/or upper level managers of the general private hospitals operating in Istanbul under the umbrella of the Republic of Turkey Ministry of Health Private Health Institutions. In the study in which the quantitative research method (quantitative research design) was used, the data were collected by face-to-face questionnaire technique (the total number of questionnaires that were used and evaluated in the analysis is 390). In the study; descriptive statistics, explanatory factor analysis, multiple linear regression analysis and confirmatory factor analysis techniques were used. SPSS and AMOS package programs were used together in the analysis of the data. According to the results of multiple linear regression analysis of the research; it has been determined that the healthcare professionals' attitudes towards healthy lifestyle affect their attitudes towards vaccine practices positively and statistically significant. According to the results of the confirmatory factor analysis; it is seen that the majority of the fit indices of the proposed research model are at the acceptable fit level.

** This work was presented as oral presentation at the 5th International Health Sciences and Management Congress on July 09-11, 2020, Kırşehir Ahi Evran University Congress Center, Kırşehir.*

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INTRODUCTION

The primary purpose of health services and the primary responsibility of health professionals is to work and ensure that people continue to live and stay healthy and to avoid illness. Increasing the healthcare literacy level is the fundamental strategy in order to decrease the mortality and morbidity depend on planning and delivery of healthcare services and resource expenditure. A person's illness is also a problem for the family and the community they live with, as well as the person who is sick. For this reason, the failure of a person to receive treatment when necessary or to protect herself from diseases cannot be regarded as the problem of that person alone. However, in order to increase the health literacy level of a society, people living in the same society must support each other together in a sense of responsibility and solidarity.

One of the most important public health practices carried out in terms of maintaining health and preventing infectious diseases is the vaccination applications. In our country, vaccines are mostly applied in childhood, adult vaccines are neglected and the necessary importance is not given to adult vaccination. The return on investment and health outcome of childhood vaccination programs are quite high. The main goals of vaccination are to reduce the risks of disease, disability, death and to maintain the overall health status of the society. The incidence of most vaccine-preventable diseases in the 20th century has been reduced by more than 99% as a result of vaccination practices, while some (smallpox) have been completely eliminated. Also, vaccines, like every medicinal product, have anticipated and undesirable effects after vaccination. Its benefit is 100-1000 times more than possible damage. Vaccines are applied to protect the vaccinated, and if the population is vaccinated at a very high rate and widespread, those who have not reached the age of vaccination and those with an anti-vaccination disease maintain their immunity level.

In addition, it is useful and necessary to apply the vaccines to our children in the most appropriate and wide-ranging framework, with the awareness that healthy, educated and carefully trained children will be the most important source and power of the country, considering adults as the future of a country. It is important that every person in the society and the society are aware of their responsibility for their own health, and cooperate with the relevant people to consider and realize acceptable ways and methods to improve their health. According to the data of the World Health Organization (WHO), Over 100 million children are vaccinated before one year old and 2.5 million children are protected from death each year depending on the vaccine applications.

2. Literature Review

2.1. Healthy Lifestyle Behavior

The importance of healthy lifestyle behaviors is well known for the promotion of cardiovascular health, reducing risk, prevention and management of diseases. Health behaviors such as dietary intake, physical activity, inactivity, smoking and alcohol consumption have been emphasized as universal healthy lifestyle behaviors and have been adopted as a central component of evidence-based guidelines for children, adolescents and adults from various populations. At the same time, healthy lifestyle behaviors and therapeutic lifestyle changes were re-emphasized as the main variable in promoting cardiovascular health and reducing cardiovascular risk, respectively (Zachariah and de Ferranti, 2013).

Healthy lifestyle behaviors such as regular fruit and vegetable consumption, regular physical activity and having a healthy weight provide significant protection against many chronic conditions such as cancer, cardiovascular diseases, diabetes and stroke (Millen et al., 2016). Some behavioral changes acquired in lifestyle; has shown to reduce blood pressure, blood cholesterol, triglycerides, blood sugar and cardiometabolic risk by controlling the body weight (Knowler et al., 2002; Eckel et al., 2014).

Healthy lifestyle behavior is the activity that individuals undertake to protect or improve their health, prevent health problems or achieve a positive body image. Healthy lifestyle behavior is not only limited to healthy people trying to stay healthy, but also includes people who are physically disabled and have chronic diseases that try to control or minimize their ailments through positive forms of healthy behavior, such as diet, exercise and avoiding smoking (Cockerham, 2014).

Conner and Norman (1996) defined healthy lifestyle behavior as any activity carried out to prevent or detect disease or increase health and well-being. Gochman (1997) on the other hand, in his "healthy behavior research handbook" expressed healthy behaviors; as behavior patterns, actions and habits related to health care, health restoration and health promotion. Behaviors in this definition include the use of medical services (doctor visits, vaccination, screening), compliance with medical regimens (diet, diabetes, antihypertensive regimens) and self-directed

health behaviors (diet, exercise, smoking, alcohol consumption).

Some studies in the literature have examined the relationship between healthy lifestyle behavior and health outcomes, and have shown that healthy lifestyle behaviors play an important role in reducing both morbidity and mortality rates (Blaxter, 1990). In one of the first studies of such; It has been observed found a positive correlation between seven major lifestyles (lower smoking, moderate alcohol consumption, 7-8 hours of sleep during the night, regular exercise, maintaining the desired body weight, avoiding snacks, and regular breakfast) and lower morbidity and higher long-term survival (Belloc and Breslow, 1972). Healthy lifestyle behaviors also affect the quality of life of individuals by delaying the onset of chronic disease and prolonging its active life (Conner, 2015).

2.2. Vaccine Application

Vaccines are the most effective method of protecting child and adult health and preventing infectious diseases in terms of cost and reliability (Arısoy et al., 2015). It is known that approximately 2-3 million children die in the world, especially in less developed countries from diseases that can be prevented by vaccination every year. It is thought that 1.5 million of these deaths can be prevented if the global vaccination coverage is increased. The main target of immunization services is to prevent the emergence of vaccine-protected diseases in children and infants, and to reduce the morbidity and mortality due to infections. The main goal of this service is not to leave children without vaccines (World Health Organization, 2019).

One of the most important public health practices carried out in terms of maintaining health and preventing infectious diseases is the vaccination applications (U.S. Department of Health & Human Services, 2020). In our country, vaccines are mostly applied in childhood, adult vaccines are neglected and the necessary importance is not given to adult vaccination. The return on investment and health outcome of childhood vaccination programs are quite high (WHO, 2009).

It is especially important to protect the elderly population with vaccines against life-threatening diseases. In addition, the costs incurred due to the inability to prevent vaccine-preventable diseases in adults create a significant economic burden in society. In this context, in addition to the medical load, there may be indirect costs that are more difficult to calculate and sometimes overlooked, such as loss of labor, travel and companion costs, and the costs of the relatives of the patients. More than 50,000 adult patients die each year from vaccine-preventable disease, and thousands more than this complain of serious diseases. Therefore, regular provision of vaccination services will reduce the diseases and complications associated with vaccination and mortality rates (Adult Immunization Guide, 2016).

2.3. Relationship between Healthy Lifestyle Behavior and Attitudes for Vaccine Application

Healthy lifestyle behaviors are defined as the individual's behaviors to protect against diseases and maintain a healthy lifestyle in the society. Healthy living behaviors are a way of life and if the individual can acquire these behaviors, he / she can maintain his / her health status, improve his/her health status, improve the quality of life and cope with many diseases and stresses easily (Karaca and Özkan, 2016).

Healthy lifestyle, which is an important element of improving health, includes behaviors that increase the level of well-being throughout life as well as protection from diseases. Acquiring healthy lifestyle behaviors are extremely important in preventing the occurrence of chronic diseases, increasing the quality of life in case of chronic disease, ensuring a healthy life and aging (Cindaş, 2001). Today, it is known that lifestyle elements such as exercise, diet, smoking and stress affect health and risk of cardiovascular disease, and morbidity and mortality in chronic diseases such as cancer, heart disease, hypertension and diabetes can be significantly reduced with lifestyle changes (Ferguson, 1998). In addition, studies have shown that there is a relationship between lifestyle and health status, health care use and health care systems (Fleming and Marshall, 2008).

The individual, who transforms healthy lifestyle behaviors into a lifestyle, can maintain his well-being and improve his health. Therefore, the development and maintenance of healthy lifestyle behaviors are the foundation of health and disease protection. This situation reveals the importance of practices for the development of life styles, which are the most important factors in the prevention of diseases and health promotion (Zaybak and Fadıloğlu, 2004; Ayaz et al., 2005).

MATERIAL AND METHOD

3.1. Purpose and Scope of the Research

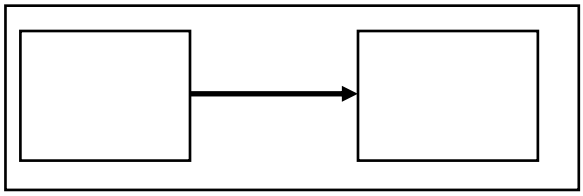
The main purpose of this study is to examine the relationship between the healthcare professionals' level of showing healthy lifestyle behaviors and their attitudes towards the use of healthcare services. However, determining the participants ' attitudes towards healthy lifestyle and vaccine practices constitutes the sub-objectives of the research. The study is descriptive and cross-sectional. Also in the study; quantitative research method has been used since it is thought that the validity and reliability of the research results can be fully ensured by considering the purpose of the research, the problem of the research and the subject of the research.

3.2. Population and Sample of the Research

The universe of the research is the middle and/or upper level managers of the private hospitals operating in Istanbul under the umbrella of the Republic of Turkey Ministry of Health. In the study in which the quantitative research method (quantitative research design) was used, the data were collected between January and March 2019 using face-to-face questionnaire technique (the total number of questionnaires evaluated and used in the analysis of the data is 390).

3.3. Model and Hypothesis of the Research

As a result of the literature review carried out during the model development phase, similar model studies were examined and the conceptual / theoretical model of the research was created. The relationship between the healthcare professionals' behaviors and their attitudes towards vaccine practices constitutes the subject of the research. The statement "Healthy lifestyle behavior level has an effect on attitude towards vaccine applications" constitutes the thesis of the research. The conceptual model of the research, the relationship between the basic variables of the research (healthy behavior level, rational drug use level) are discussed. The relationship between the conceptual



model of the research is shown in Figure 1,

Figure 1: Conceptual Model of the Research

In the literature, individuals with a sufficient level of health knowledge and healthy lifestyle behavior level have been emphasized that they had a high level of health literacy, they are the ones who benefit from health services effectively and cause the quality of life, health service quality and patient loyalty to increase and also the cost of health services to decrease. On the other hand, individuals with insufficient level of health knowledge and healthy behaviors are more likely to have sickness risks compared to others, have lower levels of understanding of treatment methods, less benefit from healthcare services, higher frequency of hospitalization, as well as higher healthcare costs (Kanj and Mitic, 2009; Baur et al., 2017). The basic hypothesis developed in this direction is as follows:

H_1: "The level of healthcare professionals' behaviors in a healthy lifestyle affects their attitudes towards vaccine practices statistically significant and positive."

As a result of the literature research carried out, while similar studies are encountered in the health sectors in relation to the relationships between some variables in the research model; no studies involving specific hypothesis discussions among the specified variables in the model have been found. Therefore, in order to reveal the interactions between the variables, a hypothesis has been developed based on the literature discussions in the second section.

3.4. Data Collection Tool and Analysis Methods

Descriptive and cross-sectional data were collected by using questionnaire technique in the study. A detailed literature review was conducted for the preparation of the research questionnaire and, in the light of the obtained documents and information, previously developed model studies (in different or similar fields) related to the variables included in the research were selected and harmonized with the structural features of the health services that constitute the subject of the research. The questionnaire consists of three parts. In the first part, statements about healthy lifestyle behavior level consisting of 47 statements take place. In the second part, while there are expressions to determine the attitudes towards vaccination practices consisting of 40 propositions; in the last part, there are statements about the socio-demographic characteristics of the participants. In the study, convenient sampling method was preferred. In the study; descriptive statistics, explanatory factor analysis (AFA), confirmatory factor analysis (CFA) and path (analysis) techniques were used. SPSS and AMOS package programs were used together in the analysis of the data.

FINDINGS

The data obtained in the findings section were evaluated through SPSS and AMOS package programs.

4.1. Normality Distribution of Research Data

In the research, Kolmogorov-Smirnov normality test which is the normal distribution test, was applied and as a result, it was seen that the data did not distribute normally. In large sample data (where n> 400), even if the test results show that the normality requirement is not met, this is of little importance in practice.

4.2. Reliability of Research Data

In the study, reliability measurement was made by calculating the Cronbach's Alpha coefficient for each structure. Healthy lifestyle behavior factors, which constitute the variables of the study, were subjected to reliability analysis with 47 questions, and attitude factors towards vaccine applications with 40 questions. Reliability coefficients for variables are given in Table 1.

Table 1. Reliability Analysis Results

Variable names	**Cronbach's Alpha Coefficient**
Healthy Lifestyle Behaviour	0,937
Attitude towards Vaccine Practices	0,949
Survey Reliability Total	**0,950**

Therefore, it is seen that the reliability of the research is quite high in considering all the dimensions.

4.3. Demographic Findings

Table 2. General Profile of the Participants

Gender	**Frequency**	**Rate**	**Age**	**Frequency**	**Rate**
Male	148	3,.9	18-25	129	33,1
Woman	242	62,1	26-35	210	53,8
Total	390	100	36-45	36	9,2
Education status	**Frequency**	**Rate**	46-55	14	3,6
Primary school	1	0,3	56 and over	1	0,3
Middle School	1	0,3	Total	390	100
High school	42	10,8	**Profession**	**Frequency**	**Rate**
University	328	84,1	Senior manager	139	35,1
Master / PhD	18	4,6	Mid-level manager	251	64,4
Total	390	100	Total	390	100

When Table 2 is examined in detail, information about the gender, age, educational status and occupation of the individuals participating in the research are given. 62% of the individuals participating in the study are women, 84% are university graduates, 64% are middle-age people and 64,4% are middle-level managers.

4.4. Findings Related to Explanatory (Exploratory) Factor Analysis

An explanatory factor analysis was performed on the data that constituted the attitudes of the participants towards healthy lifestyle behavior and vaccine applications. The analyzes carried out in this direction are given below (Table 3 and Table 4).

Table 3. Health Lifestyle Behavior-Explanatory Factor Analysis Results

Factors	Variables	Factor Loads	Announced Variance	Core Value
Health Anxiety	HLB45	,748	29,076	11,340
	HLB40	,737		
	HLB44	,661		
	HLB36	,620		
	HLB39	,589		
	HLB37	,579		
	HLB46	,572		
	HLB41	,542		
	HLB22	,482		
	HLB43	,436		
Physical Activity	HLB10	,802	7,664	2,989
	HLB4	,769		
	HLB28	,715		
	HLB16	,674		
Health Responsibility	HLB27	,791	6,026	2,350
	HLB21	,790		
	HLB15	,751		
	HLB3	,582		
	HLB33	,466		
Spiritual Development	HLB24	,728	4,786	1,867
	HLB18	,649		
	HLB23	,588		
	HLB12	,585		
	HLB6	,478		
	HLB30	,462		
Stress Management	HLB5	,730	4,239	1,653
	HLB29	,613		
	HLB11	,593		
Interpersonal Relations	HLB19	,640	3,585	1,398
	HLB35	,566		
	HLB34	,507		
	HLB13	,445		
Balanced diet	HLB32	,780	3,073	1,198
	HLB28	,655		
	HLB26	,625		
Compatibility	HLB7	,732	2,828	1,103
	HLB1	,666		
Evaluation Criteria	Kaiser-Meyer-Olkin Mea sure of Sampling Adequacy: 0,865 Approx. Chi-Square: 7092,513 Barlett's Test of Sphericity: 0,000 Extraction Method: Principal Components Rotation Method: Varimax Explained Variance Total: 61,278			

The KMO value of the data analyzed to determine the sub-variables of the Health Lifestyle Behavior factors and the Bartlett's test result seem to be acceptable for factor analysis (KMO value 0,865 and Bartlett's Test result p <0,001). On the other hand, principal components analysis and varimax rotation technique were used for factor analysis. As a result of the explanatory factor analysis performed, expressions with low equivalence and less than 0,40 were completely removed from the scale. On the other hand, factors were renamed considering the

contents of the items, factor loads and names in the literature.

Table 4. Attitudes-Explanatory Factor Analysis Results for Vaccine Applications

Factors	Variables	Factor Loads	Announced Variance	Core Value
Risks / Benefits	AVP15	,755	36,113	13,723
	AVP19	,717		
	AVP20	,678		
	AVP29	,635		
	AVP30	,635		
	AVP31	,614		
	AVP34	,568		
	AVP35	,538		
	AVP36	,518		
Communication and Media Tools	AVP21	,808	11,342	4,310
	AVP22	,707		
	AVP23	,693		
	AVP24	,684		
	AVP25	,649		
	AVP26	,613		
	AVP27	,594		
	AVP28	,507		
Beliefs and Approaches to Health and Preventive Practices	AVP1	,827	4,855	1,845
	AVP2	,822		
	AVP3	,756		
	AVP4	,726		
	AVP6	,621		
	AVP37	,542		
The Role of Healthcare Professionals	AVP11	,835	4,375	1,662
	AVP12	,812		
	AVP13	,684		
Social Norms	AVP16	,876	3,796	1,443
	AVP17	,852		
	AVP18	,844		
Health System and Trust Providers	AVP38	,734	3,592	1,365
	AVP39	,726		
	AVP40	,565		
People Effective on Society	AVP8	,705	2,948	1,120
	AVP9	,647		
	AVP10	,502		
Cost	AVP32	,823	2,809	1,068
	AVP33	,752		
Evaluation Criteria	Kaiser-Meyer-Olkin Mea sure of Sampling Adequacy: 0,896 Approx. Chi-Square: 10113,058 Barlett's Test of Sphericity: 0,000 Extraction Method: Principal Components Rotation Method: Varimax Explained Variance Total: 69,830			

The KMO value of the data analyzed in order to determine the sub-variables of attitude factors for vaccine applications and the Bartlett test result seem to be acceptable for factor analysis (KMO value 0,896

and Bartlett's Test result p<0,001). On the other hand, principal components analysis and varimax rotation technique were used for factor analysis. As a result of the explanatory factor analysis performed, expressions with low equivalence and less than 0.40 were completely removed from the scale. On the other hand, factors were renamed considering the contents of the items, factor loads and names in the literature.

Descriptive statistics about the variables obtained were examined after the explanatory factor analysis and frequency analysis. Information about the averages, standard deviations, reliability coefficients, question numbers and scale levels used for each variable are presented in Table 5.

Table 5. Descriptive/Descriptive Statistics Related to Factors

Dimensions	Factors	N	Mean	Std. Dev.	Variance
Attitude towards Vaccine Practices	Risks / Benefits	390	4,1158	,68734	,472
	Communication and Media Tools	390	3,4673	,83252	,693
	Beliefs and Approaches to Health and Preventive Practices	390	4,2878	,68514	,469
	The Role of Healthcare Professionals	390	3,7584	1,01334	1,027
	Social Norms	390	2,2860	1,24782	1,557
	Health System and Trust Providers	390	4,0465	,86896	,755
	People Effective on Society	390	3,5743	,91000	,828
	Cost	390	3,6468	1,13130	1,280
Healthy Lifestyle Behaviour	Health Anxiety	390	3,3040	,83127	,691
	Physical Activity	390	3,2768	1,01354	1,027
	Health Responsibility	390	3,8768	,80197	,643
	Spiritual Development	390	3,8596	,67673	,458
	Stress Management	390	3,6404	,82571	,682
	Interpersonal Relations	390	3,9889	,70529	,497
	Balanced diet	390	3,9911	,75560	,571
	Compatibility	390	4,2775	,71740	,515

When Table 5 is analyzed, it is seen that the variable "Compatibility" (Av: 4,277) has the highest average among healthy lifestyle behavior factors. The reliability coefficients higher than 0.60 indicate that the scales used in the study are reliable. Similarly, among the attitude factors towards vaccine applications, the highest average variable is seen as "Beliefs and Approaches to Health and Preventive Practices" (Avg: 4,287). The reliability coefficients higher than 0,60 indicate that the scales used in the study are reliable.

4.5. Findings Related to Multiple Regression Analysis

In this section, the relationships between the variables are revealed by making multiple regression analysis to the attitude scales of healthy lifestyle behavior and vaccine applications with SPSS package program.

4.5.1. Results of Multiple Regression Analysis

In the research model; factors (latent factors) such as Health Anxiety, Physical Activity, Health Responsibility, Spiritual Development, Stress Management, Interpersonal Relationships, Balanced Nutrition, Compliance and Risks / Benefits, Communication and Media Tools, Beliefs and Approaches to Health and Preventive Practices, the Role of Health Workers, Social Norms, Health System and Trust in Providers, Cost, Community Affected Persons and causal relationships between these factors are assumed to be explained. Firstly, the effects of "healthy lifestyle behavior level of the society on the attitudes towards vaccine applications" were examined within the framework of causality relationship.

Table 6. Healthy Lifestyle Behavior Factors-Risks/Benefits Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,506	,248	-	6,078	,000
Health Anxiety	-,147	,056	-,176	-2,632	**,009**
Physical Activity	-,076	,041	-,110	-1,864	,063
Health Responsibility	,170	,051	,198	3,351	**,001**
Spiritual Development	-,015	,062	-,015	-,246	,806
Stress Management	,005	,048	,006	,110	,913
Interpersonal Relations	,126	,064	,129	1,955	,051
Balanced diet	,256	,050	,281	5,094	**,000**
compatibility	,277	,051	,284	5,375	**,000**

Dependent variable: **Risks / Benefits** R: 0,543 R^2: 0,295 p: 0,000

When Table 6 is examined, it is seen that the Risks/Benefits of Health Anxiety, Health Responsibility, Balanced Nutrition, Compliance and vaccination practices are moderately positive bilateral correlations in bilateral relations, and when other variables of the study are taken into consideration, these relationship levels are partially decreased (low correlation). On the other hand, healthy lifestyle behavior together with sub-dimensions give a moderate and significant relationship with the risks / benefits of vaccine applications (R: 0,543, R^2: 0,295, p: 0,000) and 29% of the total variance is explained by the level of risks / benefits of vaccine applications.

In Table 7, there are results related to the effect of healthcare professionals' healthy lifestyle behaviors on "Communication and Media Tools", which is one of the sub-dimensions of attitude towards vaccine applications.

Table 7. Healthy Lifestyle Behavior Factors- Communication and Media Tools Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,296	,303	-	4,278	,000
Health Anxiety	,502	,068	,510	7,329	**,000**
Physical Activity	-,096	,050	-,118	-1,931	,054
Health Responsibility	-,042	,062	-,042	-,684	,494
Spiritual Development	-,091	,075	-,075	-1,218	,224
Stress Management	,028	,059	,028	,473	,636
Interpersonal Relations	-,063	,078	-,054	-,803	,423
Balanced diet	,131	,061	,121	2,145	**,033**
compatibility	,219	,062	,190	3,509	**,001**

Dependent variable: **Communication and Media Tools** R: 0,512 R^2: 0,262 p:0,000

When Table 7 is examined, it is seen that the role of communication and media tools in Health Anxiety, Balanced Nutrition, Compliance and vaccination practices, there is a moderate positive bilateral correlation in bilateral relations, and when other variables of the study are taken into consideration, these relationship levels are partially decreased (low positive correlation On the other hand, healthy lifestyle behavior sub-dimensions together give a moderate and significant relationship with the role of communication and media tools in vaccine applications (R: 0,512, R^2: 0,262, p: 0,000) and the role of communication and media tools in vaccine applications explain 26% of the total variance.

Table 8 contains the results regarding the effect of healthcare professionals' healthy lifestyle behaviors on "Beliefs and Approaches to Health and Preventive Practices", which is one of the sub-dimensions of attitude towards vaccine practices.

Table 8. Healthy Lifestyle Behavior Factors- Beliefs and Approaches to Health and Preventive Practices Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,705	,254	-	6,702	,000
Health Anxiety	-,114	,058	-,136	-1,981	**,048**
Physical Activity	-,060	,042	-,086	-1,420	,156
Health Responsibility	-,014	,052	-,017	-,274	,784
Spiritual Development	,071	,063	,069	1,118	,264
Stress Management	,040	,050	,047	,809	,419
Interpersonal Relations	,176	,066	,179	2,659	**,008**
Balanced diet	,182	,052	,199	3,520	**,000**
compatibility	,315	,053	,321	5,944	**,000**

Dependent variable: **Beliefs and Approaches to Health and Preventive Practices** R: 0,506 $R^{2:}$ 0,256 p:0,000

When Table 8 is examined, beliefs and approaches regarding health and preventive practices about Health Anxiety, Interpersonal Relationships, Balanced Nutrition, Compatibility and vaccine applications, there is a moderate positive bilateral correlation between bilateral relations and when other variables of the study are taken into consideration, these relationship levels are partially decreased (low level of positive correlation). On the other hand, healthy lifestyle behavior together with sub-dimensions give a moderate and meaningful relationship with beliefs and approaches about health and preventive practices about vaccine applications (R: 0,506, R^2: 0,256, p: 0,000) and 25% of the total variance is explained by the level of beliefs and approaches to health and preventive practices on vaccine practices.

In Table 9, there are results regarding the effect of healthcare professionals' healthy lifestyle behaviors on "Role of Healthcare Professionals", which is one of the sub-dimensions of attitude towards vaccine practices.

Table 9. Healthy Lifestyle Behavior Factors- Role of Healthcare Professionals Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,450	,400	-	3,626	,000
Health Anxiety	,129	,091	,106	1,426	,155
Physical Activity	-,059	,066	-,058	-,886	,376
Health Responsibility	,034	,082	,027	,413	,680
Spiritual Development	-,198	,100	-,133	-1,991	**,047**
Stress Management	,121	,079	,098	1,540	,124
Interpersonal Relations	-,127	,104	-,089	-1,222	,223
Balanced diet	,302	,082	,227	3,690	**,000**
compatibility	,364	,083	,256	4,361	**,000**

Dependent variable: **Role of Healthcare Professionals** R: 0,363 $R^{2:}$ 0,132 p:0,000

When Table 9 is examined, it is seen that the role of healthcare professionals in Spiritual Development, Balanced Nutrition, Compatibility and vaccine applications is a moderate positive bilateral correlation in bilateral relations, and when other variables of the study are taken into consideration, these relationship levels are partially decreased (low positive correlation).On the other hand, healthy lifestyle behavior together with sub-dimensions give a moderate and significant relationship with the role of healthcare workers in vaccination practices (R: 0,363, R^2: 0,132, p: 0,000) and the 13% of the total variance is explained at the level of the role of healthcare workers in vaccine practices.

In Table 10, there are results regarding the effect of healthcare professionals' healthy lifestyle behaviors on "Social Norms", which is one of the sub-dimensions of attitude towards vaccine practices.

Table 10. Healthy Lifestyle Behavior Factors- Social Norms Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,852	,467	-	3,964	,000
Health Anxiety	,958	,106	,640	9,059	**,000**
Physical Activity	-,124	,077	-,100	-1,610	,108
Health Responsibility	-,330	,096	-,216	-3,453	**,001**
Spiritual Development	-,144	,116	-,078	-1,238	,217
Stress Management	,055	,091	,037	,608	,544
Interpersonal Relations	-,118	,121	-,067	-,971	,332
Balanced diet	-,020	,095	-,012	-,215	,830
Compatibility	-,035	,097	-,020	-,356	,722

Dependent variable: **Social Norms** R: 0,463 $R^{2:}$ 0,214 p:0,000

When Table 10 is examined, it is seen that there is a moderate positive bilateral correlation between Health Anxiety, Health Responsibility and social norms in vaccination practices, and when the other variables of the study are taken into consideration, these relationship levels are partially decreased (low positive correlation). On the other hand, healthy lifestyle behavior together with sub-dimensions give a moderate and meaningful relationship with the role of social norms in vaccine applications (R: 0,463, R^2: 0,214, p: 0,000) and 21% of the total variance is explained by the level of the role of social norms in vaccine practices.

Table 11 contains the results regarding the effect of healthcare professionals' healthy lifestyle behaviors on "Health System and Provider Trust", which is one of the sub-dimensions of attitude towards vaccine applications.

Table 11. Healthy Lifestyle Behavior Factors-Health System and Trust Providers Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,595	,340	-	4,697	,000
Health Anxiety	,145	,077	,137	1,890	,060
Physical Activity	-,163	,056	-,186	-2,910	**,004**
Health Responsibility	,053	,070	,049	,765	,445
Spiritual Development	-,043	,085	-,033	-,512	,609
Stress Management	,044	,066	,041	,663	,508
Interpersonal Relations	,174	,088	,140	1,968	**,050**
Balanced diet	,111	,069	,096	1,609	,109
Compatibility	,267	,071	,215	3,768	**,000**

Dependent variable: **Healthcare System and Trust Providers** R: 0,415 $R^{2:}$ 0,172 p:0,000

When Table 11 is examined, it is seen that there is a moderate positive bilateral correlation between physical activity, interpersonal relations, compatibility and vaccination practices, and the role of trust in providers, and when the other variables of the study are taken into consideration, these relationship levels are partially decreased (low level positive correlation). On the other hand, healthy lifestyle behavior together with the sub-dimensions give a moderate and significant relationship with the role of trust in healthcare system and providers in vaccine applications (R: 0,463, R^2: 0,214, p: 0,000) and 17% of the total variance is explained at the level of the role of trust in the healthcare system and providers in vaccination practices.

In Table 12, there are results regarding the effect of healthcare professionals' healthy lifestyle behaviors on the "People Effective on Society" which is one of the sub-dimensions of attitude towards vaccine applications.

Table 12. Healthy Lifestyle Behavior Factors- People Effective on Society Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,686	,365	-	4,623	,000
Health Anxiety	,340	,081	,311	4,178	**,000**
Physical Activity	-,121	,059	-,134	-2,046	**,042**
Health Responsibility	,007	,073	,006	,090	,929
Spiritual Development	,078	,089	,058	,878	,381
Stress Management	,056	,070	,050	,793	,428
Interpersonal Relations	-,114	,093	-,089	-1,228	,220
Balanced diet	-,006	,073	-,005	-,087	,931
Compatibility	,259	,076	,198	3,415	**,001**

Dependent variable: **People Effective on Society** R: 0,364 $R^{2:}$ 0,132 p:0,000

When Table 12 is analyzed, it is seen that the role of the importance of the people who have an impact on the society in Health Anxiety, Physical Activity, Compliance and vaccine applications, there is a moderate positive bilateral correlation in bilateral relations, and when the other variables of the research are taken into consideration, these relationship levels are partially decreased (low positive correlation). On the other hand, healthy lifestyle behavior together with the sub-dimensions give a moderate and significant relationship with the role of the people who are influential on the society in vaccine applications (R: 0,364, R^2: 0,132, p: 0,000) and the role of importance of people who are influential on the society in vaccine applications explains 13% of the total variance.

In Table 13, there are results related to the effect of healthcare professionals' healthy lifestyle behaviors on "Cost" which is one of the sub-dimensions of attitude towards vaccine applications.

Table 13. Healthy Lifestyle Behavior Factors-Cost Multiple Regression Analysis Results

Variables	B	Std. Error	β	t	p
(Fix)	1,574	,456	-	3,449	,001
Health Anxiety	,279	,103	,203	2,701	**,007**
Physical Activity	-,081	,075	-,072	-1,083	,279
Health Responsibility	-,009	,093	-,007	-,099	,921
Spiritual Development	-,306	,114	-,181	-2,689	**,008**
Stress Management	,028	,089	,020	,315	,753
Interpersonal Relations	,156	,118	,097	1,320	,188
Balanced diet	,167	,093	,111	1,794	,074
Compatibility	,280	,095	,174	2,952	**,003**

Dependent variable: **Cost** R: 0,332 $R^{2:}$ 0,110 p:0,000

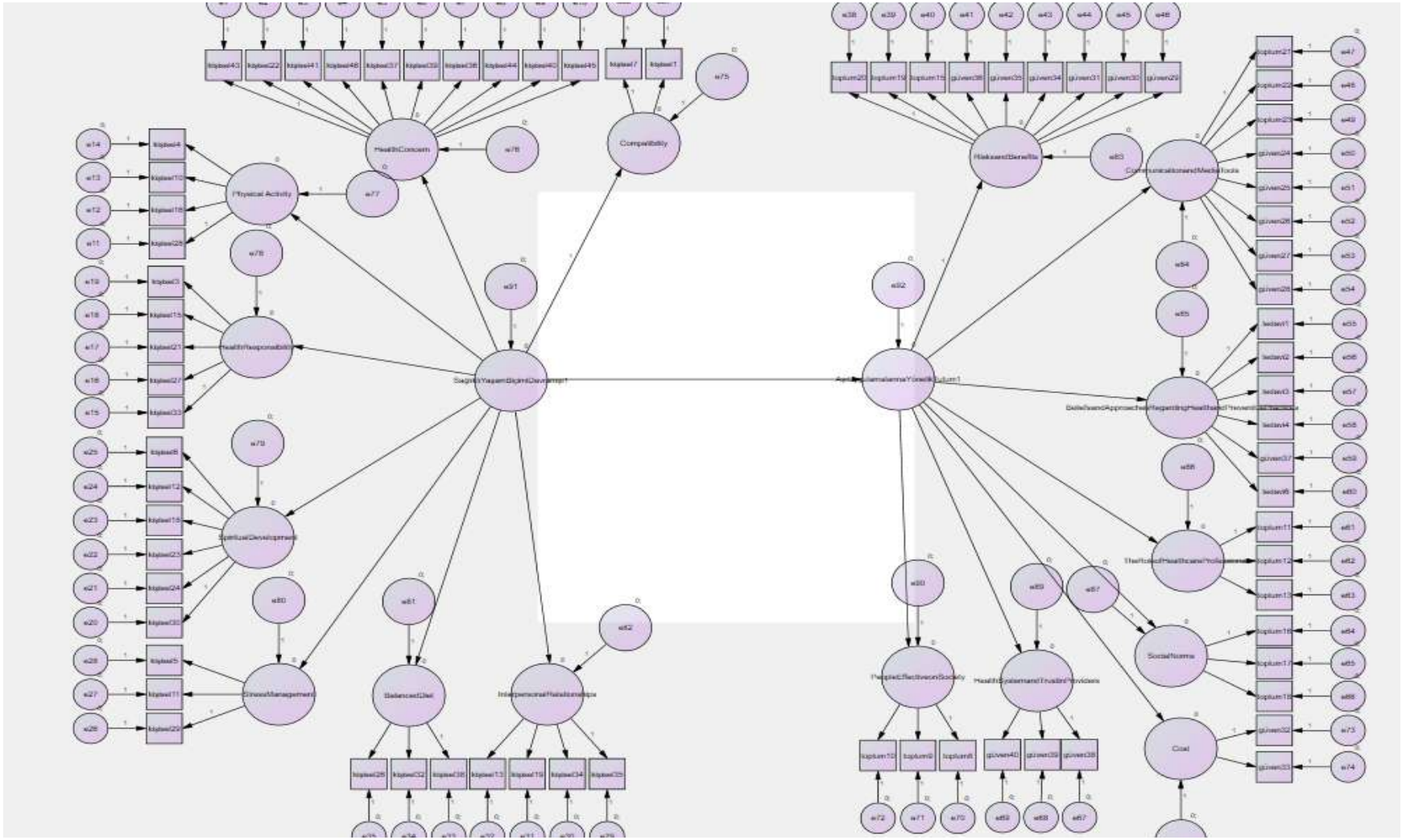
When Table 13 is examined, it is seen that the role of the importance of cost in Health Anxiety, Spiritual Development, Compatibility and vaccine applications is a moderate positive bilateral correlation in bilateral relations, and when other variables of the study are taken into consideration, these relationship levels are partially decreased (low positive correlation). On the other hand, healthy lifestyle behavior together with the sub-dimensions give a moderate and meaningful relationship with the role of cost in vaccine applications (R: 0,332, R^2: 0,110, p: 0,000) and 11% of the total variance is explained at the level of role of cost importance in vaccine applications.

4.6. Findings on Confirmatory Factor Analysis (CFA)

In this section, the degree of compliance of the data to the default model was tested by performing CFA on the health literacy and rational drug use scales with the AMOS package program.

4.6.1. Results of Research Model (Measurement Model)

It is assumed that variables in the research model; "Health Anxiety, Physical Activity, Health Responsibility, Spiritual Development, Stress Management, Interpersonal Relationships, Balanced Nutrition, Compliance and Risks / Benefits, Communication and Media Tools, Beliefs and Approaches to Health and Preventive Practices, Role of Healthcare Professionals, Social Norms, Health the system and Providers Trust, Cost, People Effective on Society and causal relationships between these factors can be explained. Confirmatory factor analysis was performed to test the validity of the scales used and the structures of all scales were verified. Since some of the measurement values produced for the test of the validity of the scales are not within the acceptable limits, some modifications proposed by the program have been modified. Details about the measurement model developed are presented below. Confirmatory factor analysis results and goodness of fit values regarding healthy lifestyle behavior and attitude towards vaccine applications are given in Figure 2.



[(**X²/df:** 3,588; **GFI:** 0,81; **NFI:** 0,86; **CFI:** 0,90; **RMSEA:** 0,067; **Model AIC** = 7402,807; **Independence AIC** = 42117,085;

Model CAIC = 8165,595; **Independence CAIC** = 42457,321; **ECVI:** 11,285; **ECVI Independence Model** = 64,203)]

Figure 2. Healthy Lifestyle Behavior-Vaccine Practices Attitude Research Model (Measurement Model) and Goodness of Fit Results

By applying Second Level Confirmatory Factor Analysis (CFA) to the corrected measurement model, the degree to which the latent variables can be explained by the observed variables was revealed. In Table 14, the generally accepted goodness fit index values in the literature are shown after the analysis.

Table 14. Measurement Model Goodness of Fit Indices

General Model Fit	*Good Fit*	*Acceptable Compliance*	*Compliance Values Obtained*
x^2/sd	≤3	≤5	3,588
RMSEA	≤0,05	≤0,08	0,067
NFI	≥0,95	≥0,90	0,86
CFI	≥0,97	≥0,95	0,90
IFI	≥0,95	0,94-0,90	0,91
PGFI	Close to 1	Lower limit value 0,50	0,68
GFI	≥0,90	0,89-0,85	0,81

As can be seen in Table 15, the results show that the majority of the fit indices of the proposed research model are at an acceptable level of fit.

CONCLUSION AND DISCUSSION

The main purpose of this study is to examine the relationship between the healthcare professionals' level of showing healthy lifestyle behaviors and their attitudes towards the use of healthcare services. The universe of the research is the middle and / or upper level managers of the general private hospitals operating in the province of Istanbul under the umbrella of the Turkish Ministry of Health Private Health Institutions. In the study in which the quantitative research method (quantitative research design) was used, the data were collected by face-to-face questionnaire technique. The study is descriptive and cross-sectional. The quantitative research method has been used in the study since it is thought that the validity and reliability of the research results can be fully ensured under the consideration of the purpose of the research, the problem of the research and the subject of the research,

As a result of the descriptive statistical analysis, it was observed that the variable of "Compatibility" (Avg: 4,277) has the highest average among healthy lifestyle behavior factors. Similarly, among the attitude factors towards vaccine applications, the highest mean variable was "Beliefs and Approaches to Health and Preventive Practices" (Avg: 4,287).

Gender, age, educational status and occupation of the individuals participating in the research are given as 62% of the individuals participating in the study are women, 84% are university graduates, 64 % are middle-age people and are 64,4%middle-level managers.

According to the results of multiple linear regression analysis in order to determine the relationship between healthy lifestyle behavior and attitude towards vaccine applications; it has been observed that the sub-dimensions of healthy lifestyle behaviors; Health Anxiety, Health Responsibility, Balanced Nutrition, Compliance and attitude factors towards vaccine applications have moderate positive bilateral correlation between the Risks / Benefits of vaccine applications, and on the other hand; when the other variables of the study were taken into consideration, these relationship levels were partially decreased (low level positive correlation).

It has been observed that the role of communication and media tools in vaccine applications have a moderate positive bilateral correlation in bilateral relations on health anxiety, balanced nutrition, compatibility and attitude factors towards vaccine applications which are the sub-dimensions of healthy lifestyle behaviors" on the other hand; when other variables of the study are taken into consideration, these relationship levels are partially decreased (low positive correlation).

It has been observed that there is a moderate positive bilateral correlation between the health and preventive practices beliefs and approaches about vaccine applications which are the sub-dimensions of healthy lifestyle behaviors and the health anxiety, interpersonal relations, balanced nutrition, compatibility and attitude factors towards vaccine applications; On the other hand; when other variables of the study are taken into consideration, these relationship levels are partially decreased (low level positive correlation).

It has been observed that there is a moderate positive bilateral correlation between bilateral relations among the sub-dimensions of healthy lifestyle behaviors and the factors of attitude towards spiritual development, balanced nutrition, compatibility and vaccination practices, the role of healthcare workers in vaccine practices , and on the other hand; when other variables of the study are taken into consideration, these

relationship levels are partially decreased (low positive correlation).

It has been observed that there is a moderately positive bilateral correlation in bilateral relations among health anxiety, health responsibility and attitude factors towards vaccine applications and the role of social norms in vaccination practices, which are the sub-dimensions of healthy lifestyle behaviors; and on the other hand; when other variables of the study are taken into account, it is seen that these correlation levels are partially reduced (low level positive correlation).

It has been observed that there is a moderately positive bilateral correlation in bilateral relations among physical activity, interpersonal relationships, compatibility and attitude factors towards vaccine applications, the role of trust in healthcare system and providers in vaccination practices which are the sub-dimensions of healthy lifestyle behaviors; and on the other hand, when other variables of the study are taken into account, these correlation levels are partially reduced (low level positive correlation).

It has been observed that there is a moderate positive bilateral correlation in bilateral relations among Health anxiety, physical activity, compliance and attitude factors towards vaccination applications, the role of the importance of the people who have an impact on the society in vaccine applications which are the sub-dimensions of healthy lifestyle behaviors; and on the other hand, when the other variables of the study are taken into consideration, these relationship levels are partially decreased (low positive correlation).

According to the confirmatory factor analysis results; it was observed that the fit indices of the proposed research model were at an acceptable level of fit.

It has been observed that there is a moderate positive bilateral correlation in bilateral relations among health anxiety, moral development, compatibility and attitude factors towards vaccine applications, the role of the importance of cost in vaccine applications which are the sub-dimensions of healthy lifestyle behaviors; and on the other hand, when other variables of the study are taken into consideration, it is seen that these relationship levels are partially decreased (low correlation).

In summary, studies have shown that there is a positive relationship between lifestyle and health status, healthcare use and healthcare systems (Fleming and Marshall, 2008). The individual, who transforms healthy lifestyle behaviors into a lifestyle, can maintain his well-being and improve his health. Therefore, the development and maintenance of healthy lifestyle behaviors are the foundation of health and disease protection. This situation reveals the importance of practices for the development of life styles, which are the most important factors in the prevention of disease and health promotion (Zaybak and Fadıloğlu, 2004; Ayaz et al., 2005).

Recommendations

Informing families about the factors causing diseases, explaining how the disease prevention and treatment methods work and comparing their effectiveness can positively affect families' approach to vaccines, accordingly, information and guidance studies should be carried out in this direction.

On the other hand, people who volunteer to vaccinate and rely on vaccination systems may hesitate to vaccinate, in consideration of not being able to afford to pay for the vaccines. It is recommended that the society is informed correctly and regularly by the Ministry of Health in this direction.

At the same time, it is known in the literature that informing families by healthcare professionals increases the rates of vaccination (Babadağlı, 2007). In addition, it has been determined that the knowledge and practices of healthcare professionals affect their own vaccination practices, vaccine recommendations and vaccine scopes (Larson and Karafillakis, 2015). Therefore, it is recommended that healthcare professionals take a positive attitude towards vaccines and vaccination applications and be guided in this direction.

It is recommended to change the idea that the transmission of some vaccine-preventable diseases is necessary for the formation of immunity, or that breastfeeding, traditional / alternative treatment methods are as important as vaccination or more important than vaccination, and the negative attitudes of television and social media tools towards vaccines should be eliminated completely.

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Effects of Paternal Leadership on Organisational Cynism: Comparing the Public and Private Hospitals in Fatih Health Service Region

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https://10.48121/jihsam.781573

Received
17.08.2020

Accepted
07.04.2021

Published Online
27.04.2021

Key Words
Paternalistic Leadership, Organizational Cynicism, Hospital Management.

ABSTRACT

Problem of The Study: *Individuals experience their feelings towards the organization and their managers very intensely in their working lives, and in parallel, the cynical reactions to the events experienced in the working environment are of the same intensity.*

Purpose of the study: *In this study, the effect of paternist leadership on organizational cynicism was examined in public and private hospitals in Fatih Health Service Area. Comparing these effects in terms of public and private hospitals was another issue examined within the scope of this study.*

Method: *"Simple Unelected (Incidental) Sampling" method was used in the study and a questionnaire was applied to a sample group of 771 people. Three different measuring tools were used as a data collection tool. The "Paternalistic Leadership Scale" developed by Cheng, Chou, Wu, Huang and Farh in 2004 was used. Scale developed by Brandes, Dharwadkar and Dean in 1999 was used for organizational cynicism. A scale of 6 questions was used for demographic characteristics.*

Findings and Conclusions: *Employees in a paternist relationship between employees and the manager or leader perceive the hospital environment as a family environment. They obey their leaders, help their leaders on non-business matters, accept the authority of the leader, and believe that the leader knows what is best for them. When the results of the hypothesis on the investigation of the organizational cynicism effect of paternalistic leadership behaviors and the comparison of the found effect were examined, it was concluded that there was no meaningful relationship between paternist leadership and organizational cynicism for both sectors. Since there is no meaningful relationship between the two variables, there is no mention of the effect of paternist leadership on organizational cynicism.*

** Bu çalışma Uzm.Esendal GÜLEÇ'in, Prof. Dr. İbrahim Halil CANKUL'un danışmanlığında yürütülen yüksek lisans tezinden üretilmiştir.*

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INTRODUCTION

The health sector is a sector where services for human life are offered uninterrupted under all conditions. The concept of leadership is of great importance among the factors that directly affect employees' individual productivity. The concept of leadership is among the most emphasized topics by researchers from past to present. According to Göksel and others, although management and administratorship have teachable aspects, leadership is an innate feature (Göksel, Aydıntan, 2012:247-71; Koç, Topaloğlu, 2012; Koçel, 2015:36; Tengilimoğlu, 2005:1-16). There are many theoretical and empirical studies that try to explain the concepts of leader and leadership with different theories and approaches (Tengilimoğlu, 2005). As a result of these researches, it has been understood that leaders give direction with clear instructions and manage interpersonal relations well, and leadership training has begun to be organized in these dimensions. Nowadays, it is not possible to talk about a leadership model that will appeal to every group, anytime and in all situations. Developments in the field of organizational behavior and management-organization and the emerging new concepts have led to the emergence of new leadership types.

The leadership understanding emerging from the cultural differences of Eastern societies has been named as paternalistic leadership (Çalıskan, Özkoc, 2016:240-255). It has been determined by research that the leadership understanding of Eastern cultures and the leadership understanding of Western cultures differ. In Turkey Aycan and Kanungo (2000) in a research conducted by, it is understood that employees expect paternalistic behavior from their manager or leader. The concept of paternalism derives from patriarchy (Pellegrini, Scandura, 2006: 37; Suche et al.2011). Paternalistic leadership understanding that takes place in Eastern societies; it has been defined that authority is integrated with care and respect and the leader protects his subordinate like a father as a process in which it expects loyalty and obedience in return (Yeşilkayalı, Kılıç, 2012; Blackburn, 1996: 645; Öcal, Gümüştekin, 2012: 276-281; Karahan, 2008: 145-62; Uysal, et al., 2012: 25-57). Also Westwood and Chan define paternalistic leadership as the integration of authority with care and respect. Leaders' behaviors on the grounds of being useful lead to the limitation and damage of their subordinates' personal autonomy from time to time. For this reason, it has been concluded that paternalism cannot be seen as an example of professionally appropriate behavior today (Efeoğlu, İplik, 2011: 343-360; Gün, 2016: 253-266).

Cynicism is the life philosophy of individuals whose goals are to achieve individual freedom and become self-sufficient and who reject the basic rules of courtesy, morals and customs and who think nothingnatural is shameful. People who act according to this philosophy are named with the word “cynic” (Fındık, Eryeşil, 2012). Organizational cynicism is a concept that the behavior pattern that develops due to the negative feelings of the employee towards the corporate culture and rules and include the cognitive dimension of these behaviors. According to Akman and Musaoğlu, it is the assumption that factors such as trust and sincerity are used as utilitarian by the leaders who do fraudulent works (Akman, 2013; Özer Musaoğlu, 2017). The thought of cynicism reveals bad thoughts that include reactive feelings. The cynical feelings raised against the organization, which is believed to cause suspicion and disappointment, lead the employee to be discontent. It puts the emotionality of the individual in the foreground and keeps him away from the work environment (Çivilidağ, 2015:6; Kalağan,2009). It is possible to talk about personal and organizational factors that make up organizational cynicism and have direct or indirect effects on its occurrence. Organizational cynicism can be a negative attitude arising from negative personal feelings such as laziness and negative personality, or it can be interpreted as negative attitudes triggered by organizational attitudes such as wrong organizational policies, organizational injustice and inequality (Yıldız, 2013: 853-859; Fındık, 2012).

MATERIAL AND METHOD

Ethics Committee approval for the study was received from Beykent University. In this section, the materials and methods of the research about the effect of paternalistic leadership on organizational cynicism are given and the findings obtained are interpreted.

2.1. Purpose and Importance

The aim of the study is to investigate the effect of paternalistic leadership on the cynical attitudes of employees in the health sector and to the determination of the dimensions in which it occurs. Three hypotheses designed for the subject were tested and their validity was evaluated. These hypotheses are given below:

H1 Paternalistic leadership behaviors of managers have an effect on employees' perception of organizational cynicism.

H2 In public hospitals, there is a significant relationship between the paternalistic leadership behaviors of managers and the organizational cynicism perception of the employees.

H3 There is a significant relationship between the paternalistic leadership behaviors of managers and the organizational cynicism perception of the private sector healthcare workers.

2. 2. Population and Sampling

The universe of the research consists of approximately 8,000 employees of 30 (22 private and 8 public) inpatient healthcare institutions in Istanbul-Fatih Health Service Region. The sample number was determined as n=370 in the calculation made in order to test the findings of the study with 95% reliability (Yazıcıoğlu and Erdoğan, 2004:50; www.etikarastirma.com). "Simple Random Sampling" method was used in the selection of the participants in the study. In order to keep the sample size high, 1280 questionnaire forms were distributed, 771 forms that were properly filled out of the 859 returned forms were evaluated, 88 of them were not included in the evaluation because they were deemed incorrect.

2.3. Data collection tool

Three different measurement tools (scales) were used as data collection tools. The scale developed by Cheng, Chou, Wu, Huang and Farh in 2004 was used to measure paternalistic leadership. A total of 25 questions were asked to measure the three dimensions of paternalistic leadership: benevolence, authoritarianism, and morality.

To measure organizational cynicism, the "Organizational Cynicism Scale" developed by Brandes, Dharwadkar and Dean in 1999 was used. The scale includes a total of 14 statements (questions) that measure the three dimensions of organizational cynicism: cognitive, affective and behavioral. There are 6 questions to evaluate the demographic characteristics of the participants in the last part of the questionnaire. 6 and 5 Likert question types were used in the scales.

2.4. Analysis Method

The density of the demographic information of the participants was examined by frequency and percentage distribution. Cronbach's Alpha coefficients were calculated for the validity and reliability of the questionnaire. Correlation Test was used for the relationship between dependent and independent variables in testing the accuracy of the hypotheses established for the research. The Independent Sample t test was used for the public and private sector comparisons of the obtained results.

RESULTS

As a result of the analysis of the data obtained from the scales, the following findings were obtained.

Table 1. Reliability Tests of Scales for Paternalistic Leadership, Organizational Culture and Organizational Cynicism

Cronbach's Alpha Value		
Paternalistic Leadership Scale (N=25)	Organizational Cynicism Scale (N=14)	Both Scales (N=64)
0,950	0,870	0,902

The reliability of the scale is interpreted as follows, depending on the alpha coefficient. If 0.00 <α <0.40, the scale is not reliable, if 0.40 <α <0.60 the reliability of the scale is low, if 0.60 <α <0.80 the scale is quite reliable, 0.80 <α <1, If 00, the scale is highly reliable. Based on the results in the table, it was concluded that the scales used were highly reliable.

Table 2. Demographic Characteristics of the Participants

Demographic Variables	**Public**		**Private**	
	n	**(%)**	**n**	**(%)**
Gender				
Female	288	64,1	218	67,7
Male	161	35,9	104	32,3
Total	**449**	**100,0**	**322**	**100,0**
Age				
18-24	54	12,0	115	35,7
25-34	173	35,8	121	37,6
35-44	152	33,9	75	23,3
45-50	43	9,6	8	2,5
51+	27	6,0	3	0,9
Total	**449**	**100,0**	**322**	**100,0**
Education level				
Primary education	31	6,9	11	3,4
High school graduate	113	25,2	126	39,1
Associate Degree-Undergraduate	217	48,3	151	46,9
Master and above	55	12,3	14	4,3
PhD / Specialist	33	7,3	20	6,2
Total	**449**	**100,0**	**322**	**100,0**

Table 2. Demographic Characteristics of the Participants (continuation of the table)

Jobs				
Manager	16	3,6	27	8,4
Physician	36	8,0	20	6,2
Pharmacist	11	2,4	10	3,1
Nurse	194	43,2	104	32,3
Technician	27	6,0	22	6,8
Medical secretary	41	9,1	57	17,7
Servant	57	12,7	19	5,9
Other	67	14,9	63	19,6
Total	**449**	**100,0**	**322**	**100,0**
Seniority				
Less than 1 year	40	8,9	79	24,5
1-5 years	148	33,0	161	50,0
6-10 years	129	28,7	43	13,4
11-15 years	58	12,9	29	9,0
16-20 years	37	8,2	9	2,8
21+	37	8,2	1	0,3
Total	**449**	**100,0**	**322**	**100,0**

Of the 449 public health workers participating in the study, 64.1% are women and 35.9% are men. Most of the participants are young people. The education level of its employees is very high. Although the number of private hospital employees with 16 years or more of work experience is quite low, the total rate of the number of employees with 16 years and more in public hospitals is quite high.

Table 3. Rate of Public and Private Sector Variable in Organizational Cynicism Perception Experienced in Institutions (Group Statistics)

Organizational Cynicism Perception	Sector	N	Mean	Std. deviation
	Private	322	2,8409	0,76363
	Public	449	2,8914	0,73141

Table 4. Ratio of Public and Private Sector Variable in Organizational Cynicism Perception Experienced in Institutions Independent Sample T Test

		Equality of Variance Test		T-Test		
		F	p	t	Std. deviation	Sig. (2-tailed)
Organizational Cynicism Perception	Equivalent variances	1,524	0,217*	-0,928	769	0,354
	Variances that are not equal to			-0,921	673,453	0,357

*p<0,05

According to the healthcare professionals working in public and private health institutions, the rates of organizational cynicism perception are not significantly different between the groups in the independent sample t test analysis (t = 0.928; p> 0.05). In other words, no significant difference was found between the perception of organizational cynicism experienced in public hospitals and the perception of organizational cynicism experienced in private hospitals.

Table 5. The Correlation Test for the Relationship Between Managers 'Paternalistic Leadership Behaviors and Employees' Perception of Organizational Cynicism

		Paternalistic Leadership	Organizational Cynicism
Paternalistic Leadership	Pearson Correlation		0,025
	Sig. (2-tailed)		0,497*
	N		771
Organizational Cynicism	Pearson Correlation	0,025	
	Sig. (2-tailed)	0,497*	
	N	771	

*p<0,05

In Table 5, whether there is a relationship between the paternalist leadership behaviors of managers and the organizational cynicism perception of healthcare professionals was analyzed by correlation analysis. As a result of the correlation test regarding the relationship between leadership behaviors and employees' perception of organizational cynicism, it was concluded that there was no significant relationship between variables (p= 0.497).

Table 6. Correlation Test on the Relationship Between Paternalist Leadership Behaviors of Public Hospitals Managers and Employees' Perception of Organizational Cynicism

		Paternalistic Leadership	Organizational Cynicism
Paternalistic Leadership	Pearson Correlation		0,028
	Sig. (2-tailed)		0,560*
	N		449
Organizational Cynicism	Pearson Correlation	0,028	
	Sig. (2-tailed)	0,560*	
	N	449	

*p<0,05

In the Correlation Test (Table 6), which was conducted to measure the relationship between paternalist leadership behaviors of managers and employees' perception of organizational cynicism in public hospitals, the result was p = 0.560. Accordingly, it was concluded that there was no relationship between paternalistic leadership behaviors and employees' perception of organizational cynicism. Since there is no significant relationship between the two variables, it cannot be mentioned that paternalist leadership has an effect on organizational cynicism.

Table 7. Correlation Test for the Relationship Between Paternalistic Leadership Behaviors of Managers in Private Hospitals and Employees' Perception of Organizational Cynicism

		Paternalistic Leadership	Organizational Cynicism
Paternalistic Leadership	Pearson Correlation		0,025
	Sig. (2-tailed)		0,648*
	N		322
Organizational Cynicism	Pearson Correlation	0,025	
	Sig. (2-tailed)	0,648*	
	N	322	

*p<0,05

In the Correlation Test (Table 7), which was conducted to measure the relationship between paternalistic leadership behaviors of managers in private hospitals and employees' perception of organizational cynicism, the result was p = 0.648. Since p> 0.05, it is concluded that there is no relationship between paternalist leadership behaviors and employees' perception of organizational cynicism in private hospitals. Since there is no significant relationship between the two variables, it is not possible to talk about the effect of paternalist leadership on organizational cynicism.

DISCUSSION AND CONCLUSION

It was determined by this study that paternalistic leadership behaviors of public and private sector hospital managers do not have an effect on employees' perception of organizational cynicism. When the correlation test results for the relationship between paternalist leadership and organizational cynicism were analyzed as a result of the analysis of the data obtained from the questionnaires applied to public and private sector hospital employees, it was seen that there was no significant relationship between two variables. Since there is no significant relationship between the two variables, it has been concluded that the effect of paternalistic leadership on organizational cynicism cannot be mentioned. Employees who are in a paternalistic relationship with the manager or leader see the hospital environment as a family environment, obey their leaders, accept the leader's authority by helping their leaders in non-business matters, and believe that the leader knows what is best for them (Çalıskan, Özkoc,2016:240-250). Although many studies on the dimensions, effects and importance of leadership in the health sector have been examined in the literature reviews on the effects of leadership and its dimensions on healthcare professionals, not many

studies have been found on the effects of the "paternalistic leadership".

The study, which is concluded that leadership positively affects employees' positive feelings and dependency towards the organization and examines the relationship between leadership and organizational commitment, was conducted in hospitals in Afyonkarahisar (Karahan, 2008:145-62). In a study conducted by Yeşilkayalı and Kılıç in 2012, the determination of the managers as weak managers in the hospital where the study was applied was evaluated as an indicator of the regression of leadership practices in the public (Yeşilkayalı, Kılıç, 2012). As a result of a study conducted by Göksel and Aydıntan, which examined the leadership characteristics of nurses, it was concluded that leader-member interaction positively affected organizational commitment (Göksel A., Aydıntan B.,2012). In a study conducted in the city center of Isparta; by determining hospital staff are associated with their managers from which participatory, charismatic, autocratic, democratic, liberal, paternalist, transformational and operational types of leadership, and the effects of employees' leadership perceptions on work productivity levels were examined (Uysal et al., 2012).

In another study, it has been determined that public and private sector organization leaders show statistically significant differences in some behavioral variables. These differences are the variables that include creating a friendly environment away from conflict, displaying a friendly attitude and behavior (Tengilimoğlu 2005:1-16). In a study conducted in various hospitals in Ankara, the leadership orientations of the nurses in charge of the service were examined by taking into account various variables and various suggestions were presented for manager nurses to develop their leadership towards people within the scope of the applied scale (Erkan, Aban S, 2006).

Employees with a high motivation for organizational commitment are problem solvers instead of producing problems (Erdem, 2007:64; Karahan, 2008:145-162). It seeks to increase the level of organizational commitment of both public and private sector employees (Göksel, Aydıntan, 2012:247). Because employees with high organizational commitment make extra effort in fulfilling their duties and achieving organizational goals. Employees want to perform their professional activities in a healthy way in their business life and work in a peaceful environment with a sense of confidence. The primary factors that are effective in providing and maintaining the ideal environment and protecting the individual from harmful environmental factors should be taken into consideration by the management (Kılıçarslan, Kaya, 2016:9-25; Yalçınkaya,2014:106-130). Managers should be aware of the importance of meeting both physical and psychological needs of employees in order to prevent the decrease in organizational commitment by developing negative emotions such as feelings of burnout, cynicism, and intention to quit. The fact that an employee who has a high sense of trust in his manager or leader shows his manager's paternalist behavior as an excuse for the cynical attitudes that he develops against the institution and its rules. For future research, it is recommended to examine the effects of paternalist leadership on organizational trust, organizational belonging, organizational happiness or job satisfaction in healthcare institutions.

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Does business satisfaction affect the life satisfaction? Example of health sciences academics

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DOİ
https://10.48121/jihsam.781832

Received
17.08.2020

Accepted
16.11.2020

Published Online
30.04.2021

Key Words
Business Satisfaction
Life Satisfaction
Healthy Academics
Academics

ABSTRACT

This research was conducted in a descriptive way to identify the levels of business satisfaction and life satisfaction of individuals working as academics in healthcare science.

The data was collected by the researchers. A questionnaire form, Minnesota Satisfaction Questionnaire (MSQ) and life satisfaction scale (SWL) were used in the study for demographic characteristics. Necessary permissions were obtained from the ethics committee of Nigde Omer Halisdemir University. Academicians working in Nigde, Tokat, Batman and Kayseri were included in the application. These research data were evaluated using appropriate analysis methods such as SPSS software packages, Independent t-Test, Pearson Correlation, One Way ANOVA and Regression Test. Statistically, p value ≤ 0.05 was considered significant.

It was determined that 79.0% of the participants were women, 32.0% were lecturers and 47.0% were at the doctorate level. 87.0% of the academicians have chosen their profession willingly and 74.0% of them stated that they are expressed satisfied/satisfied with their profession. The life satisfaction scores of those who willingly choose the profession; higher than those who did not choose the profession willingly. It was determined that the statistical difference between job satisfaction and life satisfaction scales scores was based on education level. There was a positive and moderately strong (r ≥0.50) significant relationship between job satisfaction scale and life satisfaction scale (p <0.001).

As a result, parameters such as educational level, profession and career choice directly affect job satisfaction. A strong positive relationship has been established between job satisfaction and life satisfaction.

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INTRODUCTION

Today, academics who develop the quality workforce and researchers of the future leave a significant track on the development of their students, with both scientific and personal features. The positive and constructive follow-up of these traits is closely linked to the fact that academics are getting dolics as well as their academic competencies. The business satisfaction (Chen, 2008) that can be defined as a positive or negative emotional response to the individual's work has been positively or negatively affected by the life domination (Judge and Watanabe, 1993).

The concept of life satisfaction first introduced by Neugarten in 1961 is defined as an individual's valuation of their own life, whether it is the situation (what they want), the situation achieved by comparing what they have (what they have), or the outcome (Ozer and Karabulut, 2003; Deniz, 2006). The relationship between business and life satisfaction was first investigated by Braysfield, Wells and Strate. As the business is an important part of a person's life, the connection between business satisfaction and life satisfaction is meaningful. Business and life satisfaction is related because individuals are affected by events and circumstances outside of their business environment, while behavior and emotions related to non-work events are affected by the business satisfaction (Keser, 2005; Asan and Erenler, 2008).

Studies are found in the literature that academic staff's business doses are examined by different variables. In Turkey, research found that the most significant variable that is emotionally depleted is the satisfaction of the business environment (Cam, 2001). In terms of general satisfaction levels and many aspects of the business of private university academics, they have more satisfaction than the academics of state university (Bas and Ardic; 2002). The management of the professional doctrums of academic staff has a highly meaningful relationship between their business opportunities, opportunities for work, development and ascent, colleagues, physical environment, wage and staff sub-dimensions and overall ratings and emotional depletion (Cetinkanat, 2002). The lowest satisfaction in academics is taken from working conditions and the highest satisfaction is taken from relationships with students (Bulus, 2004). The wage level has been found to improve organizational engagement in academics, while the continuity has been reduced (Col and Gul, 2005). Foreign research indicates that the wage doms of academic staff affected the professional doms (Terpstra and Honoree, 2004) and that academic staff with high professional satisfaction have good opportunities in the institution where they work (Murray and Cuningnham, 2004).

While the literature contains studies that examine the business satisfaction of academic staff and the life satisfaction separately (Akman, Kelecioglu and Bilge, 2006; Dagdeviren, Musaoglu and Omurlu, 2011; Cavus and Abdildaev, 2014; Ulker Tumlu and Recepoglu, 2013; Demir and Akbaba, 2018) business satisfaction and life satisfaction is limited and no work has been found in academics in the health sciences.

Recepoglu and Ulker Tumlu (2015) determined that there is a medium positive relationship between the business satisfaction and life satisfaction of academic staff working at Kastamonu University Faculty of Education and that they have practically practically established the life-satisfaction of the business satisfaction and the academic staff's levels of life-satisfaction are going to gender, age, age, they reported that they do not differ significantly from the civilized situation, the title, the year of service and the year of service at their university.

This research shows how the socio-demographic characteristics (gender, division, age, title, etc.) of individuals working as academics in health sciences it is planned to determine the effects of business and life-satisfaction levels and the levels of business-satisfaction to life-satisfaction.

Arguments & Hypotheses of the Study

This research aims to determine the levels of business satisfaction and life satisfaction of individuals working as academics in health sciences, determine whether the sociodemographic characteristics of academics (gender, division, age, title, etc.) have an impact on the levels of business and life satisfaction and whether the levels of business satisfaction have an impact on their life-satisfaction levels.

Independant Variable: Sosyodemographic characteristics (gender, division, age, title, etc.)

Dependant Variable: Business satisfaction level, life satisfaction

H1: Health science academics have an impact on their level of life satisfaction

H0: Health academics have no effect on their occupational satisfaction levels.

MATERIALS AND METHODS

1.1. Type of Study

The research was conducted in the screening pattern, the descriptive type, to determine whether academics working in the cities of Nigde, Tokat, Batman and Kayseri are different from their business and life satisfaction levels. The reason for using the scan as a research pattern is that the levels of business satisfaction and life satisfaction are sought to be investigated, level determination studies are investigated by a research screening pattern of an identifying type. The hatch pattern is indicated to be suitable for use in work on a topic or for which individuals have identified their views, attitudes or interests (Buyukozturk et al., 2012; Karasar, 2005).

2.2.Population & Sample

The research conducted academics whose universe was found in the cities of Nigde, Tokat, Batman and Kayseri from January 2020 to March 2020, working in faculty.

Research;

General Population ⟶ Target Population = Number of instances (N=n), i.e. all academicans that are appropriate to the criteria for inclusion are intended to participate in the investigation. Since the entire population (to the extent that it provides the criteria for inclusion) will be taken into the study and there is no application of course, there is no need to select an Academy within the universe, i.e. no sampling method was used. The research project is intended to get the whole universe because it is intended to increase the generalizations and power of the research, and to bring the data closer to the normal distribution. The population consists of 158 people and 100 people are involved, and because more than 10% of population in the universe is achieved, the number of instances is adequate and appropriate (Ozdamar, 2015; Ozdamar, 2013; Aksakoglu, 2005).

2.3. Research Criteria

As the criteria for inclusion and non-inclusion of the research are prepared, the literature has been scanned and the expert opinion from an experienced academic of associate professor title, who has a study on document collection.

The Criteria For Inclusion in The Investigation

- Being over 18 years old,

- Working as an academic in health sciences faculty schools in the cities of Tokat, Batman, Ngde and Kayseri,

- Agree to participate in the investigation.

The Criteria For Ending The Investigation

Those under the age of 18 and those with psychiatric illness were not included in the study. In case of a situation where they do not want to continue the investigation without any reason, this is the measure of finalization for the investigation.

Ethic

Permission from the Ethics Council of the Institute of Health Sciences at the University of Omer Halisdemir was granted for the implementation of the research. The study was approved by the ethics committee decision number 86837521-050.99-E.8224 on February 10, 2020. Necessary institutional permissions were obtained from Niğde- Ömer Halisdemir University, Kayseri- Erciyes University, Tokat- Gaziosmanpasa University and Batman- Batman Universities, and also verbal and written permissions were obtained from the participants.

Data Collection

The research collected the data personally by researchers using the "Academics Introduction Form", the "Minnesota Business Satisfaction Questionnare" and the “Life Satisfaction Scale”. In order to evaluate the comprehensibility of the forms and scales prepared and the effectiveness of the application process, front application was applied to 10 people randomly determined by the researcher. After the pre-application, the study was finalized by making arrangements in the questionnaires and forms and the study implementation plan.

Academics Introduction Form

In data collection; the literature was scanned and the form was prepared by taking expert opinion. In the academician introduction form; there are questions including parameters such as gender, age, department, title status. This form; it was filled in by the academicians and the researchers using the method of face-to-face interviews. It consists of 17 questions aiming to determine the socio-demographic characteristics, working life and conditions of academicians.

Minnesota Business Satisfaction Questionnare (MSQ)

Developed by Weiss, Dawis, England and Lofquist in 1967 to measure the workers' work doses, it was converted to Turkish by Deniz and Goksoa (1985) from Hacettepe University and conducted valid and reliable studies (Cronbach alpha=0.77). The Minnesota Minnesota Business Satisfaction Scale is a five-type liquid scale, rated from 0 to 1-5. In scale scoring, I'm not satisfied; I'm dissatisfied; I'm dissatisfied; I'm unhappy; I'm

satisfied; I'm happy; I'm very satisfied; I'm rated at 5. There are no reverse scoring items on the scale. The Minnesota Business Soyum Scale consists of 20 substances with internal, external and general dosium determining properties. 12 of the scale measures work satisfaction due to internal factors, and 8 measures work satisfaction due to external factors.

Sub-Size (Internal satisfaction): 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, 20. Success consists of elements related to the internal nature of the business, such as recognition or recognition, the business itself, the responsibility of the business, the rise and the change of duty due to promotion. The score for this dimension is divided by 12, which results in an Internal Satisfaction score.

Sub-Size (Exportional satisfaction): Consisting of 5, 6, 12, 13, 14, 17, 18, 19. It consists of elements of the business's policy and management, the way it is controlled, the manager, the relationship with the labor and direct reports, the working conditions, the fee, etc. Points from the items of this dimension are divided by 8 and have an external satisfaction score.
All substances found on the general satisfaction scale include items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 18, 19, 17. Also included is the section on demographic information, such as gender, age, title, work experience (seniority) and education status, to gather participants at the beginning of the Minnesota Business Satisfaction Scale. High scores indicate a high business domen (Ordu, 2016; Oymak, 2017). This research results show that the Cronbach alpha confidence coefficient of the both scale is greater than 0,798 and 0,70, and is reliable.

The Satisfaction with Life Scale (SWL)

This scale, which was developed to evaluate the level of satisfaction with life, was developed by Diener et al (1985) (Diener et al, 1985). Scale validity-reliability study was conducted by Dagli and Baysal (2016) (Dagli and Baysal, 2016). The scale was adapted to Turkish by Koker (1991) and was used by other researchers as a 7-point scale. Koker (1991) found that the test-retest consistency coefficient of the scale, which was applied three weeks apart, was 0.85. However, when the "Life Satisfaction Scale" to be used in this study was applied to teachers in the form of 7-point grading in teaching organizations, the participants reacted by claiming that the options were close to each other. Therefore, during the adaptation of the scale to Turkish, it was observed that the seven-digit answer options in the original form were not suitable for Turkish culture and the number of digits was reduced to five. When the number of digits was reduced to five, this scale was adapted from English to Turkish again. Scoring the expressions in the scale in this system in the research; "Not at all (1 points), Slightly agree (2 points), Moderately agree (3 points), Highly agree (4 points), and I totally agree (5 points)". While the minimum score for the scale is five, the maximum score is 25. As the scale score increases, life satisfaction level increases in direct proportion. According to the results of this research; cronbach alpha reliability coefficient of Life Satisfaction Scale; it is 0.867 and greater than 0.70 and is reliable.

Data Analysis

IBM SPSS Statistics 25.0 statistical suite program, used by researchers today, is used to enter and evaluate data. Number of units (n), percentage (%), average ± standard deviation (xlig ± SS), average (M), 25 as descriptive statistics. percentage and 75. percentage values are given. The Independant-t Test, one way ANOVA Test was used, with the normal distribution of data for numerical variables evaluated by Shapiro Wilk normality test and Q-Q graphics. Pearson Correlation Test was conducted for correlation. Statistically, the value of p was ≤ 0.05; statistically significant, ≤ 0,001 was considered highly meaningful.

Study's Limitations

The findings obtained in this study can be generalized to academicans who work in the faculty/colleges of health sciences in the cities of Nigde, Tokat, Batman and Kayseri between January 2020 and March 2020.

3.RESULT

It was determined that 79.0% of the participants were women, 46.0% were between the ages of 31-40, 30.0% were working in Kayseri, 32.0% were lecturers and 47.0% were at the doctorate level. 87.0% of the academicians have chosen their profession willingly and 74.0% of them stated that they are expressed satisfied/ satisfied with their profession.

Table 1. Total Minnesota Business Satisfaction Score Average by Willingness to Choose the Profession

		Business Satisfaction	Life Satisfaction
p		,011*	,031*
Mean	Yes	3,8816	3,6540
	No	3,6500	2,9231

*Independent-t Test

The data is consistent with the normal distribution and the homogeneity of the variants is ensured. Independant test was used to determine whether statistical differences between the overall workload score averages based on the desired

selection of the occupation. The p significance value was 0.031 in the t test, which made a statistically significant difference. Difference according to average score values; it originated from the group that chose the profession willingly. In other words, the academicians who willingly choose the profession; compared to academicians who do not choose the profession willingly; their business satisfaction scores are higher than their averages. In order to determine whether there is a statistically significant difference between the mean scores of total life satisfaction according to the status of willingly choosing the profession. According to the result of the t test for life satisfaction, p significance value is: 0.013. There was a statistically significant difference. In other words, life satisfaction scores of those who willingly choose the profession; higher than those who do not choose the profession willingly.

Table 2. Minnesota Business Satisfaction and Life Satisfaction Scales Scores According to the Education Level

	Business Satisfaction	Life Satisfaction
p	,007*	,657
Mean		
Undergraduate	3,4571	3,3714
Master Graduate	3,8467	3,5375
PhD Graduate	3,9135	3,6111

*One Way ANOVA Test

The data is showed in accordance with the normal distribution and the homogeneity of the variants is ensured. One way ANOVA test was used to determine if statistical difference between the overall workload and life satisfaction scales scores is available based on the education level status. Based on the one way ANOVA test, p-meaning is 0,007 (0.001), which statistically makes a significant difference. The difference based on the average values of points is derived from faculty-level groups (PhD graduate>Master graduate > Undergraduate). This means that the business satisfaction points of those with a level of education doctorate are higher than those with a graduate and undergraduate degree in education and their business satisfaction scores are higher than those with a graduate level, and they have made a statistically meaningful difference. The one way ANOVA test for life satisfaction showed a direct improvement in the life satisfaction level's point averages with the training level, but since p is 0.657, it has not made a statistically meaningful difference.

Table 3. Correlation of Minnesota Business Satisfaction Scale and Life Satisfaction Scale

Business Satisfaction	Business Satisfaction	Life Satisfaction
r	1	,500
p		,000**

**Pearson Correlation Test

Correlation testing was used to determine if there is a relation between the scales. According to Pearson correlation analysis, there was a significant relationship between Minnesota Business Satisfaction Scale and life satisfaction scale ($p<0.001$), which was positive and moderately strong ($r \geq 0.50$).

Table:4 Regression of Minnesota Business Satisfaction Scale and Life Satisfaction Scale

		ANOVA [a]
Regression ***p***		,000[a]
R	,500[b]	
R Square	,250	

Liner Regression Test ANOVA [a]
[a:] *Dependent Variable: Life Satisfaction*
[b:] *Predictors: Business Satisfaction*

Regression testing was used to determine if there is a linear relation between the scales. According to liner regression analysis, increase in business satisfaction's points avarage was explained %25 of increase in business satisfaction's points avarage (R Square= 0.250). Also there was a significant relationship between Minnesota Business Satisfaction Scale and life satisfaction scale ($p<0.001$).

DISCUSSION

The majority of life is in the workplace, which is expected to affect the life of the business satisfaction. In particular, academics who are responsible for carrying out quality education and training activities reach high business and life satisfactions when they are motivated and are very keen to do their business.

As a result of the research, it was determined that academicians who chose the profession willingly and were satisfied with their profession had high business and life satisfaction. In the research conducted by Akman, Kelecioglu and Bilge in 2006, where the views of academicians on their profession were examined; It has been found that the business itself is more important than environmental factors and this has a positive effect on business satisfaction (Akman, Kelecioglu and Bilge, 2006). Again; in the studies conducted by Urganci (2019), Akkas (2018), Cereyan (2018), Kodaman (2018) and Ariz (2010), it was determined that health professionals who willingly choose and fulfill their profession lovingly have higher business satisfaction (Urganci, 2019; Akkas,

2018; Cereyan, 2018; Kodaman, 2018; Ariz, 2010). As a result of the literature review, academicians willingly choose the profession; No studies of the same nature have been found to examine whether it has an effect on business satisfaction. Therefore, this research will have an important place in terms of contributing to the literature with this aspect and shedding light on future studies in terms of its results.

According to the research results, another factor that affects business satisfaction and life satisfaction is the education level. Our research also increases business satisfaction as education levels increase, but there is no meaningful difference between living satisfaction and education ($p>0.05$). Keser, in his research conducted in the automotive sector in 2005, determined the business satisfaction of university graduates to be lower than high school and primary school graduates; He emphasized that the satisfaction of the qualified workforce is more difficult (Keser, 2005). In the research conducted by Dagdeviren et al. on academicians' business satisfaction; the satisfaction satisfaction of undergraduate graduates was found to be higher than graduate and doctoral students. Researchers stated that the satisfaction of the newly graduated academicians is higher because they are more idealistic (Dagdeviren, Musaoglu, Omurlu and Oztora, 2010). In the study in which Ozaydın et al. investigated the effect of satisfaction satisfaction on life satisfaction among caregivers and hospital attendants; while there was no significant difference between educational status and satisfaction, it was found that life satisfaction increased as the educational level increased. It has been emphasized that as the educational status of individuals increases, they express themselves better in the society and their life satisfaction increases accordingly (Ozaydın, Cakir, Capaci, Seker and Okyay, 2018).

According to the results of the literature survey, the positive or negative situations faced by the individual in both business and social life affect the satisfaction/satisfaction he / she receives from life (Avsaroglu, Deniz and Kahraman, 2005; Luhmann, Lucas, Eid and Diener, 2013). In Rode (2004), he emphasized that job satisfaction has an effect on the overall life of the individual and on life satisfaction (Rode, 2004). In addition, according to the results of Tait et al. (1989) and Ozdemir (2015), life satisfaction was found to have a positive relationship with job satisfaction. Judge and Lock (1993) concluded that job satisfaction increases life satisfaction and job satisfaction increases life satisfaction and all these research results support our research results. (Tait et al., 1989; Judge and Lock, 1993; Rode, 2004; Ozdemir, 2015).

CONCLUSION

As a result, parameters such as education status, occupation and career choice directly affect the business satisfaction. A strong positive relationship has been established between business satisfaction and life satisfaction.

RECOMMENDATIONS

The parameters used in the study can be further improved with experimental type studies, new descriptive research can be conducted to evaluate the effects of different parameters not used in the study on business and life satisfaction, or the study can be repeated with much larger sample groups.

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical Approval: 86837521-050.99-E.8224 on February 10, 2020.

Funding: We have no financial support

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Evaluation of the socioeconomic status in the Covid-19 pandemic process

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DOİ
https://10.48121/jihsam.781612

Received
17.08.2020

Accepted
16.11.2020

Published Online
27.04.2021

Key Words
COVID-19
Disease
Virus
Socioeconomic Status
Pandemic

ABSTR ACT

Covid-19 virus, which started to be seen in Turkey as of March 2020, affected human health negatively. Many people's life-threatening virus-related illnesses and deaths have disrupted everyday life. This situation, which also adversely affected the working life, caused economic losses. The purpose of this study is to determine and evaluate the socioeconomic status of individuals during the process of experiencing the COVID-19 pandemic. In this study, quantitative method was used. The data were collected through a questionnaire. The research data were obtained through a questionnaire created online. 433 participants were reached. The findings were evaluated using frequency values and Chi-square analysis. The majority of the respondents stated that they had restricted the expenditures deemed unnecessary during the pandemic period, postponed their future plans, increased internet usage and changed their social lives. In addition, most of the participants stated that their psychology was negatively affected during the pandemic period. It was determined that the majority of those who did not continue in the COVID-19 process were singles. The majority of people whose economic income has decreased during the pandemic process are composed of lower income group people. On the other hand, the participants, who stated that their social life has changed, mostly live in metropolitan areas.

** "This study was presented as an oral presentation at the 5th International Health Sciences and Management Congress and published as a summary text in the proceedings book."*

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INTRODUCTION

The coronavirus, which first appeared in Wuhan, Hubei province of China in December 2019, started to be seen in our country as of March 2020. The COVID-19 virus was declared as a pandemic by the World Health Organization on March 11, 2020 (Akca 2020). The concept of corona virus is derived from the Latin word corona, which means crown or wreath. The appearance of the virus reminds of the crown or sun figure has been effective in its name (Alpago ve Oduncu Alpago 2020). There are various thoughts on how this new disease-causing coronovirus, called COVID-19, came about. According to some ideas, it emerged as a result of eating wild animals and consuming them by humans. According to some, it is a virus created in the laboratory (Menachery et al. 2020). However, in this study, it was aimed to examine some of the effects of the virus on human life after its emergence. For this reason, there is no detail on this subject. The purpose of this research is to identify and evaluate the socioeconomic status of individuals during the period of the COVID-19 pandemic.

Studies on this subject in the Turkish literature are as follows; (Akça and Tepe Küçükoğlu 2020), (Alpago and Oduncu Alpago 2020), (Özatay and Sak 2020), (Karataş 2020), (Duran and Acar 2020) and (Üstün and Özçiftçi 2020). In the content of these studies, the social and economic effects of the COVID-19 pandemic are discussed. So much so that the COVID-19 virus has seriously affected human health. In addition, a protective or therapeutic drug or vaccine against this virus has not yet been discovered (Alpago ve Oduncu Alpago 2020). Diseases and deaths due to this virus, which threatens the life of many people, have disrupted daily life. This situation, which also negatively affected the working life, caused economic losses. It is known that outbreaks throughout history (Plague, Spanish Flu, Cholera, SARS, H1N1, MERS, Ebola, Zika) have had enormous effects on economic, social and social life. (Akça and Tepe Küçükoğlu 2020; Bostan et al. 2020). It is predicted that the COVID-19 virus seen today will also cause radical changes in economic and social terms.

Physiological, shelter and security-related needs are the most basic needs that will ensure vital continuity, as included in Maslow's Hierarchy of Needs. During the pandemic, it has been observed that the demand for products that will meet these needs has increased. Also, online education, shopping, games, events, etc. Electronic systems that enable activities have also been popular during this period. (TÜBA 2020).

Şekil 1. COVID-19'un sektörlere etkileri (Dcode Economic & Financial Consulting)

It is known that human-to-human transmission of the disease due to COVID-19 virus occurs through respiration and droplets. For this reason, the first measures taken by many countries against the virus have been to terminate the activities that require a large number of people to be together. Accordingly, weddings, parties, etc. organizations were banned, and education and training were suspended. Also, by Presidential decree, which was announced on 03.04.2020 in Turkey, it was brought to a partial curfew in the streets (Karataş 2020). There have also been changes in business life. Sectors that have the opportunity to work remotely have chosen this way. People who have the disease and are likely to be caught are obliged to lead an isolated life for a certain period of time. This situation is called social or physical isolation. Social isolation is the situation that expresses the partial or complete lack of contact between the individual and the society (Gierueld 2006).

Undoubtedly, the contraction of economic activities due to the COVID-19 Pandemic strongly affected employment and workers. Contraction in economic sectors led to unemployment (Balcı and Çetin 2019). It is thought that the negative effect of social isolation is observed more in groups of people working with arm strength. It is also known that the COVID-19 virus, spreading worldwide, affects the poorest households the most. (Kestel 2020). As a result of this virus, which requires social (physical) isolation, both economic income loss is experienced and the flow of social life changes.

MATERIALS AND METHODS

The quantitative method was used in this study. The data were collected through a questionnaire containing 24 questions. The questions were created by the researchers. The content of the questionnaire includes questions including demographic information and socio-economic information during the pandemic period. The research data were obtained through an online questionnaire. Research data were collected online due to the fact that there are curfews and face-to-face meetings of people are risky. 433 participants were reached via social media accounts and mail. Convenience sampling method has been adopted. The data were analyzed through SPSS 26 Package program. Findings were evaluated using frequency values and Chi-square analysis.

RESULTS

Findings are presented in tables in this section.

Table 1. Demographic Information of Participants

Gender	**N**	**%**	**Marital status**	**N**	**%**
Male	142	32,8	Married	183	42,3
Female	291	67,2	Single	250	57,7
Age			**Education status**		
18-26	211	48,7	Elementary-High School	84	19,4
27-35	136	31,4	University	255	58,9
36+	86	19,9	Graduate	94	21,7
Number of people in the family			**Region of residence**		
1-2	65	15,0	Village-Parishes	76	17,6
3-4	235	54,3	City-District center	163	37,6
5+	133	30,7	Metropolitan	194	44,8
Sector			**Income (monthly)**		
Industry-Trade	73	16,9	0-2300	95	21,9
Education Services	154	35,6	2301-4000	104	24,0
Health Service	66	15,2	4001-6000	103	23,8
Agriculture	20	4,6	6001 and above	131	30,3
Unemployed	94	21,7			
Public service	26	6,0	**Total**	433	**100**

According to Table 1, 32.9% of the participants are men and 67.1% are women. 48.7% of the participants are in the 18-26 age group. 58.7% of the participants are undergraduate graduates. 54.3% of the participants stated that they live in a family of 3-4 people. 45.2% of the participants reside in a

metropolitan city.

Table 2. Socio-Economic Status of the Participants in the Pandemic Process

Socio-Economic Status of the Participants		**N**	**%**
Having a disease due to Covid-19	Yes	4	0.9
	No	429	99.1
Having a relative who has had a disease due to Covid-19	Yes	60	13.9
	No	373	86.1
Continuation of work during the pandemic		190	43.9
	No	243	56.1
Income decline during the pandemic		221	51.0
	No	212	49.0
Increased spending on food, cleaning, protection and supplies during the pandemic process	Yes	369	85.2
	No	64	14.8
Restricting spending deemed unnecessary during the pandemic process	Yes	336	77.6
	No	97	22.4
Familiar people with economic difficulties during the pandemic	Yes	345	79.7
	No	88	20.3
Increase of internet usage in Covid-19 process	Yes	388	89.6
	No	45	10.4
Do you think the post-Covid-19 life will continue as it did before?	Yes	113	26.1
	No	320	73.9
Postponing future plans due to Covid-19		356	82.2
	No	77	17.8
Changes in social life during the pandemic		416	96.1
	No	17	3.9
The negative impact of the pandemic on psychology	Yes	326	75.3
	No	107	24.7
Adequacy of measures taken in Turkey		254	58.7
	No	179	41.3
Total		**433**	**100.0**

Table 2 shows that 1% of the participants had a disease related to the covid-19 virus, and 13.9% of them had acquaintances who had a disease related to the covid-19 virus in their environment. 85.4% of respondents reported increased spending on food, cleaning and protective materials during the outbreak. Most of the participants stated that during the pandemic period, they restricted their expenditures that were deemed unnecessary, postponed their future plans, their internet usage increased and their social lives changed. Additionally the majority of the participants stated that their psychology was negatively affected during the outbreak period and that Turkey was following a successful path in the process of combating the virus.

Table 3. In the COVID-19 Process, Employment Status * Marital Status

			Marital Status		
			Married	**Single**	**Total**
Continuation of work during the pandemic	**Yes**		104	86	190
			54.7	45.3	100.0
	No		79	164	243
		Percent (%)	32.5	67.5	100,0
Total		Number (N)	183	250	433
		Percent (%)	42,3	57.7	100.0

Chi-square test and Kramer V	Value	Asymp. Sig.
Pearson Chi-Square	21.57	0.000
Cramer's V	0.223	0.000

It has been determined that the majority of those who do not continue to work during the COVID-19 process are singles. There is a significant difference between single and married people in working situation. This difference is weakly significant. In addition, Chi-square analysis was performed between marital status and internet usage. Statistically low level of significant difference was found between singles and married people. Accordingly, the internet use of singles has increased more during the pandemic process.

Table 4. Decline of Economic Income in Covid19 Period * Monthly Income of the Family

			Income (monthly)				
			0-2300	**2301-4000**	**4001-6000**	**6001 and above**	**Total**
Income decline during the pandemic	**Yes**	Number (N)	71	63	52	35	221
		Percent (%)	32.1	28.5	23.5	15.8	100.0
	No	Number (N)	24	41	51	96	212
		Percent (%)	11.3	19.3	24.1	45.3	100.0
Total		Number (N)	95	104	103	131	433
		Percent (%)	21.9	24.0	23.8	30.3	100.0

Chi-square test and Kramer V	Value	Asymp. Sig.
Pearson Chi-Square	56.158	0.000
Cramer's V	0.360	0.000

In Table 4, it is seen that the decrease in income during the pandemic process creates a statistically significant difference between the economic income level groups. This difference is moderately significant. The majority of people whose economic income has decreased during the pandemic process are people of low income.

Table 5. Change in Social Life During the Pandemic * Region of Residence

			Region of residence			
			Village-Parishes	**City-District center**	**Metropolitan**	**Total**
Changes in the pandemic	**Yes**	Number (N)	71	153	192	416
		Percent (%)	17.1	36.8	46.2	100.0
	No	Number (N)	5	10	2	17
		Percent (%)	29.4	58.8	11.8	100.0
		Number (N)	76	163	194	433
		Percent (%)	17.6	37.6	44.8	100.0

Chi-square test and Kramer V	Value	Asymp. Sig.
Pearson Chi-Square	7. 837	0.020
Cramer's V	0.135	0.020

As shown in Table 5, there is a statistically significant difference in poor levels between the regions experienced in the event of social life change. It is observed that the participants who stated that their social life has changed mostly live in metropolitan cities.

CONCLUSIONS AND DISC USSION

In this study, the socioeconomic consequences of the COVID-19 virus on humans are evaluated. As a result of the research, it was observed that post-pandemic life did not continue as before. According to Özatay and Sak (2020), it is inevitable that the pandemic, which affects the whole world, has deep-rooted political, economic and social consequences. When the results of this study are analyzed from an economic perspective, it has been determined that most of the people do not continue their jobs and therefore their economic income has decreased. With this decrease, it was observed that serious financial difficulties were experienced and unnecessary expenditures were restricted. On the other hand, it was determined that more than usual expenses were spent on cleaning and protection materials.

One of the results of the study was that people in the lower income group and people with lower educational attainment experienced greater economic loss of income. According to Karataş (2020), the negative aspects of the pandemic affect people living

in precarious economic conditions and individuals in need of protection more. In addition, the idea of people helping each other emerged with the economic hardship and the existence of a social solidarity was observed. One of the biggest effects of the pandemic is that technological tools are getting more into our lives. Now, instead of direct contact with each other, it seems necessary to maintain life through various means connected to the internet. As stated in Akça and Tepe Küçükoğlu (2020), internet usage for both business and education purposes has increased during the pandemic period. This result is also in line with this study.

In the Covid-19 process, there has been a process in which people are confined to their homes and life is limited. It is possible to say that the sociological and psychological state of society has also been affected during this process in which the flow of life has changed (Akca ve Tepe Küçükoğlu 2020). In this study, it was observed that the participants' psychology was negatively affected due to the pandemic, serious changes occurred in their social lives and they postponed their future plans. In the study conducted by Alpago and Oduncu Alpago (2020), it was stated that the corona virus pandemic caused changes and transformations in education, health and sociocultural areas, especially in socioeconomic life. In addition, it has been argued that the change and transformation process will gain weight in the direction of digitalization and online transactions. It is a reality that the pandemic period will increase digitalization and pave the way for great changes in social lifestyle. According to one view, in the 21st century, due to the corona virus, elements with small volumes and large functions such as Bitcoin, micro robots and nano technology will begin to dominate the market. (Alpago ve Oduncu Alpago 2020).

This study is limited by the sample size and the answers given to the questions asked to the participants. It is recommended to update the research by reaching a larger sample population or to conduct qualitative studies that can obtain in-depth information with a smaller number of participants.

Acknowledgments: There is no a thank you explanation.

Conflict of Interest:There is no a conflict of interest. The authors declare that they have no conflict of interest.

Ethical Approval (Must be answered): The participants of the research are volunteers.

Funding: This research was supported by Selçuk University Coordinatorship of Faculty Member Training Program

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The perceptions of nurses about patient safety culture: an example province in north east of Turkey

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DOİ
https://10.48121/jihsam.789327

Received
02.09.2020

Accepted
23.01.2021

Published Online
30.04.2021

Key Words
Patient Safety
Patient Safety Culture
Nurse
Nursing

ABSTRACT

The purpose of this study is to evaluate the perceptions of nurses about the patient safety culture and include five hospitals which are in a province in north east of Turkey.

The research universe consists of 1299 nurses working in different five hospitals. It was used for sample selection in this study. The data were collected by "Nurse Information Form" and "Patient Safety Culture Scale". In analysis of the data were used Kolmogrov-Smirnov, Kruskal-Wallis and Mann-Whitney U

Nurses' the mean score of scale was 2.90 ± 0.379. There were significantly differences between the hospitals about the mean score of scale and subscales ($p<0.05$). There were significantly differences between nurses' education levels and experience in the profession and the mean score of scale and subscales ($p<0.05$). A significant difference was not found between nurses' ages, duties, departments, working procedures, working hours in a week and experience years in the institution and the mean scores of scale and sub-dimensions ($p>0.05$).

It was determined that there were significant differences between the institutions' mean score of PSCS and all sub-dimensions and the perception of the patient safety culture of the nurses who were working in private hospitals higher than in other hospitals.

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INTRODUCTION

The patient safety is a cornerstone to high-quality healthcare (Iha, 2008). It should be considered as a prerequisite of thematic assistance and is essential in the face of current scenario of growth of health care demands and increased level of complexity in the various areas of health services (ICN, 2015). Health services, which are known to be complex organizations, have over the years devised improvement strategies and added quality to the health care service (Chassin and Loeb, 2013).

The patient safety concept is defined by National Patient Safety Foundation as "*Making care continually safer by reducing harm and preventable mortality"* and by World Health Organization as "Patient safety is the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to acceptable minimum" (NPSF, 2019; WHO, 2020). According to the researches between 210 thousand and 410 thousand people die every year because of medical harms (James, 2013; Pazarcıkcı and Efe, 2018).

Patient safety is an important issue in nursing, includes the areas of education, clinical education and management (Rashvand and Ebadi, 2014). The importance of observing safe nursing practices stems from the pain and suffering that patients and their families suffer from the harms of the treatment team members (Vaismoradi et al., 2011). The nurses must be attention about every situation that damages or may damage patient safety in order to the nurses fulfill these obligations (Türk and Eşer, 2007; Türkmen et al., 2011). Every intervention, which the nurses apply to carry on the patient safety, also contributes to the improvement of the quality of health care (Mitchell, 2008; Rızalar et al., 2016). Determining the factors which effect the patient safety culture by nurses and their perception of patient safety culture are an important step in the adoption and development of the patient safety culture in the institution (Korkmaz, 2012; Rızalar et al., 2016; Karaca and Arslan, 2014). One study showed that a climate of teamwork was associated with an improved attitude among nurses towards patient safety (Li, 2013). In this context, the aim of this study is to evaluate the perceptions of nurses about the patient safety culture.

METHODS

Participants

The research was conducted in five hospitals in a province in north east of Turkey, which a university, two private branches, one state and one private hospital in a city center. The study' universe consists of 1299 nurses, 623 of these from in institution A (university hospital), 227 of these from institution B (private branch public hospital), 208 of these from institution C (private branch public hospital), 130 of these from institution D (public hospital) and 111 of nurses from institution E (private hospital).

In this study, stratified sampling method was used for sample selection by including all nurses working in institutions. The study' sample consists of 297 nurses, 142 of these from institution A, 52 of these from institution B, 48 of these from institution C, 30 of these from institution D, 25 of these from institution E. Only who is working as a nurse in these institutions and is volunteering to participate were included in the research.

Data Collection and Measures

The data were collected between September and December 2019 by using "Nurse Information Form" and "Patient Safety Culture Scale". After explaining to the nurses by the researchers, were given to the nurses for 20 minutes to answer.

Nurse Information Form: The form was prepared by the researchers based on the Literature and consists of 12 questions about age, gender, marital status, educational status, years of experience in the profession, the institutions where he/she works, years of experience in the institution, the department/clinics, the working method, the weekly working hours and taking an education about patient safety culture (Nazik et al., 2018; Özdemir and Şahin, 2015; Pazarcıkcı and Efe, 2018; Rızalar et al., 2016).

Patient Safety Culture Scale (PSCS): The scale was developed by Türkmen et al. (2011). The scale includes 51 items and consists of five sub-dimensions that include Management and Leadership (ML-17 items), Employee Behavior (EB-14 items), Adverse Event Reporting System (AERS-5 items), Staff Education (SE-7 items), and

Care Environment and Technology (CET-8 items). In the study on the reliability and validity of the scale, Cronbach's α coefficients were 0.97 for the total score and between 0.83 and 0.92 for the sub-dimensions. The scale is a four points Likert scale and each item is evaluated with scores from 1 point to 4 point such as "1=I Totally Disagree", "2=Disagree", "3=Agree", "4=I Totally Agree". The total scale score; each sub-dimension' average score are summed up and the score obtained is divided by the number of sub-dimensions and the total scale score is obtained between 1 and 4. The score approaching 4 score shows a positive attitude toward patient safety culture, and the score approaching 1 shows a negative attitude toward patient safety culture (Türkmen et al., 2011). In this study, we found that the Cronbach's α coefficients were 0.92 for the total score and between 0.78 and 0.84 for the sub-dimensions.

Statistical Analysis

Kruskall- Wallis test and Mann-Whitney U test were used to analyze the data. In addition, $p<0.05$ was considered statistically significant and the normal distribution was evaluated by Kolmogrov-Smirnov test for all the test.

RESULTS

In this study, it was determined that the average age of the nurses was 36.54±8.27 years, 43.3% were 40 years of age and older, 94.6% were women, 61.3% had bachelor' degree, 47.8% worked in the A institution, 28.6% worked in surgical clinics, 81.1% were clinical nurses, 63.6% worked in night shift, 55.6% worked between 41-59 hours in a week, 35% had professional experience years more than 21 years, 30.6% had between 6-10 years of experience in the institution where they work, and 72.7% received training about patient safety.

The mean score of the nurses was 2.90±0.37 from PCSC, and the highest mean score was found to be in SE and the lowest in AERS (Table 1).

Table 1. Nurses' Mean Scores of the Patient Safety Culture Scale and Dimensions (N=297)

PSCS and Dimensions	Item Number	Mean± SS
Management and Leadership (ML)	17	2.90±0.433
Employee Behavior (EB)	14	2.90±0.469
Adverse Event Reporting System (AERS)	5	2.84±0.446
Staff Education (SE)	7	2.95±0.431
Care Environment and Technology (CET)	8	2.91±0.469
The Mean Score PSCS	51	**2.90±0.379**

It was found that there was a statistically significant difference between the nurses' education levels and the mean score of PSCS and SE ($p<0.05$). The nurses who had high school degree had higher PSCS and SE mean scores than nurses who had bachelor' degrees. There was no statistical significant difference between the nurses' education levels and the other sub-dimensions of the scale ($p>0.05$; Table 2).

A significant difference was found in the nurses' experience years in the professional and the nurses' mean scores of PSCS and EB ($p<0.05$). The nurses who had between one-five years experiences in the profession had higher the mean score of PSCS and EB than the nurses with experience over five years in the profession. And there was no statistical significant difference between the nurses' experience years in the profession and the other sub-dimensions ($p>0.05$; Table 2).

Table 2. Comparison of nurses' education levels and years of experience with PSCS and dimensions

PSCS	n	ML Median(Min-Max)	EB Median(Min-Max)	AERS Median(Min-Max)	SE Median(Min-Max)	CET Median(Min-Max)	PSCS Median(Min-Max)
Education Level							
High School(1)	46	3.029 (2.07-5.35)	3.035 (1.77-5.57)	3 (2-4)	3 (2-4)	3 (2-4)	3.011 (2.13-3.99)
Associate(2)	46	2.882 (1.88-3.65)	2.928 (1.57-4)	2.800 (1.8-4)	3 (1.86-4)	2.875 (1.5-4)	2.933 (2.01-3.67)
Bachelor(3)	182	2.882 (1.71-4)	22.857 (1.57-4)	2.8 (1.4-4)	3 (1.57-4)	2.875 (1.38-4)	2.868 (1.75-4)
Master(4)	22	3 (2.18-3.41)	3 (2.21-3.64)	3 (2.2-3.8)	3 (2.14-4)	3 (2.13-4)	2.97 (2.26-3.67)
x^2_{kw} p MWU		$\chi2$=4.455 p=0.216	$\chi2$=4.953 p=0.175	$\chi2$=4.941 p=0.176	$\chi2$=9.338 **p=0.025** 1>2,3	$\chi2$=6.357 p=0.095	$\chi2$=8.095 **p=0.044** 1>2,3
Years of Experience							
1 year and below (5)	8	3.088 (2.06-3.53)	2.964 (2.14-3-79)	2.900 (2.4-4)	2.928 (2-3.71)	2.875 (1.88-4)	3.023 (2.27-3.51)
Over 1 year-5 years (6)	36	3.058 (2.18-3.76)	3.142 (2.21-5.57)	2.900 (2-4)	3 (2.14-4)	3.125 (2.25-4)	3.049 (2.29-3.76)
Over 5 years -10 years (7)	69	2.882 (1.88-5.35)	2.785 (1.57-4)	2.800 (1.8-4)	3 (1.86-4)	2.875 (1.5-4)	2.930 (2.01-3.99)
Over 10 years -20 years (8)	80	2.823 (1.71-3.71)	2.886 (1.57-3.79)	2.800 (1.4-3.8)	3 (1.57-4)	2.875 (1.38-3.88)	2.846 (1.75-3.58)
Over 20 years (9)	104	2.882 (1.93-4)	2.928 (1.77-4)	3 (1.6-4)	3 (2-4)	3 (2-4)	2.936 (2.12-4)
χ^2_{KW} p MWU		χ^2=6.663 P=0.155	χ^2=12.348 **P=0.015** 6>7,8,9	χ^2=7.436 P=0.115	χ^2=9.000 P=0.061	χ^2=8.477 P=0.076	χ^2=9.691 **P=0.046** 6>7,8

In this study, we did not find a significant statistically differences between the mean scores of PSCS and sub-dimensions and the nurses' age range, years of experience in the institution, the department/clinics, type of duty, the working method, and the weekly working hours (p>0.05).

A significant difference was found in the mean score of PSCS and all sub-dimensions and the nurses who received training about patient safety and did not received training (p<0.05)(Table 3).

Table 3. Comparison of the nurses who trained about patient safety with PSCS and dimensions (N=297)

Dimensions of PSCS	Trained Mean ±SS (n=216)	Untrained Mean ±SS (n=76)	Test/ p value
ML	2.980±0.434	2.690±0.350	U=4837.0 / **p=0.000**
EB	2.954±0.434	2.754±0.516	U=5268.0 / **p=0.000**
AERS	2.897±0.434	2.664±0.429	U=5310.0 / **p=0.000**
SE	3.036±0.407	2.706±0.416	U=4640.0 / **p=0.000**
CET	2.983±0.474	2.697±0.384	U=4747.0 / **p=0.000**
Total PSCS	2.970±0.367	2.705±0.340	U=4709.**0 / p=0.000**

It was found that the highest mean score of the institutions, which including in this research, was belonged to be in institutions E and the lowest in institutions A (Table 4).

Table 4. Comparison of the institutions' mean scores of the PSCS and dimensions (n=297)

Institution	ML Mean±SS	EB Mean±SS	AERS Mean±SS	SE Mean±SS	CET Mean±SS	TOTAL Mean±SS
A.(1) Institution n=142	2.73±0.40	2.83±0.54	2.75±0.47	2.82±0.45	2.77±0.49	2.78±0.40
B. (2) Institution n= 52	2.94±0.34	2.82±0.40	2.78±0.45	2.94±0.37	2.90±0.35	2.88±0.32
C.(3) Institution n= 48	2.98±0.37	2.97±0.32	2.96±0.38	3.05±0.33	2.96±0.40	2.98±0.29
D. (4) Institution n= 30	3.02±0.22	3.00±0.28	2.96±0.26	3.08±2.29	3.13±0.32	3.03±0.21
E. (5) Institution n= 25	3.42±0.51	3.17±0.40	3.06±0.41	3.31±0.40	3.36±0.37	3.26±0.33
χ^2_{KW}	χ^2=57.949	χ^2= 21.188	χ^2=24.384	χ^2=34.760	χ^2= 44.167	χ^2=44.278
p	**p=0.000**	**p=0.000**	**p=0.000**	**p=0.000**	**p=0.000**	**p=0.000**
MW-U	5>1-4; 2-5>1	5>1-4; 2-5>1; 3,4>2	5>1-4; 3-5>1; 3,4>2	5>1-4; 3-5>1; 3,4>2	5>1-4; 3-5>1; 4>3,2	5>1-4; 2-5>1; 3,4>2

DISCUSSION

In this study evaluated perceptions the nurses' of patient safety culture in five hospitals where located a city center in north east of Turkey. The roles of the healthcare professional nurses, who are in the hospital throughout twenty-four hours and have the most chance to observe the patient, have a great ang important area in patient safety (Türkmen et al., 2011 and Rızalar et al., 2016). In this study, it was determined that the average age of the nurses was 36.54±8.27 years, 94.6% were women, 61.3% had bachelor' degree, 47.8% worked in the A institution, 63.6% worked in night shift, 35% had 21 years and more professional experience, and 72.7% received training about patient safety.

In this study, it was found that the nurses' mean score of PSCS (2.90±0.37) was slightly above the middle level. The nurses' mean score of PSCS was indicated by in the study of Rızalar et al. (2016) with the same scale was at middle level (2.64 ±0.43), in the study of Karaca and Aslan (2014) was at high level (3.00±0.53), and Nazik et al. (2018) was at medium level (2.72±0.34). Bahrami et al. (2014) found out that the nurses' mean score of PSCS was insufficient level and approximately 28% of them had a good perception levels about patient safety in institution.

The nurses' mean score of ML sub-dimension (2.90±0.43) was above the middle level in all the hospitals. In order to the employees adopt the patient safety culture in institution, it is thought that managers should accept this culture, make the necessary improvements and arrangements, take precautions about identified patient safety risks and direct correctly their employees. Principally the managers' adoption of the patient safety culture is an important step to create this culture in the institution (AHRQ, 2014). It is known that the patient safety culture is more adopted and supported by private institutions management than the others. This idea was supported by the study of Karaca and Arslan (2014) in two private hospitals, the nurses' mean score of ML was high level (3.01±0.51). In this study, the nurses' mean score of ML was medium level due to one of the five institutions was a private institution. Rızalar et al. (2016) reported that the nurses' mean score of ML (2.62±0.49) was medium level in university hospital.

In this study, the nurses' mean score of EB was found above at medium level. Knowing the quality targets in institution and act accordance with them, protecting communication with the team and providing communication with the team to support the patient, informing to patients about the possible risks and working properly to prevent these risks from occurring or recurring by nurses show that EB is an important sub-dimension for patient safety (Türkmen et al., 2011). Rızalar et al. (2016) reported that the nurses' highest mean score was belonged to the EB and Karaca and Arslan (2014) also reported that the nurses' mean score of EB (3.01±0.67) was at high level.

Although the nurses' training rate was high, the mean score of AERS was found the lowest score (2.84±0.44) in all institutions. It is considered that the most important indicator for evaluating the patient safety culture in institutions is that using the report system. Despite the training about the patient safety, the lowest score shows that the nurses' perception was not affected by the training and the nurses could not adopt the patient safety culture. Karaca and Arslan (2014) reported that the nurses had the lowest score of AERS in spite of the high training rate about the patient safety and again Rızalar et al. (2016) stated that the nurses' mean score of AERS was the lowest score in their study. Gündoğdu and Bahçecik (2012) determined that 72% of the nurses did not report any event because of fear of punishment and Göz and Kayahan (2011) determined that the error reporting rate of men was higher than women.

In this study, the nurses obtained the highest mean score on the SE sub-dimension (2.95±0.43). In order to adopt the patient safety culture in the institution, the patient safety culture should adopt by all of the staffs such as senior manager and all workers. It was seen that due to the high level of SE in all institutions, managers adopted the patient safety culture and used education as an important step for organization the patient safety culture in institutions. According to the study of Adigüzel (2010), the communication in institution, controlling the employees' harms, effect of the manager had a vital place for organization the patient safety culture in institutions and the managers' perception level of patient safety culture is one of the most important factors affecting the employees' perception level of patient safety culture. In this study, 72.7% of the nurses stated that they received training on patient safety culture shows that all institutions which including in this study adopted the patient safety culture. In line with these results, it has been determined that the nurses were trained to increase their perception of patient safety culture and to adopt the patient safety culture in all institutions which participated in this study. Also, Karaca and Arslan (2014) indicated that the nurses' high level of SE was similar to our study results.

In this study, the mean score (2.91±0.469) that the nurses got in the CET sub-dimension was above the medium level. The physical structure of the institution, medical equipment and devices used by nurses, electronic resources, barcoding systems, security system, entrance and exit controls include the CET sub-dimension of the scale. In this research, we found out that the nurses who are working in private hospital (institution E) got the highest score of CET than the other nurses. The financial resources structures of the private hospitals are better than the public and university hospital so this supports our results (Bıçakçı et al., 2018). In the study of Rızalar et al. (2016) reported similar findings with the results of this study, conducted in a university hospital, stated that the nurses' mean score of CET was low level.

The nurses who were trained about patient safety culture had a significant difference and higher mean score of PSCS and all sub-dimensions compared to the nurses who were untrained about patient safety culture in this study. The highest mean score of the nurses who were trained was in SE, and the lowest mean score was slightly above the medium level in AERS. Education on the patient safety culture contributes to patient safety in preventing medical harms and increases of the nurses' perception of patient safety culture. It is known that the nurses who receive training on patient safety adopt easier the patient safety culture. Education makes a difference in the patient safety culture and is an important component the development of the patient safety cultural structure (Li, 2013). In the study of Karaca and Arslan (2014), the nurses who were trained compared to the nurses who were untrained had a significant and high level of all the sub-dimensions and PSCS mean score, except the CET sub-dimension.

A significant difference was found between the nurses' education levels and the mean score of PSCS and SE, and it was determined that the nurses who graduated from high school had a higher mean score than the nurses who graduated from associate and bachelor' degrees. This result was thought to be due to that the nurses, who graduated from high school, have been in the profession for many years and were older. Contrary to this study, it was stated that the nurses' education levels did not affect the patient safety culture in the studies (Karaca and Aslan, 2014; Göz and Kayahan, 2011).

In this study, it was stated that the nurses who had experience between one and five years had a higher mean score of PSCS and EB than the nurses who had experience over five years. It is considered that the PSCS mean scores of the nurses who are with the low experience years are higher, depending on being new and young in the profession, their perception levels, and their learning ability are high and be willing to learn. At the same time, the Burnout Syndrome, which increases proportionally with the year of experience in the profession, affects the perception of the patient safety culture (Erdagı and Özer, 2015). There are studies and causes supporting this result of the study such as the high average age of the nurses in this study, the nurses' safety knowledge has decreased with advancing age was stated in the study of Saraç (2009), the low average of age of the nurses provided an advantage to establish the perception of patient safety culture in the institutions was determined the study of Rızalar et al. (2016), Göz and Kayahan (2011) reported that the nurses with experience 0-5 years had a higher mean score of patient safety culture than the nurses with 5-10 years. In another study, it was stated in Karaca and Arslan (2014)' study that the experience years in the profession did not affect the patient safety culture scores.

A significant difference was found in the mean score of PSCS and all sub-dimensions of the hospitals participating in this study. The highest mean score of the PSCS and sub-dimensions was belonged to the nurses who were working in the private hospital (institution E) and the lowest mean score of the PSCS and sub-dimensions was belonged to the nurses who were working in the university hospital (institution A). In addition, it was indicated in this study that the mean score of the EB, AERS, SE, and PSCS were higher in institutions C and D than institution B, and the mean score of CET were higher in institution D than institutions C and D.

In recent years, patient safety has gained importance with the increasing quality and accreditation studies (Özdemir and Şahin, 2015; AHRQ, 2014). The studies for accreditation are carried out at different levels in each hospital. Therefore, the nurses' perceptions of patient safety culture were different between the institutions. In the literature, the study of Karaca and Arslan (2014) that was conducted in two private hospital, the institutions' mean score of patient safety was 3.09±0.38 and 2.86±0.69. Also, the study of Nazik et al. (2018) was conducted in two different hospital, was indicated that the institutions' mean score of patient safety were 2.69±0.32 and 2.72±0.28 and a significant different were determined between the institutions' mean scale of patient safety culture. These studies and our study included the similar results.

In this study, there was no significant difference between the nurses' age, sex, marital status, experience in the institution, the department/clinics, the duty type, the working procedure, and the weekly

working hours and the PCSC and all sub-dimensions ($p<0.05$). Also, Karaca and Arslan (2014) reported that the nurses' age, the duty type, and experience years in the institutions and PSCS and all sub-dimensions. On the other hand, Karaca and Arslan (2014) indicated different results with the result of the study that a significant difference was not found the nurses' education levels and experience years in the profession. Göz and Kayahan (2011) found the PCSC mean scores of the nurses who were working at polyclinics and emergency department were higher than the others. In the study of Rızalar et al. (2016) there was no difference between the nurses' duty type and the PSCS mean score and, the result was similar to the results of this study.

CONCLUSION

The nurses' perceptions of patient safety culture were slightly above the middle level and the highest level of patient safety sub-dimension score belonged to the SE, and the lowest level of patient safety sub-dimension score belonged to the AERS. It was found that the PSCS and SE mean score of the nurses who graduated from high school were higher than the nurses who had bachelor' degrees, and the nurses with 1-5 years experiences in the profession had higher the PSCS and EB mean score than the nurses with over five years experiences in the profession. The patient safety perception of the nurses who trained about patient safety was higher level than the patient safety perception of the nurses who untrained about patient safety.

Comparing to the institutions' which participating in this study and their PSCS mean scores, it was defined that the highest score was belonged to the institution E, and the lowest score was belonged to the institution A. In addition, a significant difference was not found between the nurses' age range, sex, experience years in the institution, the department/clinic, the type of duty, the working procedure, and the weekly working hours and the mean score of the PSCS and all sub-dimensions.

Based on the result of this study, it is recommended to organize an education program about patient safety to nurses and ensure continuity in training, and to evaluate the nurses' perception of patient safety culture in institution.

Acknowledgments

The authors would to thanks for all of the nurse who participation in this study.

Conflict of Interest

No conflict of interest has been declared by the authors.

Ethical Considerations

The ethical clearance issues were reviewed and approved by the Ethics Committee of an University on 10th July in 2019 (File no: 2019-4/5). Formal permissions were obtained from all hospitals where the research will be conducted. Participation to this research was based on volunteering, and the verbal permissions were obtained by explaining the purpose and content of the research to the nurses who agreed to participate. The personal information of the nurses, who participated in the study, was remained confidential and used only for the research.

Funding Statement

The study was not supported financially by any institutions or person.

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Analysis of some concepts related to the environment and health with the N-gram method

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DOİ
https://10.48121/jihsam.796465

Received
17.09.2020

Accepted
04.12.2020

Published Online
30.04.2021

Key Words

Mining
Industrialization
Environmental Factors
Environmental Conditions
Environmental Protection
Environmental Issues
Environmental Policy

ABSTRACT

Environmental health affects the quality of life. Therefore, there is a close relationship between the environment and health, and it is important to perceive, consider and understand this relationship together.

The purpose of this study is to examine the relationship between the change in the use of environmental and health-related concepts and the change in social, economic and environmental factors, using the n-gram method.

In this study, the n-gram analysis was used. Some concepts such as mining, industrialization, urbanization, environment, environmental factors, environmental conditions, environmental protection, environmental issues, environmental impact, environmental policy, environmental quality, medical geology, public health, etc., were studied. The historical development process of the concepts has been extracted and interpreted through the n-gram graph.

The concept of mining in the literature showed a continuous increase after the 1820s. The downward trend that started in the 1920s started to rise again after the second half of the 1920s, but after the 1980s it started to fall again.

The concept of public health, which came to the fore in the 1880s, was frequently used in the 1940s in the literature. The fact that the concept of industrialization has always been on the rise after the 1920s can be explained by the industrial development moves of the countries that gained their independence in the First World War.

Concepts related to the environment have increased starting from the 1900s. Some of these concepts started to be used in the literature in the 1950s.

When the findings obtained in the study are evaluated together, it can be said that the prevalence of the use of environmental and health-related concepts in social life has increased especially after the 1950s.

**This paper has been presented as an oral paper at the 5th International Health Sciences and Management Conference*

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INTRODUCTION

It has been known for a long time that there is both a direct and indirect relationship between human health and the environment in which they live (Kaya & Vural, 2020; Vural, 2019, 2018; Vural & Kaya, 2020; Vural, 2013, 2015a, 2015b). Many concepts and issues related to the environment are closely related to human health. Factors such as water cleanliness, air pollution, mines, sites with mining potential, industrialization and urbanization are important environmental factors and they directly interact with human health (Vural & Kaya, 2020). The emergence of industrialization has led to the concentration of large population in big cities. Although societies have achieved economic growth by achieving their industrialization goals with mass production, some environmental and social problems have emerged in this process (Tiryakioğlu & Tuna, 2016). While these reveal the topics of urban issues and problems such as settlement, housing, cleaning, health, transportation, on the other hand, they directly caused environmental and health problems due to the gases released by industrial production, waste materials released to nature, polluted water, destruction of natural habitats. With industrialization, these issues have been brought to the agenda of humanity. Since the beginning of the 20th century, industrialization, environment, and health issues have been discussed together (Rushton, 2003; Sungur et al., 2020).

As a requirement of the digital age, transferring many data to digital media facilitates unlimited access to information and allows very comprehensive analysis of this information. Nowadays, access to information is no longer a problem and methodological development on how to evaluate and analyze so much and comprehensive information in the most efficient way have become important today (Çiftçi, Ural, et al., 2020; Çiftçi et al., 2019; Ural et al., 2019; Ural et al., 2020b; Vural et al., 2020, 2019). Rather than obtaining data, the evaluation of the obtained data, in other words, data mining, has started to take an important place in our lives.

Google, one of the most important digital platform companies and a multinational American joint stock company that makes investments for advertising technologies and search engines, continues to be one of the most important corporate structures of the digital age with the services it provides, as well as being an important web provider and search engine. With its many services, it offers serious infrastructure opportunities for scientific studies today. In this way, it provides a more comprehensive analysis than in the past. It also provides/develops new infrastructure/software services for performing some analyzes. Especially in scientific studies, information sources can be reached easily through Google. Googling has now entered dictionaries as a verb that is used instead of searching the Internet.

N-gram analysis is also one of the useful applications developed by Google and used in Searching/analyzing databases owned by Google (Huang et al., 2012; Reddy & Pujari, 2006). In the analysis method used with Google infrastructure, it provides the opportunity to do keyword-based research within a large book corpus in the "Google Books" database. In this way, both the numerical and graphical evaluation of the proportional data of the concepts, events and facts planned to be investigated, covering the last 250-300 years, can be provided with this analysis method and the relevant application interface. In this context, the study aims to contribute to the evaluation and correlation of the relationship between environment and health with numerical analysis and examined the interaction and development of related concepts over time.

One of the aims of this study is to make use of the opportunities provided by the digital environment in addressing the relationship between health and environmental issues, and to raise awareness about the opportunities provided by the digital environment in this field in data analysis and data analysis. Another purpose is to examine the time-dependent change of the relationship between environment and health through the findings.

METHOD

N-gram analysis is an analysis method in which the frequency of repetition of a certain number of sub-sequences in a character sequence is investigated (Aleahmad et al., 2007; Huang et al., 2012; Reddy & Pujari, 2006). Although this method is increasingly used in the fields of linguistics, probability, communication theory, natural language processing or computational biology, it helps to determine the frequency of use of malware, which is a fearful element of digital environments, and to develop counter software accordingly. It is used among analysis methods (Aleahmad et al., 2007; Huang et al., 2012; Reddy & Pujari, 2006). Recently, N-gram analysis has started to be used in social and political sciences, especially in the research of political, military and economic events and phenomena for the purpose of literature review and in the evaluation of their time-dependent change (Çiftçi et al., 2020; Çiftçi et al., 2019; Çiftçi, et al., 2020; Ural et al., 2019; Ural et al., 2020b, 2020a; Vural et al., 2020, 2019). It is expected that the n-gram analysis conducted within the scope of this study will provide a different perspective on the keywords examined and will inspire more detailed studies using this method.

Thanks to the awareness to be created, it is estimated that many new studies based on n-gram analysis will be carried out, especially in political/social fields.

FINDINGS AND DISCUSSION

The study has been divided into three main areas of interest. In the N-gram analysis, the keywords mining, public health, industrialization and urbanization were measured together (Figure 1). Concepts starting with environment are analyzed within themselves (Figure 2). Finally, the n-gram graph was obtained with the concepts of economic development and sustainable development of the mining concept (Figure 3) and the obtained findings were analyzed together.

When the n-gram analysis graph of the keywords in the first group is examined, it is seen that the concept of mining was used in the literature before the 1800s, but it has increased after the 1820s, as can be seen in Figure 1. In fact, with the existence of humanity, mining has been a part of human history as a result of people's desire to benefit from the environment. Therefore, this situation in the graphic indicates that it is used in the literature much earlier. However, the frequency of use of the word mining peaked between 1860-1900. This can be explained by the phenomenon of industrialization, which is an important cultural and economic change of humanity. According to traditional historians, the Industrial Revolution started in the second half of the 18th century with James Watt and Richard Arkwright's successive inventions and patents on steam engines, and subsequently affected all Europe, first in Belgium and France, and then the United States (Cardwell, 1972; Van Neuss, 2015). Later, Russia and Japan were affected by this revolution. Towards the end of the 19th century, the industrialization revolution was one of the most important socio-economic transformations that affected the whole world and humanity went through. The peak of the word mining in the 1900s is explained by the increase in mass production in industrialized countries in parallel with the high development of the industry in this period, the increase in energy consumption based on fossil fuel coal and the industrialized countries entering the imperialist sharing war in order to have raw material resources. The use of the concept of mining has a significant co-change with the departure of the world imperial powers towards the First World War, which is a result of this sharing struggle, and the years when the war broke out. In the period of economic depression that the world entered in the years after World War I, the usage frequency of the concept of mining also decreases. The 1930s, which came after the economic crisis, were also the second. It was the years when the world drifted towards the World War, and in these years, the change in the frequency of use of the concept in the literature increases remarkably with the effect of the need for raw materials. After the Second World War, there was a slight decrease in the usage frequency of the concept in the literature as it was after the First World War. The fluctuations observed in the frequency of use of keywords in the literature change in parallel with the social, economic and political events experienced.

When the graphic in Figure 1 is considered in terms of the concept of public health, it is seen that the use of the concept of public health is not as old as the mining concept. This concept started to take place in the literature in the 1860s with the rise of industrialization. It is seen that the usage has increased in a rising trend after 1900s. Especially the establishment of non-governmental organizations such as the Public Health Association (1872) and the American Society for Microbiology (1899), which were established in the USA during this period and the publication of the Journal of Infectious Diseases in 1904 contributed to the establishment of the concept in the literature (Levitt et al., 2007, p. 9). In parallel with the establishment of the first public health school within Hopkins University in 1916, it is understood that the concept was used with increasing momentum in the literature in the 1920s, and saw the peak between 1940-1980. Another of the understandable reasons for this is that infectious epidemics occupied the agenda of humanity at the end of the 1st World War and in the following years. Research on how to combat epidemics has influenced the literature. The influenza epidemic (https://www.cdc.gov/flu/about/qa/1918flupandemic.htm), which was also called Spanish Flu in 1918-1919 and killed more than 50 million people, the H1N1 Virus and the Hong Kong Flu in the late 1960s are among the most important of these epidemics. Especially in the USA and Europe, the 20th century was the years when vaccination campaigns for various epidemics were very intensely implemented and were successful, and these studies were carried out depending on public health sensitivity (Levitt et al., 2007, p. 9). Therefore, this has increased the use of the concept in the literature. One of the main elements of the 20th century public health issue is technological changes. In this case, it has been effective in the improvement in the frequency of use of the concept of public health in the literature during the relevant century. After the 1980s, especially the developments in molecular techniques (Levitt et al., 2007, p. 12) are thought to be effective in the re-increase of the concept of public health, whose usage frequency has decreased over time. Although its beginning is controversial, globalization, which is a result of industrialization, and its accelerated industrialization and urbanization have caused effects in the field of health as well as in many other areas (Knobler et al., 2003). The Spanish flu epidemic of 1918 is one of the

examples to be cited in this sense. The virus was first encountered in ship and train crews, the main engine of globalization, and through these people, the virus spread all over the world. The Covid-19 virus today is the contemporary version of this. When these data are taken together, industrialization and the resulting culture of living together in large populations affect public health on a global scale. Therefore, the concept of combating diseases caused by these factors/public health is used more frequently in the literature. The rise of the concept of mining with the rise in the use of the concept of public health coincides with the recent period, but does not 100% coincide. This is because the mining activity, which is the main element of industrialization, was first followed by industrialization; and therefore with the increase of public health efforts after the development of globalization with the emergence of the public health problem. When the concepts of industrialization and urbanization are taken into consideration in N-gram analysis, although it is seen that these concepts became widespread in the literature in the early 1900s, concepts such as "Industrial Revolution", "Urban Revolution"; or "Social Revolution" which are widely used for related concepts, it will be seen that they will start from earlier periods. In Figure 1, it is seen that the trends of industrialization and urbanization keywords after the first quarter of the 20th century show parallels with the rise of the concepts of public health and especially mining.

Considering the industrialization and urbanization keywords together, it is seen that the use of these keywords increased in the same period. Their peaks and declines are also in parallel. In the 1920s, both concepts tended to rise, peaked in the mid-1970s, and declined after the 1980s. The parallel use of these two concepts in the literature is a numerical proof based on the literature that industrialization is a development that triggers urbanization. The concept of industrialization differs etymologically from the Industrial Revolution. As it is known, the Industrial Revolution refers to the transition from agricultural economy to industrial economy (Griffin, 2010). The important feature of this period included factors such as technological progress, transition from rural workforce to industrial work, financial investments in new industrial areas. Industrialization, on the other hand, represents the replacement of steam engines by internal combustion engines, the use of electricity much more widely and effectively, the construction of canals, the construction of railways and power lines, and the spread of advanced technological elements, which began to be used in the 20th century. Therefore, industrialization, which is the new version of the Industrial Revolution (Industry1.0, 2.0, 3.0 etc.), finds widespread use with the 1920s. Urbanization has also started to spread in parallel with industrialization in this context, and Figure 1 also confirms this fact.

Figure 1. N-Gram Plot of Mining, Public Health, Industrialization and Urbanization Concepts

In the study, many concepts related to the environment were analyzed together, taking into account the relationship between public health and environment. Since the concept of Public Health is discussed in Figure 1, the concept of "Public Health" is not included in Figure 2 in order to avoid confusion. Before moving on to the analysis of the concepts in Figure 2, it should be noted that the following general conclusion that we come across is that the use of the environment and related concepts in the literature started to draw attention in the early 1900s when industrialization increased significantly. In other words, meaningful figures in the graphic emerge at the beginning of 1900. The graph of the n-gram analysis of the environment and related keywords has been on the rise starting from 1900 in parallel with the development of environmental awareness in the world. The most common environmental concepts in the literature; "Environment", "environmental factors", "environmental conditions", "environmental protection", "environmental issues", "environmental problems", "environmental pollution". All but the last of these were selected as keywords for n-gram analysis and analyzed (Figure 2).

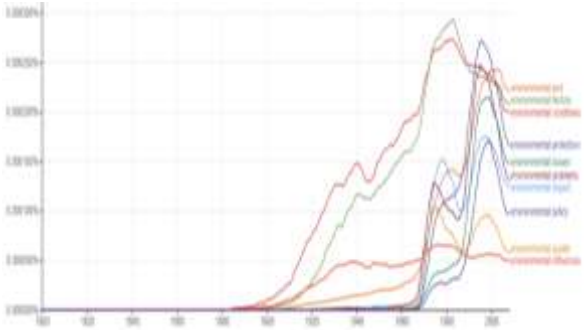

Figure 2. N-Gram Graph of Environment and Keywords Used With It

It should be considered that there is a linear relationship between the handling of the environment and related issues and Industrialization (Figure 1 and Figure 2; note 1920 and beyond). Because the development of industry is a factor that causes environmental problems (Stevenson 2018). The environmental issue is directly related to urbanization. In this case, industrialization and urbanization cause

environmental problems, which brings sensitivity to the environment. With the emergence of environmental problems, the environment and related books and publications are increasingly taking place in the literature (Figure 2).

When looking at the graph in Figure 2, environmental factors and environmental conditions among the investigated keywords showed a rapid and sharp increase compared to the others. As can be understood, the use of environmental concepts in the literature peaked in the 1980s and 1990s. The 1972 Stockholm Conference on Environment marked the birth of multilateral environmental agreements, but was not effective enough until the mid-1990s. This was the period when states negotiated hundreds of new regional and global agreements, revisions in agreements and new protocols. These included topics such as climate change, biological diversity, marine pollution, marine life, mining, and the trade of hazardous waste (Mitchell, 2002). Especially in the 1990s, the cold war was over, and a unipolar world emerged after years of constant tension. This environment provided a sufficiently optimistic environment for international agreements. During this period, an important article on Foreign Affairs written by Mathews, (1989) in 1989 stated that environmental raw materials (resources) and demographic issues should be taken into the center in defining national security (Mitchell, 2002). In the US elections of 1992, Bill Clinton devoted the most important part of the presidential election to environmental issues. In the same elections, Bill Clinton's rival, Al Gore, published his book Earth in the Balance, which gained a great reputation especially among US environmentalists and thus increased the number of supporters (Schneider, 1992). Another important event in the 1980s regarding the environment was the successful negotiations of the Vienna Convention and the Montreal Protocol. These negotiations encouraged the international community towards multilateral agreements on environmental issues in the 1980s and 1990s (Stevenson, 2018).

It was brought to the agenda multidimensionally in this period by scientists that the ozone layer in the atmosphere was thinning due to human-induced environmental adversities and therefore our planet went into a serious environmental disaster (Manahan, 2008) and, accordingly, Ozone agreements were successfully realized again in this period with the effect of the mentioned negotiations. When we consider the above data together; Large cities have emerged in industrializing countries since the 1900s. During the 20th century, industrialization, ecology, and environmental issues and concepts in the context of the city were on the agenda. Even, environmental organizations have emerged in many countries, and civil-social and political movements have emerged in this field. All these processes and developments are reflected in the literature. Looking at Figure 2, the increase in the frequency of use of environmental concepts until the 1990s is explained by this. The reason for the decrease in the graph after the 1990s is explained by the adoption of environmental protective regulations in industrialized countries and the necessary measures. Therefore, the frequency of use of relevant keywords in the literature has decreased. It is seen that keywords such as environmental factors, environmental conditions have a greater place in the literature in the graphic. This overlaps with current environmental issues.

In Figure 3, the n-gram graph of the mining concept has been obtained together with the economic development and sustainable development concepts. It is seen that the concept of economic development shows a parallel trend with the concepts of environmental factors and environmental conditions. Seeing the use of the n-gram graph of "economic development" since 1900 is associated with its new entry into the literature.

After the 2nd World War, the sharp increase in the use of the concept of economic development since the mid-1940s is associated with the post-war economic growth moves of the countries. In the graphic, it is seen that the use of the concept of economic development in the literature between the 1950s and 1970s has reached its peak. This is due to the fact that the greatest economic production and growth in Capitalist Industrial societies was experienced in this period. What happened in the economic and social life has been reflected in the literature and the frequency of using the concept of economic development increased and reached its peak in the 1970s. Sustainable development started to be used as a concept after 1970s. The Stockholm Conference held in 1972 gave rise to a focus on environmental problems. The conference also led to a deeper conceptual question of how to reconcile economic development and environmental protection (Stevenson, 2018). UNEP introduced the concept of "eco-development" in the early 1970s, under the leadership of Maurice Strong. At the first meeting of UNEP, Mr. Strong, suggested eco-development as a development style that takes into account the development needs of current generations and that takes into account the natural resource needs of future generations.

With the maturation of many debates, the concept developed well in the meeting held in 1985 with the participation of OECD state ministers, business leaders and environmentalists. OECD's Environment Director, Jim MacNeill, took these matured views on the concept to the Brundtland Commission and proposed the concept of "sustainable development". The concept proposed as eco-development has begun to be accepted as sustainable development (Bernstein, 2000). In June 1992, around 30,000 people from all over the world gathered in Rio de Janeiro / Brazil. These people were environmentalists, activists, journalists, development practitioners, government

representatives and international organizations. The agenda of these people was our planet. Officially called the UN Conference on Environment and Development (UNCED), the World Summit was the largest conference ever held. This meeting was accepted by framing the concept of sustainable development with all its dimensions. After the concept was widely accepted, it started to be used in many areas related to the environment. In fact, many concepts have found a place in daily life by combining them with the facts and concepts that are also related to development. When Figure 3 is examined, this parallelism can be seen clearly.

In Figure 3, the n-gram graph of the mining concept is obtained together with the concepts of economic development and sustainable development. It is seen that the concept of economic development shows a parallel trend with the concepts of environmental factors and environmental conditions. Seeing the use of the n-gram graph of "economic development" since 1900 is associated with its new entry into the literature.

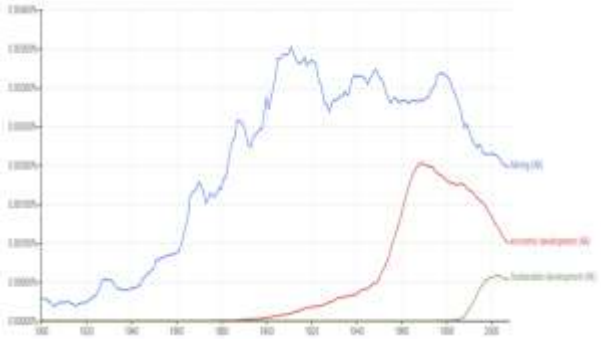

Figure 3. N-Gram Analysis of Mining, Economic Development and Sustainable Development Keywords

CONCLUSIONS

In this study, the concepts of mining, public health, industrialization and urbanization and the environment and related environmental factors, environmental conditions, environmental protection, environmental issues, environmental problems, economic development, sustainable development concepts are discussed in a way that covers a period of approximately 200 years between 1800-2020. n-gram analysis was performed. As a result of this study;

Although the mining concept dates back to a very old time in human history, it has been observed that the frequency of use in the literature has increased after the 1820s. The frequency of use of the concept in the literature peaked between 1860-1900. The reason for this is explained by Industrialization. The use of the mining concept, which decreased during the economic depression years after the First World War, started to increase again after the 1930s, depending on the increasing need for raw materials in the defense industry. It fell again after World War II.

The concept of public health is a newer concept than the mining concept and entered the literature in the 1860s. The frequency of use started to increase after 1900s and peaked between 1940-1980. One of the most important reasons for this is that the epidemic diseases seen in the years after the First World War and how to fight them take place in the literature. Today, Covit-19 epidemic disease is experienced as a similar one and keeps the concept of public health on the agenda. Advances in molecular techniques after the 1980s have also been effective in the increase of public health concept.

When the concepts of industrialization and urbanization are examined, it is seen that the increase and decrease in the frequency of use of these two in the literature are parallel. This is because urbanization is a socio-economic phenomenon that develops due to industrialization. The concepts of industrialization and urbanization, which were on the rise in the 1920s, peaked in the mid-1970s and began to decline in the 1980s.

The use of the environment and related concepts in the literature started to attract attention in the early 1900s, when industrialization increased significantly. As is known, industrialization is a factor that causes environmental problems. This is realized both directly through the substances that industrial organizations add to nature and with the effect of urbanization triggered by industrialization that causes environmental problems. Therefore, parallelism is understandable. Environmental awareness in the world has developed since 1900, when industrialization reached a certain level. In parallel with this, the frequency of use of the environment and related concepts in the literature has started to increase starting from 1900. The use of environmental concepts in the literature peaked in the 1980s and 1990s, and tended to decline after this date. The twentieth century has passed in a struggle with the environmental problems caused by industrialization. Numerous civil-political initiatives have been effective in this regard.

What draws attention in the analysis of the concept of economic development is that it entered the literature in the 1900s and the frequency of use has been on the rise since the 1920s. After the 1940s, the concept has risen sharply with the effect of post-war economic growth. In the period between 1950 and 1970, when the economic growth of advanced capitalist countries reached the highest rates, the frequency of use of the concept peaked. Tuna & Ural, (2017) also reached a similar conclusion in their N-gram analysis of basic concepts related to corporate sustainability. The authors associated the decline of economic development after the 2000s with the substitution of the concept with more than one new concept (such as social triple bottom line, corporate social sustainability).

The concept of sustainable development is a concept that came to the fore in the 1970s. Its use was accepted in the 1990s, after discussions on how industrialization, urbanization and growth can be carried out in a more acceptable way without disturbing the natural balance of the Earth in the 1980s. The frequency of use of the concept of sustainable development, which is a relatively new concept, in the literature peaked in the 2000s.

In the light of these findings;

When the n-gram analysis results for the historical period under consideration were examined, it was found that the use of selected keywords in the literature showed significant parallels in the last 200 years. There are relationships between the frequency of use of mining, public health, urbanization and industrialization concepts in the literature and the frequency of use of the environment and related concepts. It has been observed that the dynamism experienced in the facts and events related to these issues in social and economic life affects the use of concepts related to these in the literature. It is one of the results reached within the scope of the study that N-gram analysis yields meaningful results in appropriate keywords to be selected. Therefore, it is thought that scanning with n-gram analysis will contribute to the researcher and the research with practical guidance before selecting the appropriate periods for the literature in studies to be conducted on other subjects.

Acknowledgments:

The study was not supported by any funding. The authors would also like to thank the editor(s) and the anonymous reviewers for their improvement of the manuscript.

Conflict of Interest:

The authors declare that they have no conflict of interest.

Ethical Approval:

No Ethics Committee Permission Required

Funding:

The study was not supported by any funding.

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Evaluation of the recommendations part of theses in the field of health management

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https://10.48121/jihsam.800006

Received
27.09.2020

Accepted
09.04.2021

Published Online
30.04.2021

Key Words

Administration
Healthcare Management
Healthcare Management Training
Postgraduate Thesis
Council of Higher Education

ABSTRACT

Healthcare institutions are structures endured on medical, economic and social purposes. In contrast to this, the field of health management is a discipline that examines healthcare systems and the institutions embodied in this system with an administrative perspective. The system of healthcare services is related to social, economic and administrative sciences field, especially health sciences, and researchers from these fields have been carrying out a great number of researches. One of these research methods is that the postgraduate theses. The postgraduate theses represent a significant part of a literature of the healthcare management and provide crucial informations in the course of scientific studies. Additionally, within the accordance of studies carried out in theses, the given recommendations have also been outputs of the theses in one respect. The recommendations in theses emerged with the purpose of a scientific-based study, deserve to be examined.

This study aims to evaluate the recommendations of the completed postgraduate theses in the department of the health management that they give to the researchers within a holistic view, and gain a novel point of view to the studies to be done.

Postgraduate theses that comprise the subject of this research have been obtained as the result of a literature review made in the national thesis center (https://tez.yok.gov.tr/UlusalTezMerkezi/). Postgraduate theses in YÖK (Council of Higher Education) Electronic Thesis Archive were written between 1997 and 2020, in a 23 year period, and it has been determined that a total of 785 postgraduate theses were written in the field of healthcare management. In addition to this, 76 of them are doctorate theses while the remaining 709 are master degree theses. This study is limited to 100 postgraduate theses (90 master's and 10 doctoral) that have been determined to completed in the field of health management in 2019. The recommendation and the conclusion chapters are taken into consideration in the classification made according to the recommendations that they give to the researchers. The recommendations are evaluated in three categories such as the method of analysis, the data collection tool, the population and sample.

The highlights of the recommendations of the postgraduate theses completed in the field of health management in Turkey in 2019 are; researchers need to find innovative field-specific methods, increasing of the number of studies similar to the conducted ones or by the view of widening the area of study to be conducted can be more instructive and enlightening about the validity of the results obtained. Moreover, the necessity of scientific collaboration, different techniques can be used, the experts consulted can be differentiated in terms of number and their quality, analyses made in the field of healthcare have been developing and studies will be able to done by the developing analysis techniques, and it is emphasized that the application of the same scales in different health institutions would enable the sector to be viewed from a wider perspective.

At the end of the study, development and trends in the field, lacking or novel fields to be studied are determined in the light of recommendations and attempted to make inferences.

**This paper has been presented as an oral paper at the 5th International Health Sciences and Management Conference*

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INTRODUCTION

The management has been a requirement for humans to achieve their goals through others since people began to create groups with regard to reach their goals that they could not achieve individually.

Management is all the decision-making and carrying out stages of using efficiently and effectively the pecuniary resources, raw materials, fixtures and time managing, especially with its main resource being human with regard to achieve the stated goals (Eren, 2011: 14).

Although there are many definitions used in the literature, the definition that management scientists most agree on the word "management" is "working through others". (Koçel, 2010: 59)

As a result of globalization, the issues dealt with in the every aspect of human lives such as technological developments, the aim of getting a maximum output with a minimum input, increasing of needs, scarcity of resources have shown their presences also in the healthcare sector. On the ground that the misuse of resources in healthcare organizations make human life end up, the necessity of having experts and professionals in administration is being arisen.

Healthcare organizations by its nature a system that are challenging to manage, complex, open to development and change. These healthcare organizations and their managers at various levels have become extremely a significant working area in both our country and internationally (Çimen, 2010: 138).

The main field of health management is related to the administrative side of organizations which provide healthcare services. The healthcare management does not display a management figure that both act with the aim of using economically the scarce resources required for diagnosis and treatment, and making the healthcare professionals' work difficult. On the contrary, healthcare management performs collaboratively with the healthcare professionals with regard to facilitate their work within the scope of increasing the health and the satisfaction of patients (Yıldırım Kaptanoğlu, 2011: 20).

According to the report of SAYÇEP in 2017, it is defined that "*Health institutions management is a process involving interrelated social and technical functions and activities that occur within a specific formal organization with regard to achieve predetermined goals through human and other resources*." (Health Management National Core Education Program Report in 2017)

The US Healthcare Management Education Commission describes the concept of healthcare management "*It is the planning, organizing, mobilizing, coordinating and controlling of resources and processes that enable medical care and healthy environmental demands to be met by providing definite services to individuals, organizations and societies*" (Tengilimoğlu, 2012:539).

The first health management training and development in our country is as follows: "*Health Administration High School was established within the Ministry of Health in 1963, as parallel to the development and process of change at health management in the world. Then, by virtue of the Senate of Hacettepe University Law no. 5 June 1970/80, High School Of Hospital Management was established and gave postgraduate training until 1975. By the date 6.11.1975 and by virtue of Law no. 75-81, graduate training programme was opened and the name of the school was changed into "High School Of Healthcare Management". The high school both affiliated to the ministry of Health and to Hacettepe University was joined as a single school within Hacettepe University by virtue of the Law no. 20 July 1982/4. In addition, by virtue of the Higher Education Council recommendation Law no. 24 April 2006/008913 and decision of the Senate Of Hacettepe University, it was affiliated to the Faculty of Economics and Administrative Sciences as "Department Of Healthcare Administration". In a meeting of Higher Education Executive Committee held on 16.11.2016, it was decided to change the name Department Of Healthcare Administration within the Faculty of Economics and Administrative Sciences into "Healthcare Management" pursuant to Articles 7/d-2 and 7/h amended by Law no. 2880, within the virtue of Law no.2547 (*http://www.sid.hacettepe.edu.tr/tr/menu/tarihce-53).

Many universities in Turkey comprised health management undergraduate and graduate training programmes into their education systems. The numerical distribution of undergraduate training programme of the healthcare management at universities in Turkey is as follows: while 47 of them are state universities, the remaining 20 are foundation universities, with a total number of 67 universities have been providing an undergraduate training in healthcare management (https://yokatlas.yok.gov.tr/lisans-bolum.php?b=10238).

It is known that the education in the field of healthcare management in Turkey has been gradually gaining importance and has been increasing mainly as a high school education. Dating from 2017-2018 Fall Semester, assume that the distribution of master programmes with thesis and non-thesis master programmes of healthcare management according to the universities are examined. There are a total of 52 health management graduate programmes in state universities while 23 of them with thesis and the remaining 29 of them non-thesis. In addition, while

44% of master programmes in state universities are with thesis, the remaining 56% of them are non-thesis. Moreover, in foundation universities, there are a total of 48 health management graduate programmes while 25 of them with thesis and the remaining 23 of them with non-thesis. Besides while 52% of master programmes are with thesis in the foundation universities, the remaining 48% of them are non-thesis (Güngör Önlen ve Öngel, 2018:889).

In recent years, the healthcare management graduate programmes have been increasing in both state and foundation universities. In order to discuss topically the doctorate programmes among the healthcare management graduate programmes, the key word "health management doctorate programme" is written to Google search engine and the following results are found: there are six foundation universities that have health management doctorate programme such as Üsküdar University, Medipol University, Okan University, Acıbadem University, Biruni University, Lefke Avrupa University, and there are seventeen state universitie that have health management doctorate programme such as Sakarya University, Muğla University, Hacettepe University, Marmara University, Ondokuz Mayıs University, Trakya University, Mersin University, Kayseri University, Fırat University, Ankara University, Sağlık Bilimleri University, İstanbul University, Cerrahpaşa University, Selçuk University, Ankara Hacı Bayram Veli University, Düzce University, Süleyman Demirel University, Ankara Yıldırım Beyazıt University.

METHOD

Model of the Research

This study exhibits the thematic distribution of postgraduate education theses in the field of healthcare management in Turkey. Therefore, in this study the descriptive survey model is adopted.

Population and Sample

Postgraduate theses that comprise the subject of this research have been obtained as the result of a literature review made in the national thesis center (https://tez.yok.gov.tr/UlusalTezMerkezi/).

Table 1. The Distribution of Theses According to the Universities and Degrees

University	Postgraduate Degree	Doctorate Degree	Total Number	Percentage
Acıbadem Mehmet Ali Aydınlar University	3		3	
Ankara University	1		1	
Bahçeşehir University	1		1	
Çanakkale Onsekiz Mart University	1		1	
Düzce University	3		3	
Fırat University	1		1	
Gazi University	3	1	4	
Hacettepe University	1	3	4	
İstanbul Aydın University	1		1	
İstanbul Gelişim University	1		1	
İstanbul Medipol University	6		6	
İstanbul University	4	4	8	
İstanbul Yeniyüzyıl University	1		1	
Kahramanmaraş Sütçü İmam University	5		5	
Marmara University	2	1	3	
Muğla Sıtkı Koçman University	1		1	
Necmettin Erbakan University	5		5	
Nişantaşı University	2		2	
Okan University	1		1	
Ondokuz Mayıs University	4		4	
Sakarya University	13		13	
Selçuk University	1		1	
Sivas Cumhuriyet University	8		8	
Süleyman Demirel University	5		5	
Tekirdağ Namık Kemal University	5		5	
Trakya University	6		6	
Üsküdar University	5	1	6	
Total	**90**	**10**	**100**	

Postgraduate theses in YÖK Electronic Thesis Archive, it has been determined that between 1997 and 2020, in a 23 year period, a total of 785 postgraduate theses were written in the field of healthcare management. In addition to this, 76 of them are doctorate theses while the remaining 709 are master degree theses. This study is limited with 100 postgraduate theses (90 of them master degree and the remaining 10 doctorate degree) which were determined to be completed in the field of healthcare management in 2019, as also seen in table 1, and in this study random sample method is adopted. According to the research data, it is seen that most theses are written at postgraduate degree. Furthermore, there is a considerable difference between postgraduate theses and doctorate theses. This difference is thought to be due to the fact that the graduate program in the relevant universities started earlier and also that there has no doctorate program in most universities.

The distribution of theses according to the institutes is given in the Table 2 below. When the given table is examined, it is seen that the theses within the department of health management field are written under four institutes. It is seen that under these institutes most theses are written within the graduate school of health sciences. This situation is thought to be due to the fact that health-related issues in the field of health management have been studied predominantly.

Table 2. The Distribution of Theses according to the Institutions

Instutions	**Number**
Institution of Business	12
Institution of Graduate School	8
Institution of Health Sciences	49
Institution of Social Sciences	31
Total	**100**

In the light of the research area, theses are examined by considering five fields. These fields are shown in the Table 3 given below. In the analysis, it is seen that healthcare facilities are mostly preferred as the research field in the theses, and followed respectively by more than one field, provinces, students, healthcare sector stakeholders, OECD countries. The fact that mostly health institutions are preferred as research fields in the study indicates that the researchers study on healthcare professionals operating in the health sector.

Table 3. The Distribution of Theses According to the Research Field

Research Fields	**Number**
Healthcare Facilities (Hospitals, Geriatric Care Centres, Family Physicians etc.)	80
Healthcare Sector Stakeholders (Tourism, Pharmacy, Airport,…)	4
Province-based (Patient Profile)	7
OECD Countries	3
Students	6
Total	*100*

The qualitative, quantitative and mixed research approaches are considered in the theses while analyses are carried out. As it can be seen in Table 4, the quantitative research approach is mostly preferred as the research approach. This research approach is followed respectively by qualitative research approach and mixed research approach. It is notable that quantitative studies are the majority of the study.

Table 4. The Distribution of Theses According to the Research Approach

Approach	**Number**
Quantitative	88
Qualitative	10
Mixed	2
Total	*100*

Collection of Data and Analysis

The epistemological document analysis method is adopted in this research (Karadağ, 2009). In the first stage of document analysis, the postgraduate theses and doctorate theses in the sample group are computerized in a pdf format from the website of YÖK (Council of Higher Education) Documentation Department. In the second stage, in the light of recommendations that they give to the researchers, the computerized theses are analyzed according to the year, the owner of the thesis, university, graduate status, research recommendation methods.

RESULTS AND DISCUSSION

In this study, it is aimed to evaluate the recommendations of the completed postgraduate thesis in the department of the health management that they give to the researchers within a holistic view, and gain a novel point of view to the studies to be done.

The 50% of postgraduate theses included in the sample group are evaluated in the category of recommendations that they give to the researchers. While 44 of the theses examined in this category are master degree theses, the 6 of them are doctorate degree theses.

When recommendations given to the researchers are considered within the context of the population and sample;

Within the scope of study limitations, issues such as time interval, how honestly and sincerely participants answered the survey articles are discussed. In order to eliminate these limitations and generalize the results, this research can be broaden by applying this survey to large masses in different geographical regions, in different sectors such as state institutions and organizations, healthcare executives, different kind of patient groups, oral and dental health clinics, primary healthcare services and secondary healthcare services, tertiary healthcare services, insurance agencies.

In regard of analyzing method of recommendations given to the researchers;

Approaching as a state hospital affiliated to the Ministry of Health and private hospital with two different distinctions, different sectors and in different regions. Furthermore, students studied in separate university and departments, dividing healthcare professionals into their professions and separately applying surveys are proposed to make comparison in view of causality studies.

Research Methods for the Recommendations given to the researchers ;

Innovative field-specific methods targeting both healthcare professionals and the public, utilizing novel medical technologies, interviews with senior hospital managers or focus group discussions, designing studies in a mixed structure that has not only a quantitative but also a qualitative pattern can be proposed. With the purpose of increasing evidence-based knowledge in quality improvement studies in care services and for “specialization of care” the number of qualitative researches should be enhanced with the aim of learning the perception of qualified care the groups of disease/disability. In recent years, the increasing number of academic studies has been providing basis for meta-analysis method, and meta-analyzing method has been proposed.

Data Collection Tool for the Recommendations given to the researchers ;

Having developed by applying current data in terms of relative efficiency measurement in the field of health. The AAS method integrated into SWOT analysis and other multi-criteria decision making techniques can be adopted. When the theses written in the field of healthcare management are examined with regard to recommendations that they give to researchers; the recommendations such as the increasing number of identical studies or expanding the area of study, with the different research methods, the development of the scales used or the data obtained can be more instructive and enlightening about the validity of the results obtained by differentiating the sample and the universe are presented in the results of theses.

CONCLUSION AND RECOMMENDATIONS

The highlights of the recommendations of the postgraduate theses completed in the field of health management in Turkey in 2019 are; researchers need to find innovative field-specific methods, increasing of the number of studies similar to the conducted ones or by the view of widening the area of study to be conducted can be more instructive and enlightening about the validity of the results obtained. Moreover, the necessity of scientific collaboration, different techniques can be used in the studies, the experts consulted can be differentiated with regard to number and their quality, analyses made in the field of healthcare have been developing and new studies will be able to done by the developing analysis techniques. Furthermore, the adoption of the identical scales in different health institutions will enable the sector to be viewed from a wider perspective.

At the end of the study, development and trends in the field, lacking or novel fields to be studied are determined in the light of recommendations and attempted to make inferences:

Nowadays, the issue of health management has become enormously a significant field of study in our country. There is a requirement for novel studies adopting different research methods and data collection tools.

Managers are of great importance in creating a hospital culture that can provide high performance. Executives should be able to analyze the service processes in the hospital well and increase the value of healthcare services.

Healthcare field is one of the complex and difficult system for the reason of its rapid technological

developments and labour-intensive nature. Studies have shown that these difficulties will be overcome by the knowledge, skills and abilities of executers, employees, stakeholders, policy makers and researchers.

There has been a significant increase in the number of theses made in the field of Health Management in recent years. Issues related to many subheadings of this field has still being required a lot of research.

In the interest of shaping the future in this field, studies should be produced by taking the recommendations of prior studies into consideration. It is also crucial for researchers to consider recommendations in postgraduate studies in view of building healthcare management discipline on solid basis.

Acknowledgments: None

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical Approval (Must be answered): None

Funding: None

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The Assessment of Turkey's Lack of Resilience to Disasters and Hazards with IDB Indicator System

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DOİ
https://10.48121/jihsam.815337

Received
23.10.2020

Accepted
20.12.2020

Published Online
30.04.2021

Key Words
Disaster
Disaster Management
Risk, Vulnerability
Lack of Resilience

ABSTRACT

In recent years, resilience has emerged as a guiding principle for urban development and disaster risk management. The aim of this study, human development, economic recovery and the factors that influence to reach a high level of security at every level, Turkey is to determine the level of resistance against disasters at the national and international areas of the province.

The study was prepared with a semi-numerical method and the scope of the study was all provinces of our country. Although the study covers 2015-2017 periods, it was applied to all provinces of our country. LRI (Lack of Resilience Index) consists of 8 sub-factors and the index value is between 0 and 1. Classification of index values was done according to international standards as follows; between 0-0.20 as low, between 0.20-0.40 as medium, between 0.40-0.80 as high and between 0,80-1,00 as very high.

Ağrı (0.71), Şırnak (0.66), Muş (0.66) and Hakkâri (0.65) provinces were the first four provinces with the highest value according to the 2015-2017 average value of LRI and Isparta (0.38), Bolu (0.38), Izmir (0.36) and Ankara (0.32) were the lowest. Moreover, while 93.83% of our provinces were in the high index category, it was seen that 6.17% is in the middle index category and we had no provinces in the low index category.

As a result, it was seen that our provinces had deficiencies regarding lack of resilience, especially the average and expected schooling years, per capita national income, insurance rates of buildings and houses and the number of hospital beds.

**This paper has been presented as an oral paper at the 5th International Health Sciences and Management Conference*

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INTRODUCTION

Resilience is known as the ability to recoil or return after experiencing some stress or shock and is interpreted as the opposite of fragility (Pelling, 2011: 66). Resilience is used in the understanding of ecological changes and balances in the late 1970s and the mid-1990s that it was used in disaster risk reduction studies (İSMEP, 2014: 8). Although the terminology of disaster resilience is relatively new and is still under discussion, it is embedded in international policy frameworks for humanitarian action. Moreover, the issue of resilience is an important component of the approach to reduce the effects of disasters on vulnerability (Combaz, 2014: 1). Disaster resilience is the presence of structures and functions that are capable of effectively resisting, absorbing, adapting to and recovering from the effects of a hazard, including the conservation and restoration of the underlying state, community or society (UNDRR, 2009). The Disaster Risk Management Community regards resilience as coping without making it compulsory (Birkmann et al., 2013: 194).

Although resilience has different meanings in different disciplines, in the area of disaster risk management, all types of resilience such as ecological, environmental, institutional, infrastructural, organizational, economic, social, community, family and individual were all related to disaster risk management (Mac Askill and Guthrie, 2014: 668).

Disasters have long been regarded as one of the events that have been addressed through humanitarian response and relief efforts; but for several decades there has been a clear change of attitude towards strengthening preparations and a more effective and efficient response. In particular, an understanding emerged that the economy plays an important role and that a longer-term approach is needed to reduce disaster risk and increase resilience (UNDRR and WMO, 2012: 7). Increasing resilience prior to disasters means increasing the potential for saving more lives and further protection for future crises (Ranjan and Abenayake, 2014: 89).

In the last decade, resilience has emerged as a guiding principle for urban development and disaster risk management. However, the context of interpreting resilience as a guiding concept is dependent and open to interpretation (Mac Askill and Guthrie, 2014: 667). Resilience at the city level is defined as "the capacity of cities to operate, that is, people living and working in cities (especially poor and vulnerable) to be protected and developed, no matter what stresses or shocks they are exposed to" (UNU-CPR, 2016: 4). Urban disasters and violence have started to be on the agenda of humanitarian and development agencies. In addition, more and more initiatives are investing and testing smart and scalable solutions that promote city-level resilience. Thanks to these initiatives, we witness that researchers, policy makers and private sector actors come together in a multidisciplinary way to discover solutions to make cities more resistant to disaster and violence (De Boer, 2015: 5).

The resilience of cities is a very important feature from which important lessons can be learned. In increasingly unstable and crowded cities; it is not known how it is allocated in informal settlements where 17% of the world population and 27% of the city population live (IDMC, 2014). Benefits of increasing disaster resilience come out as; saving life, protecting infrastructure and livelihoods (GFDRR, 2010: 10-11), protecting social systems (IFRC, 2012a: 12), protecting the environment (Standley, 2012), promoting greater resilience in the context of violent conflict or fragility (DFID, 2011: 10).

United Nations Office for Disaster Risk Reduction (UNDRR) launched a campaign in 2010 entitled "Building resilience cities: my city is being prepared". Five metropolitan cities from Turkey such as Istanbul, Kocaeli, Yalova, Antalya and Gaziantep had been included in this campaign. Within the scope of this campaign, a resilient city was explained under nine headings (ISMEP, 2014: 13).

The two most important types of resilience were economic and social resilience. Economic resilience; the ability of an economy to depend on the policy in which it can resist or recover from the effects of external shocks. External shocks here include disasters and natural hazards. The economic impacts of disasters have a direct impact on poverty and human security and may prevent development within a few years (Ranger & Surminski, 2013: 4).

On the other hand, if resources are limited after an emergency occurs, communities may need to be on their own until assistance arrives. Therefore, it is important to establish social resilience before disasters (RAND, 2011: 1). Adger (2000) defined the first definition of community resilience as a society's ability to cope with external traumas and internal disorders of infrastructure such as political, social and environmental changes (Adger, 2000: 347). In short, the main purpose of community resilience is to increase the capacity and skills of individuals, groups and organizations to cope with discomfort (Obrist et al., 2010: 285). According to the International Federation of Red Cross and Red Crescent Societies (IFRC), a safe and resilience community has six characteristics.

These features are;

a) To be knowledgeable and healthy
b) To be organized
c) To have a wide range of connections and relationships
d) To have strong infrastructure and services
e) To have economic opportunities
f) To manage natural assets (IFRC, 2012b: 7).

1.2. Lack of Resilience Indicators

As a fragility factor, lack of resilience, complementary or reversed treatment of many indicators of human development at all levels, human capital, level of economic redistribution, manageability, financial protection, collective perception, preparedness to face crisis situations, and environmental protection (Table 1). ([Inv]). This set of indicators, themselves and particularly at the local level, can help identify and guide actions that need to be encouraged, strengthened, or prioritized to achieve a higher level of security (Cannon, 2003: 14). Inclusion of risk indicators in the system, effective prevention, mitigation, preparedness and risk taking actions lead to a reduction in risk and on the contrary, effective risk increases occur when these actions do not exist or are insufficient.

Table 1. Lack of Resilience Index Indicators

Indicator	**Description**
LR1. Human Development Index, HDI [Inv]	It represents the level of development of the population, taking into account life averages, public literacy, schools and incomes of per capita purchasing power parities. As development increases, so does the capacity to mitigate risk and face disasters. n
LR2. Gender-related Development Index, GDI [Inv]	It shows the degree of development of the HDI to reflect the inequality of men and women of the same dimensions. It represents the capacity of women as human capital. Greater participation and equality means greater capacity of the population in the face of hardship.
LR3. Social expenditures on pensions, health and education as a percent of GDP (%) [Inv]	It refers to resources aimed at improving the safety of the poorest and most vulnerable population. Adequate and broad social investment program coverage reduces the vulnerability of people most affected by disasters.
LR4. Governance Index (Kaufmann) [Inv]	Public administration represents legitimacy, transparency and democratization activities. More social management means better institutionalization, legislation, equity and integration of risk management into development planning.
LR5. Infrastructure and housing insurance as a percent of GDP (%) [Inv]	Adequate coverage by the insurance industry of possible damages to residential and public and private products means greater financial protection of the population against viable threats.
LR6. Television sets per 1000 people [Inv]	Information retrieval through audiovisual technology facilitates efficient, timely and continuous dissemination of information. Adequate disclosure and scope improves understanding of risks and disasters and positively affects better perception and awareness of the population.
LR7. Hospital beds per 1000 people [Inv]	In terms of emergency response, having the sufficient capacity and infrastructure of the health sector increases the capacity to participate in the population when disasters and emergencies occur.
LR8. Environmental Sustainability Index, [Inv]	Environmental sustainability means good performance in providing good environmental conditions for the future. Environmental management has a positive impact on reducing vulnerability and preventing disasters.

Reference: Martha Liliana Carreño, Omar Dario Cardona and Alex H. Barbat, "Sistema de indicadores para la evaluación de riesgos",**Inter-American Development Bank**, 2005, Barcelona, p. 47.

Note: The "Inv" sign in the index factors indicates that the index values are reversed due to the effect direction. In other words, if the index value is calculated as 'E', this index value is taken as '1-E'.

Table 1. describes a group of variables defined as general resilience indicators at the national level. These variables, regardless of the nature and severity of these events, captures the capacity to recover or absorb the impact of dangerous events in a macro way (Briguglio, 2003: 5). The lack of solvency is a security vulnerability in dealing with disasters, however it is absolutely necessary to establish this in front of any applicable threat.

LITERATURE

When the literature is examined, Inter Development Bank (IDB) has prepared various studies for South American countries.

According to the index study prepared for Argentina; The country's Lack of Resilience Index (LRI) value was found to be 0.50. Accordingly, while the lower index value of Turkey value (0.50) was observed to be equal to Argentina index (BID, 2010a).

According to the index study prepared for Bahamas, the LRI index value for 2007 is 0.42; this value is seen to be lower than the Turkish index (0.50) (IDB, 2011a).

The index study for Barbados, a Latin American country, shows that the countrywide LRI index value is 0.38; this value was quite low than the Turkish index (IDB, 2010a).

According to the index study for Belize in 2011; the country's overall LRI index value was 0.52; this value was higher than the Turkish index (0.50) (IDB, 2011b).

According to the index study prepared for Bolivia; the country's LRI index value was 0.56, and this was higher than that of Turkey (BID, 2010b).

According to the study prepared for Chile the index value in 2015 was 0.35, and this was lower than that of Turkey (0.50) (BID, 2015a).

According to a study prepared for Costa Rica, the country's LRI index value was 0.51 and this was higher than that of Turkey (BID, 2010c).

According to a study prepared for Ecuador, the country's LRI index value (0.56), was found to be higher than Turkey's index value (0.50) (BID, 2010d).

According to a study conducted for Jamaica in 2004, the LRI index value for the year 2000 was found to be 0.64. This value was considerably higher than the index value of Turkey (39) (IDB, 2004).

An index study for Colombia was prepared in 2005 by Martha Liliana Carreño, Omar Darío Cardona and Alex H. Barbat. According to the study, LR index value was calculated as 0.43. This value was a lower value than Turkey (Carreño et al., 2005).

According to the index study prepared for Mexico; LR index value was 0.48. This value was found to be near to Turkey's value (0.50) (BID, 2015b).

In the index study for Nicaragua in 2015; LRI were 0.63; higher than Turkey (BID, 2015c).

According to Panama index study; LRI value throughout the country was 0.46, lower than Turkey (0.50) (BID, 2015d).

According to the study conducted in Peru in 2015; the index value of the country for the 1991-2013 period was calculated as 0.51; higher than Turkey (BID, 2015e).

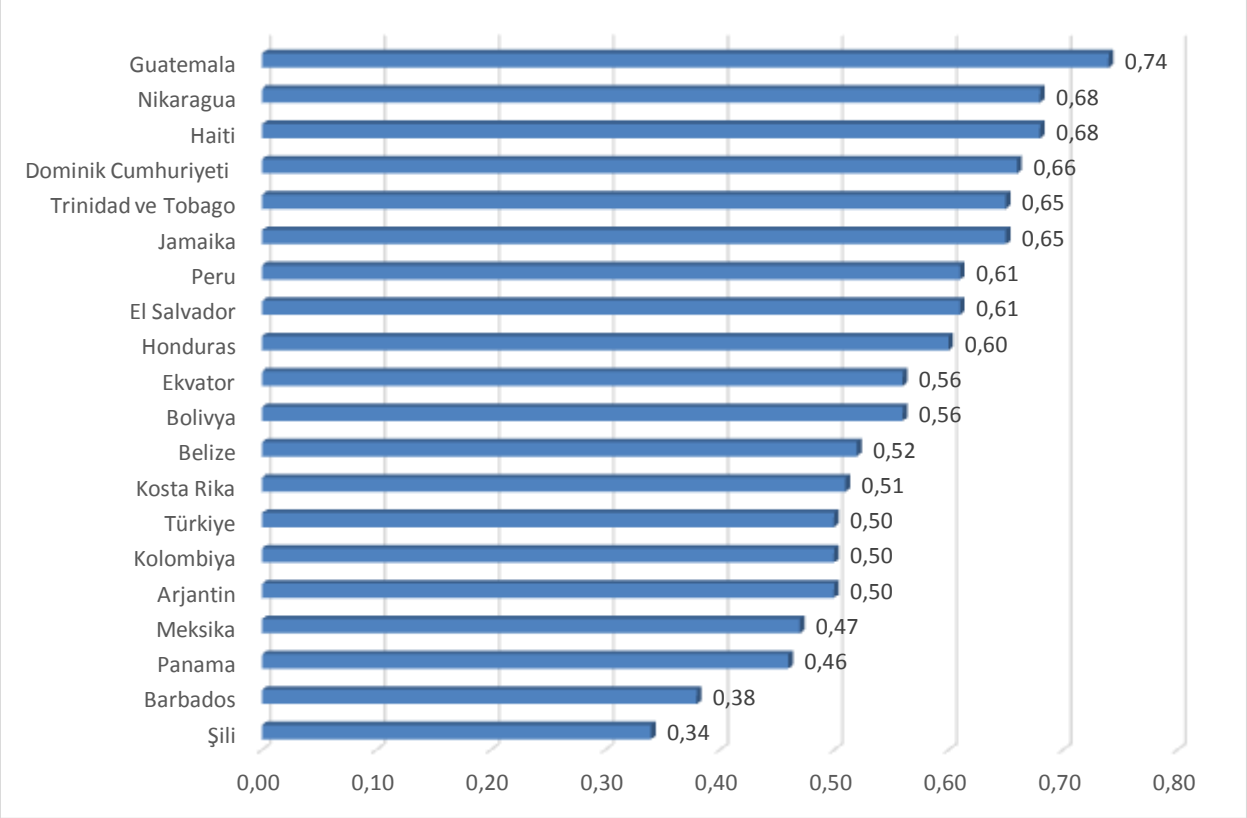
In the study prepared for the Dominican Republic in 2010; for the period 1991-2000 the index value was 0.66, quite high thanTurkey's index value (0.50) (BID, 2010e).

In the index study prepared for the Republic of Suriname, a South American country in 2018; LR country's index was 0.36, lower than the index of Turkey (IDB, 2018).

According to a study prepared in 2010 for Trinidad and Tobago, a country in the Caribbean; LRI for the 1996-2000 period, the country's index value was 0.65, it was quite high than Turkey's index value (0.50) (IDB, 2010b).

Table 2. LRI Values of Some Countries

Country	LR Index Value
Argentina	0.50
Barbados	0.38
Belize	0.52
Bolivia	0.56
Dominican Republic	0.66
Equator	0.56
El Salvador	0.61
Guatemala	0.74
Haiti	0.68
Honduras	0.60
Jamaica	0.65
Colombia	0.50
Costa Rica	0.51
Mexican	0.47
Nicaragua	0.68
Panama	0.46
Peru	0.61
Chile	0.34
Trinidad and Tobago	0.65
Turkey	0.50
Mean	**0.56**



Graphic 1. Ranking of Countries by LRI Values

According to Graph 1. aspect LRI, calculation made out of 20 countries, Turkey was among the lowest 7 countries. Accordingly, the Lack of Resilience Index value of our country was below the average compared to the general average of the other countries. However, our country was in a high category in terms of index values.

However, if the index calculations of more countries can be compared with the developed countries such as European countries, especially with respect to the LR Index, international comparisons and evaluations can be made more accurately.

MATERIALS AND METHODS

The study is a semi-quantitative study, and the index calculation method is used by weighting from a series of sub-indicators. In other words, the arithmetic averages of the sub-factors that make up the lack of resilience and the other sub-factors that make up these sub-factors are combined with the weighting method.

The aim of the study is to determine the resilience level of the provinces against disasters by using factors affecting human development, economic recovery and reaching a high level of security and guide decision makers at all levels. In addition, the study covers the period between 2015-2017, which includes the most recent data and it was applied to all provinces of Turkey. In addition, the index values of the South American countries that are compared in terms of indexes were obtained from the studies prepared by the Inter Development Bank of America. LRI consists of 8 sub-factors and the index value is between 0 and 1. Classification of index values according to international standards; 0-0.20 low, 0.20-0.40 medium, 0.40-0.80 high and 0.80-1.00 is made in the form of very high.

For Lack of Resilience Index;

1. Human Development Index, HDI [Inv]
2. Gender-related Development Index, GDI [Inv]
3. Social expenditures on pensions, health and education as a percent of GDP (%) [Inv]
4. Governing Index (Kaufmann) [Inv]
5. Infrastructure and housing insurance as a percent of GDP (%) [Inv]
6. Television sets per 1000 people [Inv]
7. Hospital beds per 1000 people [Inv]
8. Environmental Sustainability Index, ESI [Inv]

sub factors.

Table 3. Lack of Resilience Index Weights

Indicator	Index Weights
LR1. Human Development Index, HDI [Inv]	21.9
LR2. Gender-related Development Index, GDI [Inv]	10.5
LR3. Social expenditures on pensions, health and education as a percent of GDP (%) [Inv]	13.6
LR4. Governing Index (Kaufmann) [Inv]	15
LR5. Infrastructure and housing insurance as a percent of GDP (%) [Inv]	12.9
LR6. Television sets per 1000 people [Inv]	3.7
LR7. Hospital beds per 1000 people [Inv]	9.2
LR8. Environmental Sustainability Index, [Inv]	13.2

RESULTS

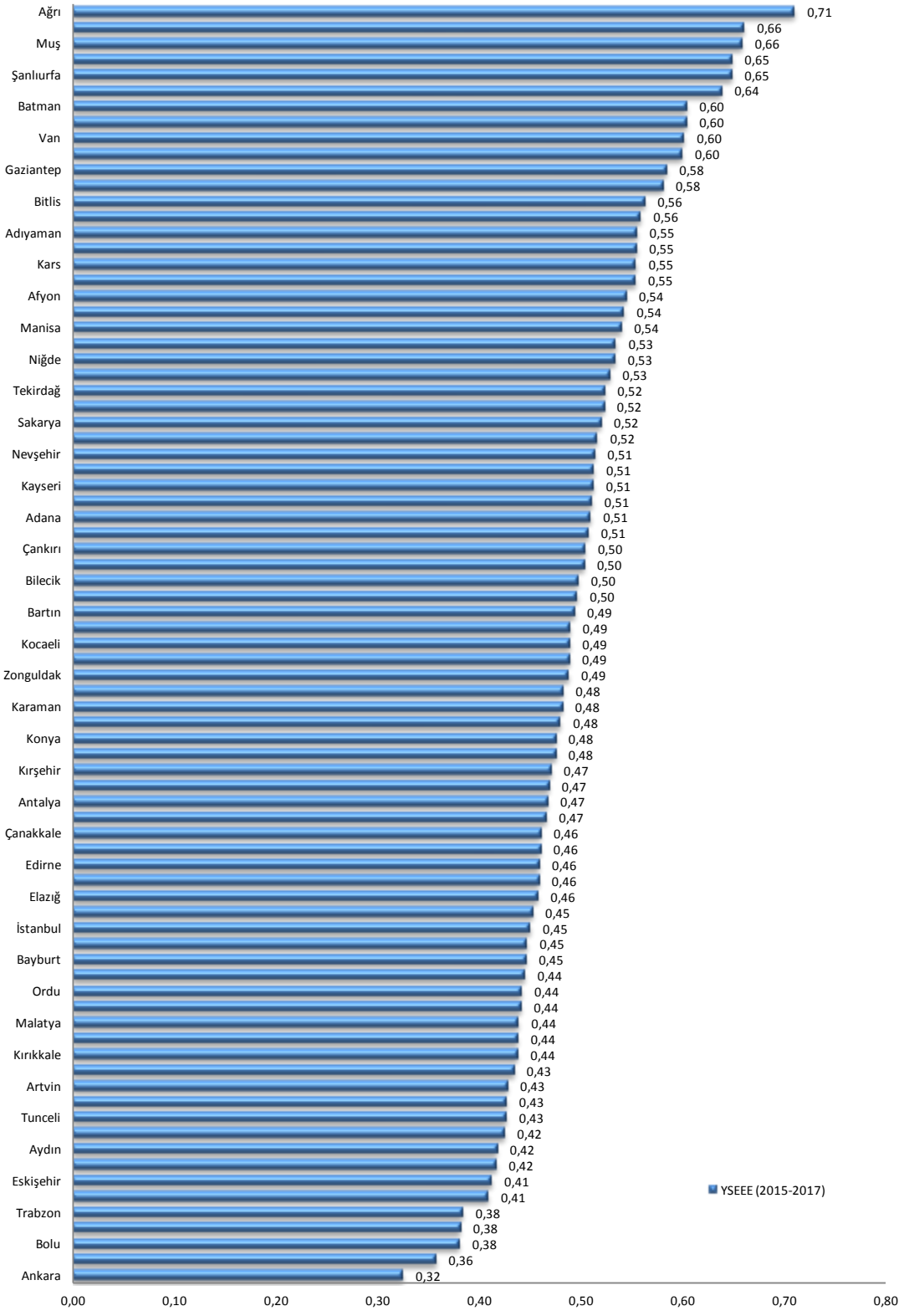
The findings of the study are presented in the form of tables, graphs, maps and interpretations.

Table 4. Provinces of 2015-2017 Lack of Resilience Index Indicators

Provinces	2015	2016	2017	Mean	Provinces	2015	2016	2017	Mean
Adana	0.51	0.51	0.51	0.51	Konya	0.48	0.47	0.47	0.48
Adıyaman	0.55	0.57	0.55	0.55	Kütahya	0.52	0.50	0.50	0.51
Afyon	0.55	0.55	0.54	0.54	Malatya	0.43	0.44	0.44	0.44
Ağrı	0.70	0.72	0.71	0.71	Manisa	0.54	0.54	0.54	0.54
Amasya	0.44	0.45	0.45	0.45	Kahramanmaraş	0.50	0.50	0.49	0.50
Ankara	0.33	0.32	0.32	0.32	Mardin	0.60	0.60	0.59	0.60
Antalya	0.46	0.47	0.47	0.47	Muğla	0.46	0.46	0.46	0.46
Artvin	0.43	0.43	0.43	0.43	Muş	0.65	0.67	0.66	0.66
Aydın	0.42	0.42	0.42	0.42	Nevşehir	0.51	0.52	0.51	0.51
Balıkesir	0.53	0.53	0.53	0.53	Niğde	0.53	0.53	0.53	0.53
Bilecik	0.49	0.50	0.50	0.50	Ordu	0.44	0.44	0.44	0.44
Bingöl	0.51	0.52	0.50	0.51	Rize	0.41	0.41	0.40	0.41
Bitlis	0.57	0.56	0.55	0.56	Sakarya	0.52	0.52	0.52	0.52
Bolu	0.37	0.39	0.38	0.38	Samsun	0.48	0.48	0.48	0.48
Burdur	0.44	0.43	0.43	0.43	Siirt	0.61	0.60	0.60	0.60
Bursa	0.43	0.43	0.43	0.43	Sinop	0.47	0.47	0.47	0.47
Çanakkale	0.46	0.46	0.46	0.46	Sivas	0.46	0.44	0.43	0.44
Çankırı	0.50	0.51	0.51	0.50	Tekirdağ	0.53	0.52	0.52	0.52
Çorum	0.41	0.42	0.42	0.42	Tokat	0.48	0.48	0.48	0.48
Denizli	0.45	0.44	0.43	0.44	Trabzon	0.38	0.39	0.38	0.38
Diyarbakır	0.56	0.56	0.55	0.56	Tunceli	0.41	0.44	0.43	0.43
Edirne	0.47	0.46	0.45	0.46	Şanlıurfa	0.65	0.66	0.64	0.65
Elazığ	0.46	0.46	0.45	0.46	Uşak	0.47	0.46	0.46	0.47
Erzincan	0.45	0.47	0.46	0.46	Van	0.61	0.61	0.59	0.60
Erzurum	0.48	0.48	0.47	0.48	Yozgat	0.52	0.52	0.51	0.52
Eskişehir	0.41	0.41	0.41	0.41	Zonguldak	0.49	0.49	0.49	0.49
Gaziantep	0.59	0.58	0.58	0.58	Aksaray	0.54	0.54	0.54	0.54
Giresun	0.44	0.44	0.43	0.44	Bayburt	0.44	0.46	0.44	0.45
Gümüşhane	0.49	0.51	0.51	0.50	Karaman	0.48	0.48	0.48	0.48
Hakkâri	0.63	0.66	0.65	0.65	Kırıkkale	0.44	0.44	0.43	0.44
Hatay	0.52	0.51	0.51	0.51	Batman	0.60	0.61	0.60	0.60
Isparta	0.38	0.39	0.37	0.38	Şırnak	0.65	0.67	0.66	0.66
Mersin	0.53	0.54	0.53	0.53	Bartın	0.49	0.50	0.49	0.49
İstanbul	0.45	0.45	0.45	0.45	Ardahan	0.53	0.57	0.56	0.55
İzmir	0.36	0.36	0.36	0.36	Iğdır	0.57	0.59	0.58	0.58
Kars	0.55	0.56	0.55	0.55	Yalova	0.45	0.45	0.46	0.45
Kastamonu	0.49	0.49	0.48	0.49	Karabük	0.43	0.42	0.42	0.42
Kayseri	0.51	0.51	0.51	0.51	Kilis	0.64	0.65	0.62	0.64
Kırklareli	0.49	0.49	0.49	0.49	Osmaniye	0.52	0.52	0.52	0.52
Kırşehir	0.47	0.48	0.47	0.47	Düzce	0.55	0.56	0.55	0.55
Kocaeli	0.49	0.49	0.49	0.49	**General Mean**	**0.50**	**0.50**	**0.49**	**0.50**

Looking at the 2015-2017 period, the provinces with the highest value for 2015 were Ağrı (0.70), for the year of 2016 were Ağrı (0,72), for the year of 2017 were Ağrı (0,71) (Table 4).

In addition, according to the results, Ağrı was the province with the highest index value in all three years. On the other hand, Muş and Şırnak provinces were among the provinces with the highest index values in every three years.



Graphic 2. Provinces of 2015-2017 Lack of Resilience Index Indicators

According to Graph 2., Ağrı, Şırnak, Muş and Hakkâri were the first four provinces with the highest value. According to the 2015-2017 period averages of Lack of Resilience Index, the last four provinces with the lowest value were Isparta, Bolu, İzmir and Ankara.

In addition, according to the graph, none of the provinces were included in the low index category while only 5 of them were in the middle index category. The remaining 76 provinces were included in the high index category. This shows that 93.83% of our provinces were in the high category. Furthermore, the percentile has increased compared to the previous period.

Table 5. For the period 2015-2017 Lack of Resilience Classification of Turkish Provinces Averages

Lack of Resilience Index	**Provinces**
≤0.10	-
0.11-0.20	-
0.21-0.30	-
0.31-0.40	Ankara (0.32), İzmir (0.36), Bolu (0.38), Isparta (0.38), Trabzon (0.38)
0.41-0.49	Eskişehir (0.41), Rize (0.41), Aydın (0.42), Çorum (0.42), Karabük (0.42), Artvin (0.43), Burdur (0.43), Bursa (0.43), Tunceli (0.43), Denizli (0.44), Giresun (0.44), Malatya (0.44), Ordu (0.44), Sivas (0.44), Kırıkkale (0.44), Amasya (0.45), İstanbul (0.45), Bayburt (0.45), Yalova (0.45), Çanakkale (0.46), Edirne (0.46), Elazığ (0.46), Erzincan (0.46), Muğla(0.46), Antalya (0.47), Kırşehir (0.47), Sinop (0.47), Uşak (0.47), Erzurum (0.48), Konya (0.48), Samsun (0.48), Tokat (0.48), Karaman (0.48), Kastamonu (0 49), Kırklareli (0.49), Kocaeli (0.49), Zonguldak (0.49), Bartın (0.49),
≥0.50	Bilecik (0.50), Çankırı (0.50), Gümüşhane (0.50), Kahramanmaraş (0.50), Adana (0.51), Bingöl (0.51), Hatay (0.51), Kayseri (0.51), Kütahya (0.51), Nevşehir (0.51), Sakarya (0.52), Tekirdağ (0.52), Yozgat (0.52), Osmaniye (0.52), Balıkesir (0.53), Mersin (0.53), Niğde (0.53), Afyon (0.54), Manisa (0.54), Aksaray (0.54), Adıyaman (0.55), Kars (0.55), Ardahan (0.55), Düzce (0.55), Bitlis (0.56), Diyarbakır (0.56), Gaziantep (0.58), Iğdır (0.58), Mardin (0.60), Van (0.60), Siirt (0.60), Batman (0.60), Kilis (0.64), Hakkâri (0.65), Şanlıurfa (0.65), Muş (0.66), Şırnak (0.66), Ağrı (0.71)

When we look at the 2015-2017 period index classification, we see that the majority of our provinces were concentrated in the value ranges of "0.41-0.49" and "≥0.50". These ranges of values fall into the high category of our index (Table 5).

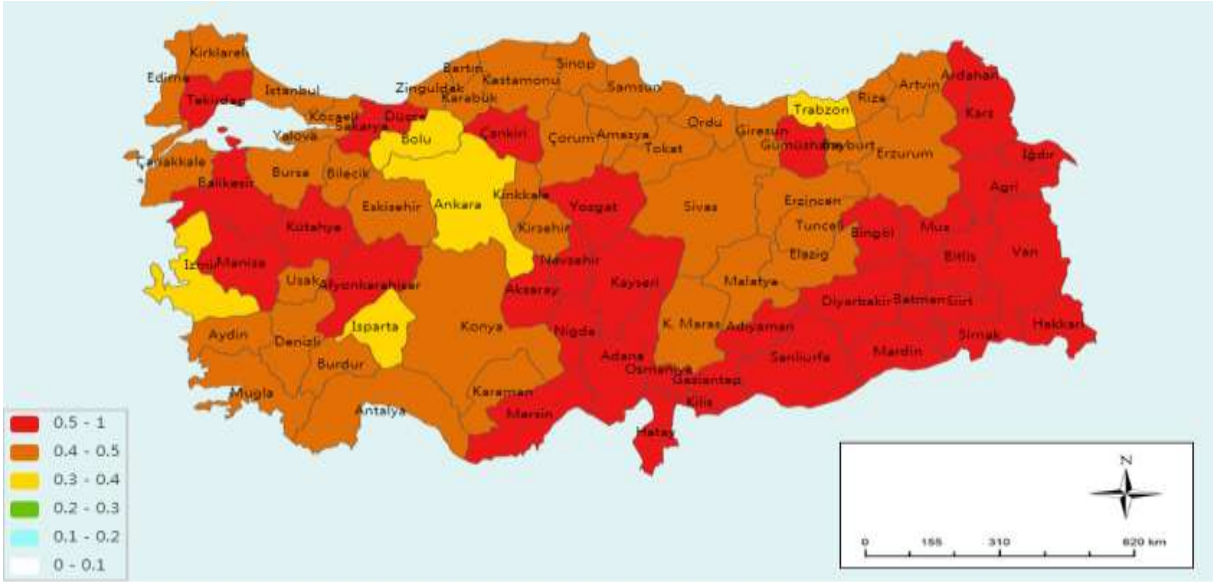


Figure 1. Lack of Resilience Index for 2015-2017 Period

The Lack of Resilience Index is calculated by reversing the index values. Because, the Lack of Resilience Index is composed of indicators such as human development index, gender-based development index, management index, the gross ratio of social expenses related to education, health, accommodation, gross ratio of insurance expenses of buildings and houses and the number of hospital beds per 1000 people. Indicators have a positive effect on vulnerability. For example, the Human Development Index shows the level of development of the population by taking into account the average life expectancy, literacy, purchasing power per capita, and the capacity to cope with disasters increases as the development increases.

In addition, as the social expenditure on education, health and housing increases, the means of increasing the security of the poor and vulnerable population increases; thereby, reducing the vulnerability of the people most affected by disasters. The management index included in this index represents public administration, legitimacy, transparency and democratization activities. A high index means more social management, legislation, equality and integration of risk management into development planning.

In addition, the high insurance costs of buildings and houses mean greater financial protection of the population against threats. The desired number of hospital beds per 1000 people and the number of television per 1000 people, both having sufficient capacity of the health sector in terms of response to emergencies, and facilitating information retrieval, timely and continuous dissemination through visual and audio technology, and a better perception of the population, they have a positive effect on awareness.

According to Figure 1, it is observed that the provinces with high resistance levels are concentrated in the eastern and southeastern regions in the 2015-2017 period, while the red hue penetrates the inner parts of the Mediterranean coast. In addition, it is remarkable that almost all of our country is in brown and red tones representing the high category. In addition, it is observed that the red color tone includes some education parameters such as east and southeast and social and social elements which are at lower levels in the eastern and southeastern provinces, while it is observed that it is also red in the west such as Manisa, Balıkesir, Kütahya and Düzce. While the color tone of Istanbul province is still brown, the color tone of Izmir province is also yellow.

DISCUSSION

Many studies have been conducted on the concept of disaster resilience or flexibility, particularly in the international arena.

In this context;

Joseph S. Mayunga (2007), in the draft study report prepared for the summer academy, aimed to develop a conceptual and methodological framework for the analysis, measurement and mapping of the concept of disaster resilience. In this context, while examining the descriptive aspects of the concept of resilience, the frameworks used to measure the flexibility of communities were reviewed and finally, a methodology was proposed by evaluating the index development methods used to measure community resilience against disasters (Mayunga, 2007).

Mac Askill and Guthrie (2014) summarize the problems of the definitions of resilience and emphasize the main issues where there are differences in interpretation. In addition, in the light of these

differences, a conceptual framework for examining multiple interpretations of resilience in disaster risk management is presented. As a result, the study emphasized that a strict consensus on the definition of resilience is impractical and that adopting it in a number of contexts would be a more accurate approach(Mac Askill and Guthrie, 2014).

In 2016, Benjamin Beccari conducted a comprehensive study on the indicators of disaster risk, vulnerability and compound resilience currently in use. In the study, a comparative analysis of risk, vulnerability and compound resilience indicators related to disasters was performed. Among the new statistical techniques presented here are the CN-TFN index systems, a risk index developed in China, which provides a synthesis of the Regional Disaster Index, the Social Vulnerability Index, the Vulnerability Index for Individuals in Small Households and the Australian Geological Social Vulnerability Index, are broadly compared. As a result, it has been emphasized that there is a significant increase in the number of methodologies applied in recent years and that composite indicators are more usable than the indicators to be used by researchers and policy makers. In addition, the importance of considering the reliability of comparative index systems to allocate resources in order to reduce disaster risk is emphasized in the policies to be implemented (Beccari, 2016).

The study, prepared by the United Nations University in 2016, presents the findings of a review of 35 frameworks that have become increasingly common to assess fragility, risk and resilience by the international community. This work was prepared to support the development of a conceptual framework to assess the degree of fragility and resilience in cities as part of a wider project initiated by UNU-CPR in 2015. According to the study, frameworks that integrate conceptualization of resilience and fragility are needed to help policy makers to better assess political, economic, social and environmental risks at the city level (UNU-CPR, 2016) .

A report on the Resilience Index was prepared in 2017 by a US-based insurance company specializing in loss prevention services for large companies in the field of high-risk immovable property insurance worldwide. According to the report, three new resilience factors in the index have come to the forefront in recent years. These; urbanization rate, natural cyber risk and supply chain visibility. In the report, 2017 FM Global Resilience Index values were calculated for 130 countries and regions, and comparisons were made with both each other and past values. The rankings were calculated as an equal weighted combination of the 12 core factors that directly and significantly affect the institutional resilience of countries. According to the report, Switzerland ranked first in the 2017 Global Resilience Index. Luxembourg rose from the 8th place in 2013 to the 2nd place in 2017, partly due to a decline in confidence in oil for economic efficiency. In terms of index, Haiti is the lowest country among the poorest countries in the world. In addition, the report includes the rankings of other countries and regions (UNISDR, 2017).

In a project prepared by AFAD (2018), it was aimed to create a new concept of local government that will be implemented both at regional and urban level through specific activities aiming to integrate the concept of 'Resilience' against disasters and climate change into regional development policies. The aim of the project is to encourage municipalities, stakeholders, major groups and communities to implement their local development policies by involving them both in disaster risk mitigation efforts and in increasing the resilience of regions / communities to disasters (AFAD, 2018).

Again in 2018, AFAD organized a workshop titled "The Role of Local Governments in Creating Disaster Resilient Society". According to this workshop, initiated by the UNISDR Resilient Cities Campaign in Turkey, Istanbul, Kocaeli, Yalova, Bursa and Gaziantep, including, five municipalities have been included in the presidency. At the end of the workshop, 100 problem areas were identified through expert opinions and these problems were analyzed in six groups: legislation, institutional administration, cooperation and coordination, capacity, information, training and drill and implementation and supervision.

CONCLUSIONS

According to the results, it can be seen that among the lowest ten provinces, there were big cities such as Ankara, İzmir, Bolu, Trabzon and Eskişehir.

When sub-indicators were examined for the ten provinces with the lowest index values; The Human Development Index, the Gender-related Development Index 1000 falling number of television per capita, according to Turkey average number of hospital beds per 1,000 people per Environmental Sustainability Index were better than Turkey.

When the provinces with high index values were taken into consideration, it was noteworthy that all of them are the provinces of Eastern and Southeastern Anatolia.

In addition, it is noteworthy that the provinces with high DE index are mostly Eastern and Southeastern provinces. These provinces; The Human Development Index, the Gender-related Development Index, Environmental Sustainability Index, the indicators such as the average number of hospital beds per 1,000

people under the average of Turkey is seen as inadequate.

Resistance to disasters and hazards means that a region or country will recover quickly, socially, economically, physically, and return to a better state (if possible) after damage and damage occur.

For this reason, for provinces with low DE index; Investment and projects should be prepared and implemented as soon as possible in areas such as average and expected education years, per capita national income, insurance rates of buildings and homes, and the number of hospital beds per person.

In addition, the competent institutions of the countries in the field of disaster management should allocate more budget to the areas that are seen to be inadequate and accelerate the improvements in this field. Thus, the provinces of Turkey and the whole country will be provided with a more durable structure against disasters and environmental hazards (including epidemics and biological threats).

Ethical Approval

Since there was no issue related to ethical principles in the study, no certificate of ethical compliance was obtained.

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The Mediating Role of Coaching Behavior in The Effects of Intrinsic Motivation on Work Addiction Among Nurses

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DOİ
https://10.48121/jihsam.826920

Received
16.11.2020

Accepted
12.03.2021

Published Online
30.04.2021

Key Words

Intrinsic Motivation
Work Addiction
Coaching Behavior
Health Care Professionals
Nursing Management

ABSTRACT

This study aims to investigate whether coaching behavior has a mediating role in the effects of intrinsic motivation on work addiction among nurses.

This is a cross-sectional study. A total of 269 nurses who were working at Ankara Education and Research Hospital were included in the study. After obtaining required permissions, we started to collect data using structured instruments designed to measure phenomenological attitudes and behaviors. The instruments used in this study were personal information form, the Intrinsic Motivation Scale (IMS), the Work Addiction Scale (WAS) and the Coaching Behavior Scale (CBS). Statistical analyses were performed using SPSS version 20 for Windows.

The mean work addiction total score was 3,26±0,72; the mean coaching behavior scale score was 2,89±1,02 and the mean intrinsic motivation scale score was 3,86±0,78 for the participants. Work addiction showed a positive linear correlation with coaching behavior and intrinsic motivation. Besides, there was a positive linear correlation between coaching behavior and intrinsic motivation.

We performed Sobel Test to investigate the mediating effect among the variables and found that coaching behavior had a fully mediating role in the effects of intrinsic motivation on work addiction.

Coaching behavior increases nurses' motivation by improving their communication skills in relationships with patients and colleagues. We argue that increased level of motivation decreases work addiction among nurses and has positive impacts on both institutional performance and patient outcomes.

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INTRODUCTION

There is a rapid change in the health care system and the presentation of health services. Acceleration in innovation, global competition, and diseases that are hard to deal with, make things harder for healthcare professionals. In this regard, it is a necessity to motivate the feelings of curiosity, interest, empathy, and affection among health care professionals, which is like their professions, to improve the quality and efficiency of nursing care holding an important place in health services. It may be argued that personal characteristics and work environment have impacts on work addiction and intrinsic motivation among nurses. To gain a positive development in this impact, employees require to get managerial coaching. Since nurses provide continuing health service, they have some situations such as work-related concerns and difficulty falling asleep after working hours or when they are off-the-clock (Kubota et al., 2010; Shimazu et al., 2010). In health care, workplace environment involves units require maximum attention, such as intensive care, emergency departments, and operating rooms. This situation creates a stressful job environment. Work pressure on nurses, who provide 7/24 healthcare service, causes the repeated checking of the duties done. It has been reported in the literature that nursing is among the professions at the risk of work addiction (Quinones & Griffiths, 2015).

In health care system, among the intrinsic and extrinsic motivators in the workplace are sufficient resources, supportive management, professional statue, fair distribution of the workload, flexible working hours, occupational health and safety, payments, rewards, job love, satisfying relationships with other health care professionals (Abu Yahya et al., 2019; Buchan, 2010). Managers have important roles in motivating employees. Among a manager's responsibilities are evaluation and accountability, establishing effective working relationships, making learning easier, creating an environment for learning, implementing evidence-based practices, and assessment of learning (Ali, 2008). Managers should guide employees by using coaching behaviors to ensure that they can make better decisions. Besides, they should support health care workers in fulfilling their responsibilities. All of these will increase employee motivation.

Motivation is important for workforce management in health care systems as it is associated with performance levels, human resource management, and patient satisfaction. The inherent desire of individuals to engage in activities for their fundamental needs forms the basis for intrinsic motivation. In other words, people are curious and have a desire to know, to inquire, and to develop since birth (Ryan & Deci, 2000). There are two types of motivation, intrinsic and extrinsic motivation. Intrinsic motivation is the type of motivation that emerges from the interest in a job and it is related to the nature of the job. Among intrinsic motivators are job autonomy, job involvement, the value of the job for the employee, creativity, responsibility, and use of abilities at work. Intrinsically motivated people to move to action for enjoyment or opportunity about a job or a task rather than external rewards, pressures, or needs (Saracel et al., 2015). A large number of nurses, among other staff is too significant to be ignored. This situation is also important regarding the workload in the sector. Thus, motivation is a key factor for nurses to cope with the difficulties they encounter. It has been showing that a high level of motivation and satisfaction increases employee performance and productivity (Hammoudi et al., 2018). In the health care system, high turnover rates adversely affect access to care and reduce the quality and level of health care service. The shortage of staff leads to a reduction in time spent on patient care. Moreover, the lack of experienced staff undermines teamwork and causes a decrease in individual and organizational performance (Buchan, 2010). Decreases in individual and organizational performance adversely affect quality of health care services, as well as reduce competitiveness of an institution.

Advances in technology, acceleration in innovation, and global competition have increased customer demands and led to changes in expectations. In response to these developments, employees need to update their knowledge and compete with others by establishing social network services. Through the internet and computer-based working, employees can work wherever they are and whenever they want; however, this situation sometimes causes a blurred line between work and private life (van Beek et al., 2012). The people blurring the line between work and private life in this manner are called as workaholics. The term workaholism was first described by Oates as "work addiction, the compulsion or the uncontrollable need to work incessantly" (Bonebright, 2002). Spence and Robins (1992) focus on three characteristics of work addiction. These characteristics are the work involvement, feeling an addictive drive to work under internal pressure and the lack of work enjoyment. It has been suggested that work addiction may be a kind of adaptation for the individuals working at stressful workplaces for a long time, and also it has been revealed that work addiction affects burnout (Homer, 1985; Kanai et al., 1996). Nurses, who are one of the key stakeholders in the health care system, may be more likely to feel burned out. It has become compulsory to determine more effective approaches to establish an educational and supportive environment for health care professionals to improve their skills and knowledge and the quality of care and to develop appropriate policies to achieve this purpose (Manzi et al., 2017). Health institutions utilize the coaching approach as a solution to this compulsory situation.

Coaching is generally a long term relationship between nurses and nurse managers providing leading support for professional development (Jacobs, 2018). It is assumed that coaching behavior increases job satisfaction among nurses via developing communication skills to improve the relationship between nurses and their colleagues and patients, and the satisfaction increased by coaching affects patient satisfaction.

METHOD

Purpose and Hypotheses

This study aims to investigate the mediating role of coaching behavior in the effects of intrinsic motivation on work addiction.

H1: Intrinsic motivation affects work addiction positively.

H2: Coaching behavior affects work addiction positively.

H3: Coaching behavior affects intrinsic motivation positively.

H4: The variable coaching behavior has a mediating role in the effects of intrinsic motivation on work addiction.

Population and Sample

The population of this study consisted of nurses who were working at an education and research hospital in Ankara. Convenience sampling, a type of non-probability sampling technique, was used in the study 17. The study sample was composed of 300 nurses who volunteered to participate in the study after informed about the study. The questionnaires used to collect the data were distributed to nurses who were present at the hospital and volunteered to participate in the study between August and September 2019. We removed the questionnaires with missing data, so the data were collected from a total of 269 nurses.

Instruments

The data were collected using sociodemographic information form developed by researchers to determine phenomenological (personal and professional) characteristics of nurses, the Dutch Work Addiction Scale (DUWAS), Intrinsic Motivation Scale, and Coaching Behavior Scale. We used four instruments with a total of 39 items to collect data.

Sociodemographic information form: It is developed by researchers, and consists of 8 items about nurses' personal and professional characteristics.

Motivation Scale (MS): The Motivation Scale (MS) was developed by Dündar, Özutku, and Taşpınar (2007) based on the study by Mottaz (1985). The MS consists of 24 items, 9 of which measure intrinsic motivation. It is a 5-point Likert scale: 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree.

The Dutch Work Addiction Scale (DUWAS): The DUWAS is a 14-item two-factor scale developed by Schaufeli, Taris, and Bakker (2006) to measure work addiction. Doğan and Tel (Jacobs, 2018). adapted the scale into Turkish. The scale includes two subscales, "working excessively" consisting of 9 items (e.g., "I spend more time working than on other activities", and "I feel in a hurry and racing against the clock"), and "working compulsively" consisting of 4 items (e. g., "I feel that there is something inside me that drives me to work hard"). The Turkish version of the DUWAS is scored on a 5-point Likert scale (1 never, 2 rarely, 3 sometimes, 4 often, 5 always).

Coaching Behavior: To measure coaching behavior, we used Coaching Behavior Scale (CBS) which is an 8-item one-dimension scale developed by Ellinger, Ellinger, and Keller (2003) and adapted into Turkish by Kalkavan (2014). The Turkish version of the CBS is scored on a 5-point Likert scale (1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree).

Data Analysis

The data were analyzed using SPSS version 20. Non-normally distributed variables were presented as median (minimum and maximum). When comparing the mean scale scores of the nurses according to their personal and professional characteristics, we used Mann-Whitney U-test to compare two groups, and the Kruskal-Wallis test to compare more than two groups. The level of statistical significance was determined as $p<0.05$. We used Sobel test to investigate the mediating role among the variables. Sobel (1982) tests the significance of the indirect effect of an independent variable to a dependent variable through a mediator variable. Sobel's mediation model can be used to test complex models (Baron & Kenny, 1986).

Ethical Aspect of the Study

Approval for the study was obtained from Lokman Hekim University Non-Interventional Clinical Research Ethics Committee (Decision number 2019/25 and Code no: 2019014). Written permission was obtained from the hospital administrations where the study was conducted. The nurses invited to the study were informed about the study, and those who gave consent that they were volunteers were included in the study. Nurses' credentials were not written on the data collection forms.

RESULTS

Table 1 presents the number and percent distribution of nurses by sociodemographic characteristics.

Table 1. Number and percent distribution of nurses by sociodemographic characteristics

Variables	Number (n)	Percent (%)
Gender		
Female	232	86,25
Male	37	13,75
Marital Status		
Married	173	64,31
Single	96	35,69
Age	34,96±8,37	
Education Level		
Vocational High School (VHS)	47	17,47
Associate Degree	44	16,36
University	164	60,97
Master Degree	14	5,20
Monthly Income (TRY)		
1000-2000	20	7,43
2001-3000	32	11,90
3001-4000	129	47,96
4001-5000	77	28,62
5001 and higher	11	4,09
Units		
Emergency department	26	9,67
Operating room	36	13,38
Surgical unit	33	12,27
Medical unit	84	31,23
Outpatient clinic	30	11,15
Intensive care unit	60	22,30
Years of work experience		
1-5	72	26,77
6-10	62	23,05
11-15	39	14,50
16-20	30	11,15
20-25	40	14,87
26 years and longer	26	9,67

A total of 269 nurses participated in the study. Most of them were female (86,25%). The mean age was 34,96±8,37 years. More than half of the participants were married (64,31%). Of the nurses, 60,97% graduated from university, 17,47% graduated from vocational high school, 16,36% had an associate's degree, and 5,20% had a master's degree. The number distribution of the nurses by units were as follows; 26 (11,11%) nurses were working at emergency department, 36 (13,38%) at operating room, 33 (31,23%) at surgical unit, 84 (31,23%) at medical unit, 30 (11,15%) at an outpatient clinic and 60 (22,30%) at intensive care unit. Nurses who had 1-5 (n=72, 26,77%) and 6-10 (n=62, 23,05%) years of work experience constituted almost half of the participants

Table 2 presents the mean values, standard deviations, and Cronbach alpha coefficients for all measures.

Table 2. Descriptive Statistics and Reliabilities (N=269)

	N	Mean	Min.	Max.	S.D.	Cron. Alpha-α
The Dutch Work Addiction Scale (DUWAS)	14	3,26	1,00	5,00	0,72	0,877
Working excessively (WE)	9	3,18	1,00	5,00	0,74	0,780
Working compulsively (WC)	4	3,37	1,00	5,00	0,80	0,789
Coaching Behavior Scale (CBS)	8	2,89	1,00	5,00	1,02	0,928
Intrinsic Motivation Scale (IMS)	9	3,86	1,00	5,00	0,78	0,852

Table 2 shows Cronbach alpha coefficients for the scales. The DUWAS, the CBS, and the IMS showed good reliability with Cronbach's of 0,877, 0,928, and 0,852, respectively. Cronbach's alphas for the subscales WE and WC were 0,780 and 0,789, respectively, which showed that the subscales were fairly reliable.

The mean DUWAS total score of the nurses was 3,26±0,72. The mean WE score was 3,18±0,74, and the mean WC score was 3,37±0,80. The mean CBS score was 2,89±1,02, and the mean IMS score was 3,86±0,78 for the participants.

Table 3. Distribution of the mean scores for the scales by sociodemographic characteristics

Variables	The DUWAS		Working Excessively		Working Compulsively		Coaching Behavior Scale		Intrinsic Motivation Scale	
	Mean±SD	**Test score and p-value**	**Mean±SD**	**Test score and p-value**	**Mean±SD**	**Test score and p-value**	**Mean±SD**	**Test score and p-value**	**Mean±SD**	**Test score and p-value**
Gender										
Female	3,29±0,73	t=1,875 p=0,062	3,20±0,74	t=1,109 p=0,269	3,50 (1,00-5,00)	**z=-2,890 p=0,004**	3,00 (1,00-5,00)	z=-0,724 p=0,469	4,00 (1,00-5,00)	z=-1,110 p=0,267
Male	3,05±0,63		3,05±0,69		3,17 (2,00-4,00)		3,00 (1,00-4,00)		4,00 (2,00-5,00)	
Marital Status										
Married	3,27±0,70	t=0,455 p=0,649	3,25 (1,00-5,00)	z=-0,696 p=0,486	3,50 (1,00-5,00)	z=-0,171 p=0,864	3,00 (1,00-5,00)	z=-0,152 p=0,879	4,00 (1,00-5,00)	z=-0,808 p=0,419
Single	3,23±0,75		3,00 (1,00-5,00)		3,42 (1,00-5,00)		3,00 (1,00-5,00)		4,00 (1,00-5,00)	
Age	**r=0,193 p=0,001**		**r=0,163 p=0,008**		**r=0,208 p=0,001**		r=0,027 p=0,664		r=-0,046 p=0,452	
Educational Level										
VHS	3,14 (1,00-5,00)	K=6,500 p=0,090	3,15±0,70	F=2,559 p=0,056	3,33 (1,00-5,00)	K=6,136 p=0,105	3,00 (1,00-4,00)	K=4,886 p=0,180	4,00 (1,00-5,00)	K=0,730 p=0,866
Associate degree	3,61 (2,00-5,00)		3,44±0,75		3,50 (2,00-5,00)		3,00 (1,00-5,00)		4,00 (1,00-5,00)	
University	3,29 (1,00-5,00)		3,13±0,73		3,50 (1,00-5,00)		3,00 (1,00-5,00)		4,00 (1,00-5,00)	
Master degree	2,93 (2,00-4,00)		2,98±0,76		3,00 (2,00-4,00)		3,00 (1,00-5,00)		4,00 (3,00-5,00)	
Units										
Emergency department	3,15±0,66		3,17±0,64		3,25 (1,00-5,00)		3,00 (1,00-4,00)		4,00 (2,00-5,00)	
Operating room	3,31±0,77	F=0,375 p=0,866	3,17±0,78	F=0,296 p=0,915	3,67 (2,00-5,00)	K=5,327 p=0,377	3,00 (1,00-5,00)	K=4,552 p=0,473	4,00 (1,00-5,00)	K=7,452 p=0,189
Surgical unit	3,16±0,62		3,03±0,63		3,50 (1,00-5,00)		3,00 (1,00-5,00)		4,00 (1,00-5,00)	
Medical unit	3,31±0,76		3,21±0,81		3,33 (2,00-5,00)		3,00 (1,00-5,00)		4,00 (2,00-5,00)	
Outpatient clinic	3,28±0,69		3,22±0,71		3,67 (2,00-5,00)		3,00 (1,00-5,00)		4,00 (2,00-5,00)	
Intensive care unit	3,25±0,74		3,19±0,73		3,33 (2,00-5,00)		3,00 (1,00-4,00)		4,00 (1,00-5,00)	
Years of Work Experience										
1-5 years	3,08±0,76[a,b,c]	**F=2,387 p=0,039**	3,05±0,78	F=1,639 p=0,150	3,17 (1,00-5,00)[a]	**K=14,634 p=0,012**	3,00 (1,00-5,00)	K=4,789 p=0,442	4,00 (2,00-5,00)	K=3,282 p=0,657
6-10 years	3,27±0,64		3,15±0,68		3,50 (2,00-5,00)		3,00 (1,00-5,00)		4,00 (2,00-5,00)	
11-15 years	3,12±0,66		3,06±0,61		3,33 (2,00-5,00)		3,00 (1,00-5,00)		4,00 (1,00-5,00)	
16-20 years	3,45±0,64[a]		3,42±0,68		3,67 (2,00-5,00)		3,00 (1,00-4,00)		4,00 (2,00-5,00)	
20-25 years	3,41±0,79[b]		3,29±0,82		3,58 (2,00-5,00)		3,00 (1,00-5,00)		4,00 (1,00-5,00)	
26 years and longer	3,47±0,77[c]		3,3±0,81		3,83 (2,00-5,00)[a]		3,00 (1,00-4,00)		4,00 (2,00-5,00)	

*Non-normally distributed variables were reported as median (minimum-maximum). t: the independent samples t-test, z= z score of Mann Whitney U test, K= Kruskal Wallis test score, F: The one-way analysis of variance F statistic. The group means differed significantly were shown by the same superscript letter.

When analyzing the mean scores for the scales DUWAS, "coaching behavior" and "intrinsic motivation" and on the subscales "working excessively" and "working compulsively" according to sociodemographic characteristics, we found no difference in the mean total and subscale scores according to age group, gender, educational level and units (p>0,05). However, there was a significant difference in the mean score of the subscale "working compulsively" according to gender (p<0,05). The mean "working compulsively" score in the male sample was significantly lower than that in the female sample (z=-2,890 p=0,004).

There was no linear correlation between age and the scores on "coaching behavior" and "intrinsic motivation" (p>0,05). On the other hand, age showed a weak positive linear correlation with the scores on the DUWAS, "working excessively" and "working compulsively" (r=0,193, r=0,163, r=0,208, respectively, p<0,05). Although there was no difference in the mean DUWAS scores according to years of experience, the nurses with 1-5 years of experience had a lower mean DUWAS score (3,08±0,76) than those with 16-20, 21-25, and 26 and above years of work experience (F=2,387 p=0,039). Also, the "working compulsively" score of the nurses with 1-5 years of experience (3,17(1,00-5,00) was lower than that for those with 26 and above years of work experience (3,83(2,00-5,00) (K=14,634 p=0,012); however, no difference was found in the mean "working compulsively" scores according to years of experience.

Table 4. Correlation among the scales

The Scales	DUWAS	Working Excessively (WE)	Working Compulsively (WC)	Coaching Behavior (CBS)	Intrinsic Motivation (IMS)
DUWAS	1,000				
Working Excessively (WE)	**0,955**	1,000			
Working Compulsively (WC)	**0,932**	**0,782**	1,000		
Coaching Behavior (CBS)	**0,243**	**0,255**	**0,198**	1,000	
Intrinsic Motivation (IMS)	**0,148**	0,115	**0,170**	**0,140**	1,000

p-values <0,05 are shown in bold.

As presented in Table 4, the DUWAS had a weak positive linear correlation with the CBS and the IMS (r=0,243, r=0,148, respectively, p<0,05). There was a weak positive linear correlation between the subscale WE and the CBS (r=0,255 p<0,05). In addition, the subscale WC had a weak positive linear correlation with the CBS and the IMS (r=0,198, r=0,170, respectively, p<0,05). And lastly, there was a weak positive linear correlation between the CBS and the IMS (r=0,140 p<0,05).

Table 5. Prediction of the dependent variable DUWAS from the CBS and the IMS

Variables	B	Std. Error	β	t	p	Tolerance	VIF
Intrinsic motivation	0,107	0,055	0,116	1,944	0,053	0,980	1,020
Coaching behavior	0,161	0,042	0,227	3,799	<0,001	0,980	1,020
	R2=0,072	Adj. R2=0,065	F=10,345	p<0,001	Durbin Watson=2,007		

Table 5 demonstrates regression analysis predicting the dependent variable DUWAS from the independent variables "coaching behavior" and "intrinsic motivation".

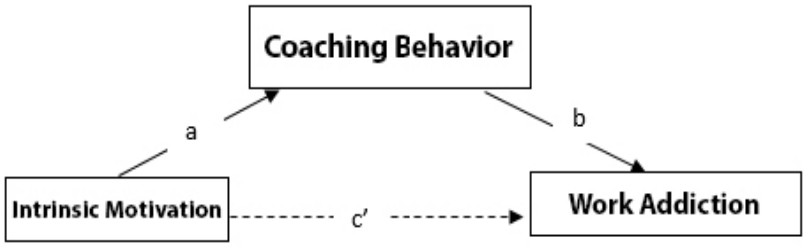

Figure 1. The Study Model

Figure 1 demonstrates the relationship between intstric motivation, coaching behaviour, work addiction.

We found that the CBS and the IMS explained 6,50% of the variability in the DUWAS, and the model was significant (F=10,345, p<0,001).

Table 6. The mediating role of coaching behavior in the effects of intrinsic motivation on work addiction

Steps	Independent Variables	Dependent Variables	B	β(p)	t	Adj. R2	F	p
Step 1	Intrinsic Motivation	Work Addiction	0,136	0,148(0,015)	2,441	0,022	5,957	0,015
Step 2	Intrinsic Motivation	Coaching Behavior	0,182	0,140(0,021)	2,315	0,019	5,36	0,021
Step 3	Intrinsic Motivation	Work Addiction	0,107	0,116(0,053)	1,943	0,072	10,346	<0,001
	Coaching Behavior	Work Addiction	0,161	0,227(<0,001)	3,799			

Table 6 shows the mediation effect of coaching behavior on the relationship between intrinsic motivation and work addiction. In the relationship between intrinsic motivation and work addiction, B value was lower at step 3 (B=0,107) than that at step 1 (B=0,136). β value was significant at step 1 (p=0,015); however, it was not significant at step 3 (p=0,053). According to these results, coaching behavior was found to have a full mediation effect on the relationship between intrinsic motivation and work addiction. The full mediation effect of coaching behavior on the relationship between intrinsic motivation and work addiction was tested using the Sobel test. The result of the test indicated that coaching behavior was a full mediator in this model (z=1,72 p=0,04).

DISCUSSION

This study investigated the mediating role of coaching behavior in the relationship between intrinsic motivation and work addiction among nurses. According to our results, the mean IMS score of the nurses was slightly higher than the middle level, 3,86±0,78. Intrinsically motivated activities are performed willingly without enforcement or a reward. In other words, when people value an activity personally or consider it significant, their motivation for engaging in this activity is intrinsic (Ryan & Deci, 2000). The profession of nursing involves emotional relationships, such as providing patient care by showing love and affection, by its nature. It is argued, accordingly, that if intrinsic motivation plays a crucial role in the decision of becoming a nurse and in the development of work commitment (Wang et al., 2019). In the results of our study, the nurses' scores on the DUWAS, and the subscales WE and WC were found higher than the middle level; 3,26±0,72, 3,18±0,74, and 3,37±0,80, respectively. Working conditions of the profession may require nurses to work both excessively and compulsively. Nurses have a heavy workload, and the conditions such as working in shifts, night shifts, disagreements with patients, patient relatives, colleagues, and other health care professionals, occupational diseases, the experience of excessive work-related stress dueted emergency harder for them. It has been reported that workaholic employees experience many damaging outcomes such as low job satisfaction, burnout, work overload, and high, levels of health complaints (van Beek et al., 2012). However, it has been suggested that coaching can reduce mega outcomes such as occupational diseases, burnout an,d work stress, and improve job satisfaction and organizational commitment (Demerouti & Bakker, 2011).

In our study, the mean CBS score of the nurses was close to the middle level, 2,89±1,02. One of the factors that are useful in improving the coping skills of health care professionals is coaching behavior.

Coaching behavior is a useful strategy for it encourages employees to transform learning into action, and involves teams in the improvement of patient care, and develops the basis of effective leadership (Hugill et al., 2018). Mau et al. (2020) have revealed that coaching intervention increases caring behavior among nurses. And it is also observed that patient satisfaction is higher for patients receiving care from the nurse group who got coaching intervention. In our study, whereas there was no difference in the mean scores on the scales IMS, CBS and DUWAS according to sociodemographic characteristics of the nurses (p>0,05), there was a significant difference in the mean DUWAS score according to years of work experience (F=2,387 p=0,039). The mean DUWAS score of the nurses with 1-5 years of experience (3,08±0,76) was lower than that of those with 15 and above years of experience. In compliance with our results, other studies have also reported that there is no difference in work addiction according to the sociodemographic characteristics of participants (Burke et al., 2006; Spence & Robbins, 1992). According to the results of correlation among the scales, there was a weak, positive, linear relationship between the DUWAS and the CBS, and the IMS (r=0,243, r=0,148, respectively, p<0,05). These results have led us to conclude that there is a positive relationship between "intrinsic motivation", which refers to eagerness, interest and job satisfaction, and "work addiction", which involves work overload and "coaching behavior". In contrast with our results, a study conducted with 544 nurses by Van Beek et al. (2011) have revealed a negative relationship between intrinsic motivation and work addiction and indicated that work addiction has a negative relationship with intrinsic motivation among nurses.

Besides, we found a weak, positive, linear relationship between the subscale WE and the CBS (r=0,255 p<0,05), and a weak, positive, linear relationship between the subscale WE and the CBS, and the IMS (r=0,198, r=0,170, respectively, p<0,05). There was a weak, positive, linear relationship between the CBS and the IMS likewise (r=0,140 p<0,05). We suggest that coaching behavior may help health care professionals enhance their skills, improve their performances, and maximize their potential, who work in an industry that is becoming increasingly competitive and highly stressful. We found that the CBS and the IMS explained 6,50% of the variability in the DUWAS, and the model was significant (F=10,345, p<0,001).

The result of structural equation modeling we used has revealed that coaching behavior fully mediates the effect of intrinsic motivation on work addiction.

Limitations

The data are limited to the opinions of nurses working at the hospital in Ankara where the study was carried out.

CONCLUSION AND RECOMMENDATİONS

This study investigated the relationship between work addiction, intrinsic motivation, and coaching behavior. Nursing has a complex structure including a variety of cognitive processes and behavioral abilities to protect and improve the health of individuals, families, and communities. It is a well-known fact that because of the heavy workload due to having great responsibility for maintaining the continuity of health services, nurses work excessively. Providing health care requires full commitment and attention. Thus, it is significant to increase motivation among health care workers. In our study, we found a positive relationship between working excessively and coaching behavior as well as between coaching behavior and intrinsic motivation. Coaching behavior had a positive effect on employee attitude. This situation may be interpreted as coaching behavior play that s an effective role in achieving organizational success as well as in improving job satisfaction and motivation among employees. Therefore, enhancing the coaching skills of nurse managers may be useful in improving the quality of patient care and increasing patient satisfaction.

Acknowledgements We would like to thank all nurses for participating in this study. Conflict of Interest The authors declare no conflict of interest

Ethic Approval The study was approved by the Non-Invasive Research Ethics Committee of Lokman Hekim University (issue no:2019/06, code no:2019014). Participating nurses were informed about the study, and written informed consent was obtained.

Financial Disclosure The authors declared that this study has received no financial support.

Authorship Statement As the authors of this paper, we have declared that they all have made a substantial contribution to the information or material submitted for the publication and we have approved the final version of this manuscript.

Contribution of Authors: N.B. and I.S. conceived and designed the study. N.B. collected data. N.B and I.S. wrote/drafted/edited the manuscript and interpreted the results. All authors approved the content of this manuscript.

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Effect of health education about personal hygiene on student's health in primary school

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DOİ
https://10.48121/jihsam.863751

Received
18.01.2021

Accepted
10.04.2021

Published Online
30.04.2021

Key Words
Health Education
Personal Hygiene
Student's Health

ABSTRACT

The students' knowledge of personal hygiene can implement by teachers in schools or parents at home. The study was conducted in Khartoum State Sudan 2012 to assess the effect of health education about personal hygiene on student's health through the interventional program. A quasi-experimental study pre-post-test design was used in this study. Population of this study is students level six with sample size 356 students. Previous of the using of intervention program, E-histolytica notice was higher in the control group 20 (69%), giardia lamblia 9 (29 %) in the interventional group, while after the intervention program, giardia lamblia 23 (22.1%) in the interventional group rate decreased. There was a statistically significant difference after participants received health massages and practice hand washing technique (p-value = 0.039). The score of personal hygiene and the student's awareness of health messages increased (p = < 0.01). This study confirmed that the effect of health education was highly significant among participants after the intervention program. The study concluded that raising awareness of students about personal hygiene to decrease health problems associated with poor personal hygiene can be provided through health education massages in collaboration with the Ministry of Health and the Ministry of Education.

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INTRODUCTION

Students' knowledge of hygiene is reflected to be provided by parents or schools. It is something with a direct effect on health and is related to sociocultural factors. Primary care showed a vital role in health education and promotion, so concentrating on hygiene habits is part of primary prevention(Barata & Maricoto, 2019). Ministry of Health, Khartoum State, Sudan has started school health as a unit of Primary Health Care (PHC) in 1994, the goal at that time vaccination against meningitis for students in school, the program was developed and it is the structure was completed in 1996. The program covers all governmental basic and higher schools, including private in 2001. The last screening in 2010, was shown , that the most common problems , dental carriers (12.8%), malnutrition (9%), psychological disorders (6.4%), and other health problems (16.2%)(Boshra et al., 2017).

A cross-sectional study was conducted for 1008 students from the 6th to 12th class of governmental schools in Bikaner. The result revealed that more than 90% of the students know about personal hygiene, clothes, and oral hygiene, 46% of them are using toilet paper, and 29.8%for a sanitary pad. More than 90% bath, brush teeth every day, hand washes before a meal and after using the toilet. Less than 70% hand wash after handling the animal and cutting their nails, the school was the major source of knowledge for the students (71%) (Shekhawat et al., 2019). In the cross-sectional study that was conducted among students at Dona Berber primary school, the result shows that among 359 participants (65.5%) were infected with one or more types of intestinal parasites. The highest prevalence of parasites identified in the study was E. histolytica (24.5%), followed by hookworm (22.8%) (Hailegebriel, 2017).

A cross-sectional observational design was conducted in Chetla and Kolkata. The result reveals that (74.04%) of the students complaining of health problems are associated with poor personal hygiene. The most common problem informs by the students (56.73%) was diarrhea, followed by the passage of worms in their stool (45.19%)(Sarkar, 2013).

A longitudinal, prospective study was conducted in Portugal, the results revealed that in both schools, there were significant differences in the pre-, and post-intervention at moments. In the "Paulo da Gama" school group, the means increase 0.65 points, with a statistical significance ($P < 0.05$, independent samples t-test) (Barata & Maricoto, 2019).

In the "Pedro Eanes Lobato" school group, the average increase of 0.87 points, being also statistically significant ($P < 0.05$, independent samples t-test) and slightly higher than in the other school group. A cross-sectional study has been conducted in Bure Town, the result revealed that an intestinal parasitic infection was not significantly related to mothers' and fathers' educations, jobs, and family size ($P>0.05$). The rate of intestinal parasite infection was significantly higher among participants who had poor knowledge about hygiene, healthy food, and environmental sanitation (48.3%) than those who had good knowledge (31.1%) ($P<0.05$). The prevalence of protozoan infection was (29.8%), helminths (11.9%) and assorted infection (2.3%) Seven type of intestinal parasites identified, Entamoeba histolytica (22.1%) highest prevalent, followed by Giardia lamblia (8.6%), Hookworms (6.8%) and Ascaris lumbricoides (3.7%). Hymenolepis nana, Trichuris Trichiura an and Taenia species rare prevalence (<1%) (Sitotaw1 & Yezina Gebeyaw, 2020).

Concern information on screening 2010, a recent study has been conducted to assess the quality of school health education on acquiring students' knowledge and increase awareness on personal hygiene through the interventional program.

MATERIALS AND METHODS

1.1. Study site

The study was conducted on 2012 in an Omdurman locality on public primary schools in Khartoum State, according to selection criteria randomly we found only seven schools meet the criteria with urban and rural schools which, include a total of 1182 students.

Study design:

An interventional quasi-experimental study with control group, the pre-post-test design was used in this study. With the use of a well-constructed questionnaire self-fill and stool examination.

2.2. Respondent sample

Participants of this study level six in governmental primary schools who enrolled in an Omdurman locality primary schools, there was a total of approximately 1182 students. A simple random sampling procedure was used. 356 students met the criteria and was selected for this study, 178 students to the intervention group, and 178 was selected for the control group.

2.3. Intervention

The assessment of the students' knowledge was done by pre-test to the intervention and control group using questionnaires that were distributed and filled by students, which includes knowledge about personal hygiene, healthy food, and prevention of communicable diseases in addition to stool examination by microscopic. Then the training program was conducted bout handwashing using soap and water and how to brush the teeth in the interventional group. After three months of the interventional program, follow-up was done by post-test for collecting data through questionnaires and stool examination.

2.4. Data management

This study was conducted in different primary schools, with data collected personally by the researcher. Manual coding was used to check for any errors in coding. The coding manual and dummy tables were developed before entering the data. Double-entry of data by the researcher was done to prevent potential data entry errors. The data were checked and cleaned by performing preliminary frequency distribution to enhance accuracy and reliability. Data were analysed by the computerized method Statistical Package for the Social Sciences (SPSS) version 17. The descriptive statistics included frequencies, means, and standard deviations. Health educations knowledge score was compared between study and control groups. Different statistical analyses was done to test statistically significant differences such as chi-square test, independent samples t-test, one-sample t-test.

Ethical considerations

Ethical approval granted from the University of Medical Sciences and Technology and Research Ethics Committee (UMST IRB00008867), Ministry of Educations, Omdurman locality, and Managers of schools, the informed consent form was signed by managers on behave of the students and their families after students explain to them.

RESULTS

Three hundred and fifty-four (354) level six students have participated in the per-test. Results show all groups practice handwashing before and after meal and after using toilet and there was no significant differences in handwashing before meal, ($p = 0.079$) and after toilet, ($p = 0.044$). After post-test, there was a significant difference in the practice, and knowledge of the study group raised. The results showed that there was a highly significant different in study group at follow up (100%) vs. (88.5%) handwashing before meal in control group (97.9% vs 79%) after meal ,and (94.4% vs 57.3%) after toilet ($p = < 0.01$). Knowledge about hand washing before and after intervention in primary schools is shown in Table 1.

Table 1 Knowledge about hand washing before and after intervention in primary schools

Items: Hand washing at pre- test	Study group (n=178)				Control group (n=176)				Chi-square	p
	No		Yes		No		Yes			
	n	%	n	%	n	%	n	%		
Before meal	32	18	146	82	20	11.4	156	88.6	3.09	.079
After meal	77	43.3	101	56.7	40	22.7	136	77.3	16.85	<0.01
After toilet	102	57.3	76	42.7	82	46.6	94	53.4	4.07	.044
Hand washing at post-test:	**Study group (n= 144)**				**Control group (n=157)**					
Before meal	0	0	144	100	18	11.5	139	88.5	17.56	<0.01
After meal	3	2.1	141	97.9	33	21	124	79	25.57	<0.01
After toilet	8	5.6	136	94.4	67	42.7	90	57.3	55.32	<0.01

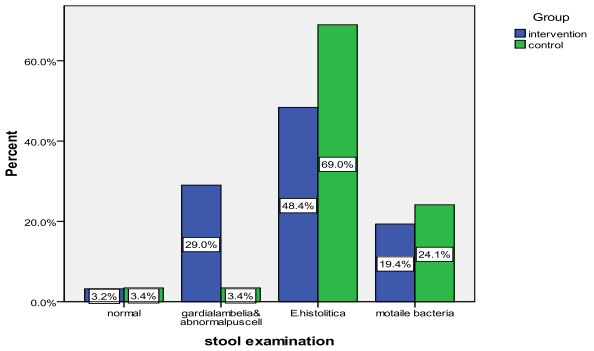
Table 2. Proper hand washing method among the group before and after intervention

	Intervention Group				Control Group					
	Yes		No		Yes		No		Chi-square	p
Item	n	%	n	%	n	%	n	%		
Pre-test	0	0.0	178	100.0	0	0.0	178	100.0	213.66	<0.01
Post- test	120	82.0	26	18.0	0	0.0	157	100.0		

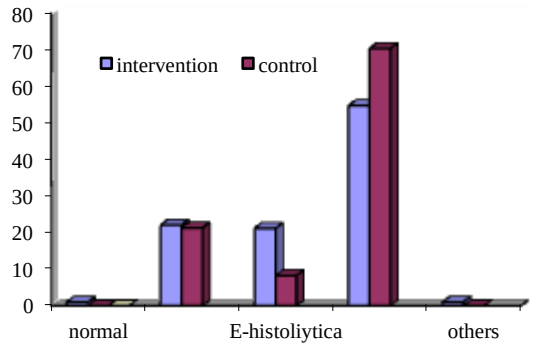
Three hundred and fifty-six (356) level six students have participated in the pretest results show all groups did not perfectly practice the proper handwashing method (0.00%). Three hundred and three (303) students (146) in the study and (157) in the control group participated the post-test. Chi-square test was used to test whether the proportions of participants were equal values. The results showed highly significant different in study group at follow up (82.2% vs 0.0%) in control group, (p = < 0.01). Proper handwashing method among the group before and after the intervention is shown in Table 2.

3.3. Stool examination of the students.

Sample of a total of 60 students, 31 in the intervention, and 29 in the control group stool was examined in pre-test for E-histolytica, Giardia lamblia, motile bacteria, and others. The result shows that no statistically significant difference between the group in the pre-test, normal stool was seen similar in the two groups (1 (3.2% vs.1 (3.4%), E-histolytica notice was higher in the control group 20 (69%), giardia lamblia 9 (29 %) in the intervention, (p = 0.068). After six months of intervention, a sample of (212) students in the intervention (104) and (108) in the control group another stool examination done the result shows that there was statistically significant difference. The normal stool was seen 1 (1%) in the study group, giardia lamblia 23 (22.1%), vs.23 (21.3%) in the control group, Entamoeba histolytica 9 (8.3%) in the control group. Motile bacteria were seen higher in the control group 76 (70.4%), and 1(1%) Hymenolepis nana worm notice in the study group, (p =0.039). Figures show the result of stool examination before and after the intervention.



Stool examination of the students in public primary schools at pre-test is shown in Figure 3.1



Bar Stool examinations of students in public primary schools at post-test is shown in Figure 3.2.

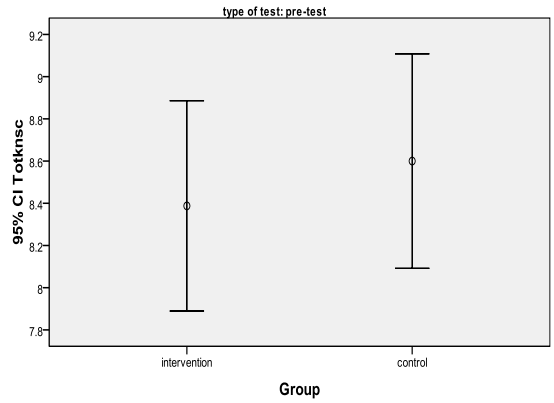
3.2 Personal hygiene

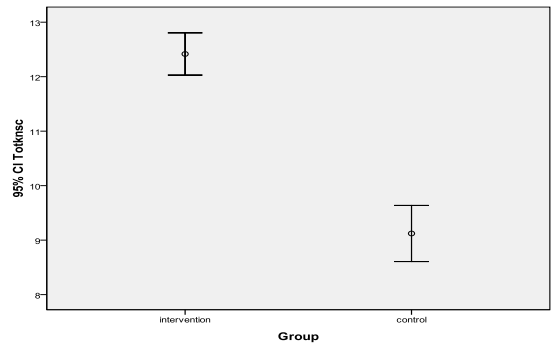
A sample of total 353 participants in the pre-test, 178 in the intervention, and 175 in the control group was examined. The result shows that the test was not statistically significant (t (-.589) = 351, p = 0.556, and (Mean= 8.39, SD =3.37), but lower than control group (Mean = 8.60, SD = 3.41). The 95% confidence interval for the means ranged from -0.921 to 0.497. After six months the test was statistically significant (t (298) = 9.97, p = < 0.01). The result supported research hypothesis, students in study group mean and standard deviation (Mean= 12.42, SD =2.35), was higher than the control group (Mean = 9.12, SD = 3.26). The 95% confidence

interval for the difference in means range from 2.65 to 3.93. The eta square index indicates that (33%) of the variance of personal hygiene knowledge scores accounted for by whether students assign to the study or control group.

The personal hygiene score includes the frequency of taken a bath /day, washing hands before and after meals, using the toilet, and brushing teeth/day. The results reveal that in the post-test the study group,68.1% taken a bath more than once /day, washing their hands before meal 100%, and after 97.9%, 88.5% before the meal, and 79% after in the control group, washing hands after using toilet 94% in the study group and 57.3% in the control group. 71.5% was brushing teeth more than once /day in the study. The figure shows the distribution of the pre and post-test mean score.

Figure 3.3**:** Error bar (Two standards deviation above and below the mean) for personal hygiene score for study and control group at pre-test.

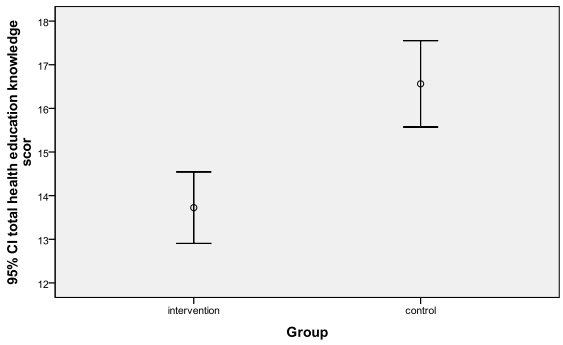




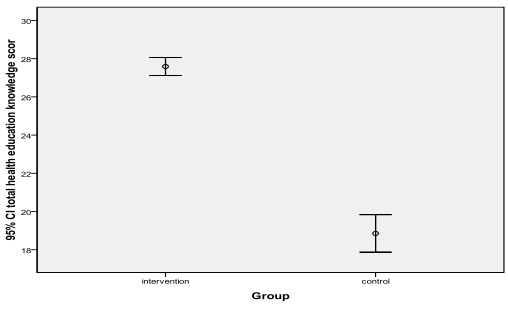
Error bar in post-test (Two standards deviation above and below the mean) for personal hygiene score for study and control group is shown in Figure 3.4.

3.3. Health education

The test was statistically significant (t (355) = -4.37 p < =0.01), mean and standard deviation (Mean=13.72, SD = 5.54), was lower than control group (Mean = 16.56, SD = 6.65), the 95% confident interval for the means ranged from -4.12 to -1.56. The eta square index indicated that 14.3 % of the variance of students in the control group has a high knowledge score in health education; compared to the study group at the pre-test. After intervention the result shows that test was statistically significant (t (299) = 15.41 p < =0.01, mean and standard deviation (Mean=27.59, SD = 2.87), was higher than in the control group (Mean = 18.85, SD = 6.22), the 95% confident interval the means from 7.65 to 9.82. Chi-square test used to test physical activities, and the prevention of communicable diseases, the test was statistically significant, (chi-square test = (1, n = (303) = 8.40, p 0.004 at post-test.



Error bar. (Two standards deviation above and below the mean) for health education knowledge score for intervention and control group in pre-test is shown in Figure 3.5.



Error bar. (Two standard deviation above and below the mean) for health education knowledge score for study and control group at post-test is shown in Figure 3.6.

DISCUSSION

A recent study shows that participants in the study group their knowledge and practice of perfect hand washing methods rising 100% washing their hands before and after the meal while the control group 88.5% before and 79 % after a meal 94% of the study group washing hands after using the toilet.

Compare to the study done in Gombang Mlati Sleman, Yogyakarta showed similar results p-value of 0.001, which means that there is an effect of health education on handwashing techniques in students of State Primary School by raising student awareness about handwashing by using the Wilcoxon test. (Effect et al., 2020)

Recent study results show that the intervention program implements by the researcher in the schools, which aims to enhance and increase student awareness of hygiene to prevent communicable diseases and improve student's performance. Before the intervention, no statistically significant difference was found between the groups (p= 0.068). The assessment followed intervention shows that an interventional group has a less intestinal parasitic infection than the control group, statistically, significance was seen, (p=0.039). Students' health status improves as a result of health education. The most common intestinal parasite seen between the students were giardia lamblia, Entamoeba, and rare cases of Hymenolepis nana worm.

Regarding personal hygiene awareness, the study result shows that the test was not statistically significant (t (.589) = 351, p = 0.556) before the intervention. After six months of intervention second assessment, the test was statistically significant (t (298) = 9.97, p = < 0.01) the result was supported research hypothesis, students in study group mean and standard deviation (Mean= 12.42, SD =2.35), higher than the control group (Mean = 9.12, SD = 3.26). The students in the interventional group frequently have taken a bath more than once a day, washing hands before and after meals, when using the toilet, and brushing teeth more than once/day. These indicate that health education is effective can be used as a method of health promotion in the school setting.

The result of a recent study shows that the test was statistically significant (p < =0.01), which indicates that the students have health education messages. After the intervention, the test was statistically significant (p < =0.01), the means increase in the intervention group than the control. The result reveals the importance of initiating health education messages in the curriculum of primary school education to increase students' awareness through the cooperation of the ministry of health and education.

Compared to other studies, a qualitative study, conducted, the result shows statistically significant there was an increase in knowledge and personal behaviour after the intervention (7.22±1.34 pre-intervention to 7.70 ± 0.74 post-intervention and 9.75±2.98 pre-intervention to 12.16±2.12 post-intervention, respectively, p < 0.001). These similar to the recent study despite using different study design(Widyasari et al., 2020) .

In a pre-experimental study, the result shows that the mean pre-teaching knowledge score was 8.13 ± 2.4, and the post-teaching knowledge score was 9.93 ± 2.3. He tests the significant pre and posts mean by using paired t-Test, and the value is -8.69 (p =<0.001) statistically significant reveals that the use of video effective in assisting teaching and demonstration. The difference from the recent study the author uses a video to make the student more focused on health messages (David et al., 2020).

The study results revealed that an intestinal parasitic infection higher among the participants who had poor knowledge of hygiene, healthy food, and environmental health. Most identified types of intestinal parasites Entamoeba histolytica, Giardia lamblia, and fewer of Hymenolepis nana. These similar to the recent study that used microscopic machines for stool examination differ in study design (Sitotaw1 & Yezina Gebeyaw, 2020).

Similar results form a cross-sectional study conducted in Khartoum State, the result showed that the frequency of intestinal parasites was 35.5% of total students examined, females, affected more than males (38.8% and 32.8%, correspondingly). The intestinal parasite was Taenia spp. (1.5%) followed by Giardia lamblia (3.7%), Schistosoma mansoni and Ascaris lumbricoides (5.2% each), Entamoeba coli (7.5%), Hymenolepis nana (10.4%), and Entamoeba histolytica (16.4%). In total, 20.9% were infected with a single parasite, while 14.9% were infected with more than one parasite (Abdalazim Hassan et al., 2020).

Compared to the previous cross-sectional study was conducted in Sudan to evaluate the prevalence of intestinal parasite infection among school children. The result reveals that the overall prevalence was 56.9% (144/253), and found that the common types of intestinal parasites between the school children were E. histolytica 31.2% (79/253),

G. lamblia 22.9% (58,253), and H. nana 2.8% (7,253) (Suliman et al., 2019).

CONCLUSION

This study has confirmed that there is a significant difference among participants after the intervention program. The study concluded that raising awareness of students about personal hygiene to decrease health problems associated with poor personal hygiene could be provided through health education massages in collaboration with a ministry of health and education.

Acknowledgments

I would like to thank the School Health Department in Khartoum State Ministry of Health for help in term of providing me all information about the school health program.

I would like to thank the staff of the AboSead health center for helping me in the student's investigation, especially lab technicians Hossam, Asia, and Safa,

My thanks to all managers and participants in a school setting for co-operation and help during the data collection and training program.

Conflict of Interest: The authors whose names are listed below, certify that they have no affiliations with or involvement in any organization or entity with any financial (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements) interest, or non-financial (such as personal or professional relationships, affiliations, knowledge or beliefs) interest in the subject matter or materials discussed in this manuscript.

i.e: The authors declare that they have no conflict of interest.

Ethical considerations

Ethical approval granted from the University of Medical Sciences and Technology and Research Ethics Committee (UMST IRB00008867), Ministry of Educations, Omdurman locality, and Managers of schools, the informed consent form was signed by managers on behave of the students.

Funding: No any financial support.

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The impact of perceived social support on perception of health status in Isparta

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DOİ
https://10.48121/jihsam.887541

Received
26.02.2021

Accepted
07.04.2021

Published Online
30.04.2021

Key Words
Health Perception
Perceived Social Support
Family
Importance of Health

ABSTRACT

The aim of this study is to determine whether the level of social support perceived in Isparta province has an effect on health perception. Individuals over the age of 18 in the city center of Isparta constitute the target population of the research. 399 people were included in the research. The Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988) and adapted into Turkish by Eker and Arkar (1995) and The Perception of Health Scale (PHS), developed by Diamond et al. (2007) and adapted into Turkish by Kadıoğlu and Yıldız (2012) were used as a data tool in research. The analysis of the data obtained was performed with the help of SPSS program, frequency, percentage, mean, correlation and regression analysis. Social support perception of the participants is above the midpoint. Social support perception dimensions are above the midpoint of 3. It emerged that the vast majority of participants received support from their families. Among the dimensions of the health perception scale, perceptions of the importance of Health and dimensions of self-awareness are above 3. It was understood that participants thought about their health, cared about them, and thought that whether they were healthy or not was due to them. While there is a significant and positive relationship between the perception of caring for the health of participants receiving support from a special person, there is a strong, significant, and positive relationship between the importance of caring for their health of participants receiving support from their family.

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INTRODUCTION

WHO defines health as "not only the absence of illness or disability, but a state of complete physical, mental and social well-being" (www.who.int). It is known that psychosocial variables such as beliefs and attitudes contribute to the health status of patients while explaining the concept of health. Various conceptual models have been designed to help explain how differences in health behaviors affect health status. Health Belief Model, Reasoning Theory and Social Learning Theory are examples of these models. (Diamond et al., 2007: 557).

Health perception is widely used in determining health status (Doğanay and Uçku, 2012: 396). Perceived health status assessments are an overall assessment of one's own health status (Idler and Benyamini, 97: 21). This assessment is known as a simple but powerful indicator that reflects the multidimensionality of health and enables the individual to evaluate his / her biological, mental and social situation. In addition, negative life events that emphasize the spiritual and social aspects of Health, unhappiness, depression, work problems, life satisfaction, social isolation, perceived stress and recent health status are known to be associated with perceived health (Kaplan and Camacho, 1983: 292). Research across disciplines and societies reveals possible psychosocial mechanisms that explain how social bonds promote health (Umberson and Montez, 2010: 56). Based on this, social support may be related to the perception of health.

Social support refers to emotionally ongoing qualities of relationships (for example, a sense that a person is loved, cared for and listened to). Social support can have indirect effects on health by increasing mental health, reducing the impact of stress, or enhancing sense of meaning and purpose in life. Personal control refers to the beliefs of individuals that they can control life outcomes through their own actions. Social bonds can improve personal control (perhaps through social support) , and in turn, personal control is advantageous for health habits, mental health, and physical health (Umberson and Montez, 2010: 56). It is also known that when we need to cope with stress and difficulties, we often turn to family, friends and someone special for help (Goldsmith, 2004: 1).

Since it is believed that social support may be related to health perception, this study was conducted to determine whether the level of social support has an impact on health perception.

MATERIALS AND METHODS

The universe of the study investigating the effect of perceived social support level on health perception in Isparta is composed of individuals aged 18 and over living in Isparta. In the research, 399 people were involved by using convenience sampling method.

The Multidimensional Scale of Perceived Social Support (MSPSS) consisting of 12 expressions developed by Zimet et al. (1988) and adapted into Turkish by Eker and Arkar (1995) and The Perception of Health Scale (PHS), which consists of 15 expressions developed by Diamond et al. (2007) and adapted into Turkish by Kadıoğlu and Yıldız (2012) were used as a data tool in research. Analysis of the data obtained using the SPSS program, frequency, percentile, mean, correlation and regression analyses were performed. The data were subjected to normality testing and it was determined that it showed normal distribution by looking at skewness and kurtosis coefficients.

Perception of Health Scale is a five-point Likert type scale consisting of 15 items and four sub-factors. Articles 1, 5, 9, 10, 11 and 14 are positive attitude, and Articles 2, 3, 4, 6, 7, 8, 12, 13 and 15 are negative statements. Positive statements were scored as "strongly agree = 5", "agree = 4", "Neutral = 3", "disagree = 2", "strongly disagree = 1". Negative statements are scored in reverse form.

The Multidimensional Scale of Perceived Social Support (MSPSS) is a scale consisting of 12 items. It includes 3 groups related to the source of support, each consisting of 4 items. These are family (Articles 3, 4, 8, and 11), friends (Articles 6, 7, 9, and 12), and a special person. (Articles 1, 2, 5, and 10).

RESULTS

Demographic Findings

The distribution of the participants in the study by demographic variables is shown in Table 1.

Table 1. Demographic Findings

	Frequency	Valid Percent
Age (Year)		
18-24	123	30.8
25-34	127	31.8
35-44	81	20.3
45+	68	17.0
Gender		
Men	155	38.8
Woman	244	61.2
Graduation		
Primary Education	28	7.0
High School	52	13.0
Vocational School	51	12.8
University	230	57.6
Postgraduate	38	9.5
Marital Status		
Married	187	46.9
Single	195	48.9
Other	17	4.3
Chronic Disease State		
None	336	84.2
Be	63	15.8
Gelir Düzeyi		
200-2000	88	40.9
2001-4000	47	21.9
4001+	80	37.2
Total	399	100.0

As can be seen in Table 1, 30.8% of the people participating in the study are in the 18-24 age range, 31.8% in the 24-34 age range, 20.3% in the 35-44 age range, and 17% are over the age of 45. While 38.8% of the participants are male, 61.2% are female. Considering their marital status, it is seen that 46.9% of them are married and 48.9% are single.

When the educational status of the participants is examined, it is found that 7% are primary school graduates, 13% are high school graduates, 12.8% are associate degree graduates, 57.6% are undergraduates and 9.5% have postgraduate education.

When the income status of the participants is examined, it is seen that 40% of their income is between 200-2000 TL and below, 21.9% of them is between 2001-4000 TL and 37.2% of them is 4000 TL and above.

Finally, more than half (84.2%) of the respondents do not have a chronic condition.

Findings Related to Perceptions of Social Support

Table 2. Distribution of the Points of Participants Received from the Expressions Related to Social Support Perceptions

No	MSPSS Items	$\overline{X}$	SS
1	There is a special person who is around when I am in need.	4.09	1.155
2	There is a special person with whom I can share my joys and sorrows.	4.15	1.129
3	My family really tries to help me.	4.35	0.951
4	I get the emotional help and support I need from my family.	4.18	1.099
5	I have a special person who is a real source of comfort to me.	3.99	1.274
6	My friends really try to help me.	3.93	1.019
7	I can count on my friends when things go wrong.	3.79	1.114
8	I can talk about my problems with my family.	3.97	1.169
9	I have friends with whom I can share my joys and sorrows.	4.15	0.948
10	There is a special person in my life who cares about my feelings.	3.99	1.279
11	My family is willing to help me make decisions.	4.17	1.090
12	I can talk about my problems with my friends.	4.05	1.004

Table 2 shows the arithmetic mean and standard deviation distributions of the Social Support Perception expressions. When the table is examined, it is seen that 12 expressions in the questionnaire have a value above Questions 3, 1, 2, 5, 10 include perceived support from a particular person. Accordingly, the participants seem to perceive that there is a special person when needed (4.09), a special person with whom joys and sorrows can be shared (4.15), a special person who relieves (3.99), and a special person who cares about his feelings (3.99).

Questions 3, 4, 8, 11 include the perceived support received from the family. It is revealed that the participants think that their family is helpful (4.35), that they receive emotional help and support from the family (4.18), that they talk about their problems with their family (3.97), and that the family is willing to help when making decisions (4.17). Questions 6, 7, 9, 12 contain perceived support from a friend. Based on this, it is seen that the participants in the study think their friends were helpful (3.93), that they can trust their friends when things go wrong, that they can share their joys and sorrows with their friends (4.15), and that they can talk to their friends (4.05).

The expression "My family really tries to help me", which is in the first place among the Social Support Perception expressions (4.35), is the expression with the highest level of participation. The statement "I get the emotional help and support I need from my family" (4.18) ranks second and the statement “My family is willing to help me make

decisions" (4.17) comes in 3rd place. Based on this, the fact that the social support received from the family has the highest values in three statements leads to the conclusion that the participants receive the most support from their families.

Findings Related to Perceptions of Health

Table 3. Distribution of the Scores the Participants Got from the Expressions Related to Health Perceptions

No	Items of the Perception of Health Scale	$\overline{X}$	SS
1	I think about my health a lot.	3.80	1.013
2	Being healthy is largely a matter of good fortune.	2.46	1.202
3	No matter what I do, if I am going to be healthy or not, it is just going to happen.	2.55	1.275
4	I is God's will if I am healthy.	3.45	1.302
5	If I exercise and eat right, I'm almost certain to stay healthy.	3.96	0.938
6	I am often confused about what I should do to stay healthy.	2.75	1.198
7	I would like to be healthier, but I just can't get myself to do what necessary.	3.23	1.282
8	There are so many different reports on kinds of foods that keep you healthy that I don't know what I should do.	2.77	1.175
9	I'm willing to spend extra Money on things that are healthy for me.	3.46	1.131
10	It is up to me whether I am healthy or not.	3.82	0.959
11	My health is the most important consideration in my life.	3.72	1.043
12	Good health is a matter of good luck.	2.40	1.136
13	No matter what I do, I cannot change how healthy I am.	2.24	1.197
14	I can be as healthy as I desire.	3.22	1.101
15	I cannot understand everything I read about healthy eating.	2.48	1.160

The arithmetic mean and standard deviation distributions of Perception of Health expressions are given in Table 3. The scores were reversed because the statements 2, 3, 4, 6, 7, 8, 12, 13, 15 were reverse scored questions. The statement "*Being healthy is largely a matter of good fortune.*" got (2.46) points. It is thought that the participants do not see being healthy as a matter of luck. The statement "*No matter what I do, if I am going to be healthy or not, it is just going to happen.*" has received (2.55) points. Participants believe that their state of being sick or healthy is under the control of the person. The statement *"I am often confused about what I should do to stay healthy."* got (2.75) points. Participants are not confused about what they should do to stay healthy. The statement " *There are so many different reports on kinds of foods that keep you healthy that I don't know what I should do.*" got a score of (2.77) points. Participants know what to do about the types of food that protect health. The statement " *Good health is a matter of good luck.*" got (2.40) points. Participants do not see being healthy as a chance. "*No matter what I do, I cannot change how healthy I am."*statement received (2.24) points. Participants think they can change their health status. The statement "*I cannot understand everything I read about healthy eating"* got a score of (2.48). It can be concluded that the participants understand what they read about healthy eating.

The expression " *If I exercise and eat right, I'm almost certain to stay healthy "* (3.96), which is in the first place among the expressions of Perception of Health, is the expression with the highest level of participation. Most of the participants think that if they exercise and eat right, they will stay healthy.

Psychometric Properties Of Dimensions

Social support perception and psychometric properties of Health perception

In the study, participants ' perception of social support was evaluated within the framework of 3 and health perception was evaluated within 4 groups, and the values received by each group were shown in Table 4.

Table 4. Psychometric Properties of Perception of Social Support and Perception of Health

		Number of Items	Min-Max	$\overline{X}$	SS	Cronbach Alfa	Skewness	Kurtotis
Perceived Social Support	Family	4	1-5	4.164	0.952	0.905	-1.317	0.853
	Significant Other	4	1-5	4.055	1.101	0.930	-1.168	0.372
	Friends	4	1-5	3.981	0.885	0.888	-0.742	-0.193
Perception of Health	Center of Control	5	1-5	2.617	0.877	0.763	0.373	-0.310
	Certainty	4	1-5	2.805	0.856	0.674	0.169	-0.218
	Importance of Health	3	1-5	3.660	0.797	0.611	-0.592	0.232
	Self-Awereness	3	1-5	3.665	0.718	0.527	-0.289	0.041

The kurtosis and skewness values of each dimension were found by examining whether the data showed normal distribution and it was determined that the values remained between 1.96 and +1.96. Therefore, it is concluded that the data show a normal distribution (Can, 2014: 85). It does not interfere with parametric testing.

Information on the subgroups of each perceived social support shown in Table 4 is given below:

Perceived Support from the Family: This group consists of 4 statements. Each statement expresses the perceived support that the participants receive from the family. Its arithmetic mean was 4.164 and its standard deviation was 0.952. The Cronbach Alpha was found to be reliable as 0.905.

Perceived Support from a Significant Other: This group consists of 4 statements. Each statement expresses the perceived support the participants get from a special person. Its arithmetic mean was 4.055 and its standard deviation was 1.101. The Cronbach Alpha was found to be reliable as 0.930.

Perceived Support from Friends: This group consists of 4 statements. Each statement expresses the perceived support the participants get from their friends. Its arithmetic mean was 3.981 and its standard deviation was 0.885. The Cronbach Alpha was found to be reliable as 0.888.

Information on perception of health sub-groups shown in Table 4 are given below:

Center of Control: This group consists of 5 statements. Expressions in this dimension are inverse. Each statement expresses the control over whether the participants are healthy or not. Its arithmetic mean was 2.617 and its standard deviation was 0.877. The Cronbach Alpha was found to be 0.763 as reliable.

Certainty: This group consists of 4 statements. Expressions in this dimension are inverse. Each statement expresses the certainty about whether the participants are healthy. Its arithmetic mean was 2.805 and its standard deviation was 0.856. The Cronbach Alpha was found to be 0.674 as reliable.

Importance of Health: This group consists of 3 statements. Each statement expresses the importance that the participants attach to their health**.** Its arithmetic mean was 3.660 and its standard deviation was 0.797. The Cronbach Alpha was found to be 0.611 as reliable.

Self-Awareness: This group consists of 3 statements. Each statement expresses self-awareness of participants' well-being. Its arithmetic mean was 3.665 and its standard deviation was 0.718. The Cronbach Alpha was found to be 0.527, which was low in terms of reliability.

Table 5. The Relationship Between Perception of Social Support and Perception of Health

		Perceived Social Support			Perception of Health			
		Family	Significant Other	Friends	Center of Control	Certainty	Importance of Health	Self-Awareness
Perceived Social Support	Family	1						
	Significant Other	r=0.372** p=0.000***	1					
	Friends	r=0.464** p=0.000***	r=0.338** p=0.000***	1				
Perception of Health	Center of Control	r=0.001 p=0.983	r=-0.005 p=0.924	r=-0.048 p=0.336	1			
	Certainty	r=-0.029 p=0.561	r=-0.44 p=0.378	r=-0.087 p=0.083*	r=0.506** p=0.000***	1		
	Importance of Health	r=0.138** p=0.006**	r=0.119* p=0.018*	r=0.059 p=0.243	r=-0.068 p=0.176	r=-0.019 p=0.704	1	
	Self-Awareness	r=0.040 p=0.429	r=0.082 p=0.103	r=0.045 p=0.372	r=-0.180** p=0.000***	r=-0.048 p=0.340	r=0.349** p=0.000***	1

r=correlation coefficient; *=p<0.05; **=p<0.01; ***=p<0.001

The relationships between the sub-dimensions of the social support perception scale and the sub-dimensions of the health perception scale are included in Table 5. When the correlations between perception of social support sub-dimensions and perception of health sub-dimensions are examined, There is a positive relationship between the importance of health dimension, which is the sub-dimension of health perception, and the dimension of support from a special person (r = 0.119, p = 0.018), which is the sub-dimension of social support. There is a strong positive relationship between the family support dimension (r = 0.138, p = 0.006). While there is a significant and positive relationship between the importance of health care of the participants who receive support from a special person, it is seen that there is a strong, significant and positive relationship between the participants who receive support from their families paying attention to their health.

Independent Variable	Dependent Variable	R	R^2	F	p	ß	t	p
Family	Center of Control	0.055	0.003	0.405	0.750	0.028	0.480	0.631
Significant Other						0.006	0.112	0.911
Friends						-0.063	-1.096	0.274

As a result of the regression analysis, 0.3% ($R^2 = 0.003$) of the change in the control center variable is explained by independent variables (family support, support from someone special, support of friends). In addition, it is seen that the explanatory power of the model has a positive effect but is not statistically significant (F=0.405, p=0.750).

Independent Variable	Dependent Variable	R	R^2	F	p	ß	t	p
Family	Certainty	0.090	0.008	1.075	0.359	0.020	0.344	0.731
Significant Other						-0.022	-0.393	0.694
Friends						-0.089	-1.540	0.124

As a result of the regression analysis, 0.8% ($R^2 = 0.008$) of the change in the precision variable is explained by the independent variables (family support, support from someone special, support from friends). In addition, it is seen that the explanatory power of the model has a positive effect but is not statistically significant. (F=1.075, p=0.359)

Independent Variable	Dependent Variable	R	R^2	F	p	ß	t	p
Family	Importance of Health	0.157	0.025	3.335	0.019*	0.118	2.038	0.042
Significant Other						0.083	1.516	0.130
Friends						-0.024	-0.425	0.671

*=p<0.05

As a result of regression analysis, 2.5% of the change in the value of Health variable (R2=0.025) is explained by independent variables (family support, support from someone special, support from friends). In addition, it is seen that there is no problem in terms of the explanatory power of the model (F=3.335, p=0.019). The result was found statistically significant.

Family support (β=0.224, t=2.861, p=0.005) dimension is found to have a positive effect on the importance of health and this effect was statistically significant. It has been observed that people who receive support from their families attach more importance to their health.

Independent Variable	Dependent Variable	R	R^2	F	p	ß	t	p
Family	Self-Awareness	0.084	0.007	0.934	0.424	0.004	0.063	0.949
Significant Other						0.074	1.350	0.178
Friends						0.018	0.310	0.757

As a result of regression analysis, 0.07% of the change in self-awareness variable (R2=0.007) is explained by independent variables (family support, support from someone special, support from friends). It is also found that the explanatory power of the model has a positive effect, but is not statistically significant. (F=0.934, p=0.424)

DISCUSSION

Evren et al. (2011: 382) found statistically significant relationships between violent behavior and perceived health in their study. Accordingly, it was found that all students were more likely to perceive their health poorly in those who were subjected to violence, in those who were in a fight in the last 12 months, in those who did not attend school because they did not feel safe, and in those who attempted suicide than in students who did not engage in these behaviors. Efteli and Khorshtd (2016: 8) found that social activity level, income level, working in any job and being married affect the perception of health. Tuğut and Bekar (2008: 25) found that the health perception average of those who did not drink alcohol was high when analyzed according to the alcohol consumption of university students. According to the study of Altay et al. (2016: 188), elderly people with chronic diseases and living in nuclear families have higher perception of health. In this study, it is seen that there is a significant relationship between the participants who receive support from a private person and the participants who receive support from their family in attaching importance to their health. While it was observed that the participants who received support from their family and a special person gave importance to their health, it was observed that those who received support from their families gave more importance to their health.

As a result of the research conducted by Çaka et al. (2017: 202), it was observed that individuals with high perception of health also have higher self-confidence. In this study, they think that the participants think about their health, care about their health and whether they are healthy or not is due to themselves.

CONCLUSIONS

Participants ' perception of social support is above the midpoint. Among the dimensions (friend, special person, family), it was concluded that they also received the most social support from the family dimension. Among the dimensions of the health perception scale (Control Center, certainty, importance of health, self-awareness), perceptions of the importance of Health and dimensions of self-awareness are above 3. It is determined that the participants think about their health, care about their health, and whether they are healthy or not is due to themselves.

While there is a significant and positive relationship between the importance of health care of the participants who receive support from a special person, it is seen that there is a strong, significant and positive relationship between the participants who receive support from their families in paying attention to their health. Finally, it has been found that the size of family support from social support dimensions has a significant and positive effect on the importance of health from health perception dimensions. People who received support from their family were seen to place more emphasis on their health.

Acknowledgments:

This article abstract was presented at the 5. International Health Sciences and Management Conference (IHMC) on Kırşehir in July. The author gratefully acknowledges the support provided by the International Strategic Health Research Center (USSAM).

Conflict of Interest:

To the best of our knowledge, the named authors have no conflict of interest, financial or otherwise.

Ethical Approval (Must be answered):

Ethics approval was not obtained for this study.

Funding:

I have not financial support

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Measurement of the effects of business intelligence applications on performance in hospitals according to the managerial levels: a chain hospital application

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DOİ
https://10.48121/jihsam.776109

Received
12.08.2020

Accepted
23.01.2021

Published Online
30.04.2021

Key Words
Business Intelligence
Big Data
Corporate Performance Management
Hospital Information Management Systems
Data Analysis

ABSTRACT

Hospitals are matrix and complex organizations with many areas of expertise. In hospitals, multi-modular and integrated systems that can have multiple software and databases provide support in the execution of business processes within this complex organizational structure. Getting the right data at the right time for decision support purposes is often an important problem. In overcoming these problems, the problem of the research is what the contribution of integrated business intelligence applications solutions can be in decision-making stages from all levels of management.

This research was conducted to investigate the effect of business intelligence reporting practices on performance according to managerial levels in hospital management systems. The research is a study conducted to measure the effect of business intelligence practices on performance in a chain hospital group that uses business intelligence in connection with the ERP (Enterprise Resource Planning) system with the highest number of hospitals in Turkey.

The universe of the research is composed of people who have the authority and access to use BI at MLP care group for this study. The number of authorized people on the ERP system was 591 and 65.0% of them have filled out the requested survey. 231 was our minimum number and for increasing the reliability we have modified our number of samples to 383. So 383 samples were reached to strengthen the validity and the reliability of the survey. In this sample range, it was also aimed to compare the performance impact between senior, intermediate and operational level managers. The questionnaire study was conducted on 383 people. In this context, BI (Business Intelligence) architecture has been examined with all its components and information has been given about the benefits it provides to the enterprises. In the application developed as an example, a data warehouse modeling in accordance with the information required by the top management in hospitals, preparation of analyses, creation of presentation layer and presentation of the prepared analyses and reports on the control table were carried out.

As a result of the research, it was determined that corporate business intelligence application screens at all types of managerial levels have a positive and significant effect on measurable performance indicators. In this context, when businesses monitor and control their operational activities through corporate business intelligence, it has been concluded that performance indicators provide less time loss, high reliability, integrated data, quality and accurate valuation advantages in the evaluation process. In the research, it was observed that the effect of performance results of operational managers' business intelligence applications from management levels was higher than that of senior and middle level managers.

**This paper has been presented as an oral paper at the 5th International Health Sciences and Management Conference*

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INTRODUCTION

Business intelligence (BI) concept was used first in 1959 with an article published by Hans Peter Luhn (an IBM Researcher) which was used by International Business Machine (IBM) to create some of the first real BI systems. Because of this, Hans Peter Luhn is commonly referred to as the "Father of BI." From this specified date, the BI concept has continued its existence and development as an integral part of decision support systems. In 1989, Howard Dresner (researcher from Gartner Group) defined BI as an umbrella term which describes concepts and methods that can help businesses use "fact-based support systems" to improve their decision-making the term resonated with decision support professionals, with vendors, and with general managers. It was widely adopted and replaced terms like executive information systems (Willcocks L.P., Sauer C. and Lacity M.C. 2016).

BI is not only a practical method and to understand this concept it should be needed to get sufficient information. For that reason, the components and technology of business intelligence have reached high interest. Especially, the health care workers who are at the management position, approved BI deployment in the healthcare industry, address relevant issues and challenges, and explored the role of BI to foster certain organizational capabilities (Ashrafi, N., Kelleher, L., &Kuilboer, J-P. 2014).

One of the pioneer organization for BI Gartner Group report in 2000; Information Democracies and BI data practices have been described in detail. It was also mentioned in this study that this concept would be followed up by the employees, consultants, customers, suppliers and the public (Blind A.2012). In another study by Garnter Group, Doug Laney described the 3V model's data management and complexity. These were defined as Volume, Variety, Velocity as a"3V Model". Big data has been presented in here for the first time (Özdoğan O.,2016).There are two main usages have been defined for BI in the literature; first one is the Business Management and the second term is the communication technologies (Ki P.Y., Sawy E., Omar A. and Peer F., 2017).

In 1994, the BI was also becoming as a concept in the business ethic which is a necessity for the companies working efficiency, effectiveness and profitability (Schultz, N.O.,Collins, A.B. &McCulloch, M., 1994). The costs are increasing also for the business companies in the health care area. This kind of incremental cost affects to patient's budget side and sometimes it has not been reimbursed and created copayments. In order prevent the unexpected costs to the healthcare systems, two main concept techniques should have to be included analytic focusing and visualization of health care systems like in the literature (Ivan M. And VelicanuM.,2015).

One of the main data record problem in health care area is that the data are in non-restructured format and it is around 80% of the all medical records in health care system (Vest J.R.,Grannis S.J., Haut D.P., Halverson P.K. and Menachemi N., 2017). For this main issue, the data mining is also has played in an important role in healthcare industry, especially in predicting various types of disease (Jothia N.,Aini N., Rashidb A. And Husai W., 2015). Data Mining aims to create decision-making models for predicting future behaviors by focusing on analysis from previous years and with this approach the statistical learning plays a key role in many sections of science, health, finance and industry. Learning science plays a key role at the branches of statistics, data mining and artificial intelligence, engineering, and other disciplines (Iatan I.F., 2016).So, the business intelligence and data mining concepts are main guide to productivity for corporate business (Kudyba S. andHoptroff R, 2001).

BI is a combination of methods, processes and technologies that includes raw data during operational processes. With data mining it converts the logic information for making decisions about objected businesses. BI contributes to new possibilities in the direction of the target. With this respect, the concept of business intelligence can be defined as a correct way to reach the right decision with the proper information at the best time. The hospital institutions have a complex structure which includes many branches. The operational works in this complex organizational structure are followed up through automation software that is called Hospital Information Management System (HIMS). This multi-module system contains more than one software program and database. Moreover, it is a significant issue for deciding to reach proper information in the fastest time with this system. BI is the key solution in dealing with such a kind of problems (Kao Y. H.,Yu C. M., Masud M., Wu W.H.,Chen L.J., Chun Y. and Wu J., 2016). Different sections have their own data, facts, measurement formulas and definitions. It might look like that there is not any issue however, BI will try to create new standards in each cooperation, and it has an effect that make the hagiomania of the departments disappear. On the other hand, even if many users could realize the advantages of BI; they continue to work in the old style by keeping their importance at some point (Richards G., Yeoh W., Chong A.Y.L and Popovic A., 2017).The significant item in a study is the quality of the data so high-quality data should include accurate, responsive, applicable, error-free, relevant, proper

and convenient sources. With high quality data and analysis technique, it could be done most appropriate analysis and forecasts in many business sectors (Dwivedi A.,Niranjan M., and Sahu K., 2013).As a result of face-to-face interviews between senior and executive level managers, it has been determined that BI has recently recognized a method of business concept in our country. It could be obtained that the projects realized on this concept can be efficiently transformed into a business-specific from also contributes positively to the business actions of all managers and employees at the operational level (Dinçerden E.,2017). BI concept combines databases, analytical methods, applications and methodologies. The main purpose of business intelligence is to provide easy access to data and analytic models for presenting business executives with analysis. Data mining should be also effectively used with BI in order present BI analysis in a proper way (Olszak C. M., 2016). Knowledge discovery in databases is the nontrivial process of identifying valid, novel, potentially useful, and ultimately understandable patterns or relationship with a dataset which are based for Data mining and Data warehouse concepts. The Data warehouse (DW) concept has first appeared in 1991. DW has structures in which data to be used in the implementation of data mining algorithms. DW stores the data which is used in data mining. DW are created for reading only. DW is mainly makes the analysis easier (Gök, M.,Akçetin, E. and Çelik, U., 2017).

1.1 Corporate Performance Management and Decision Making

Performance could be defined as the execution, achievement or accomplishment of an action and duty. On the other hand, performance is a way of presentation concept in order to help for qualitative or quantitative. Performance measures the efficiency in the simplest way. The purpose of the performance system is to set the targets within the framework of the vision and institution (Parida, A., Kumar, U. Galar, D. And Stenström, C., 2015).

1.2 The importance of Decision Making and Business Intelligence

BI is a kind of concept which supports to make higher quality decisions and reach accurate outcomes. Customer Relationship Management (CRM), Corporate Performance Management (CPM) and Executive Information Systems (EISS) are the best-known business intelligence applications (Kowalczyk M., 2017). Data warehouses and operation data storages are very significant factors for BI software. Organizations can utilize data warehouse technologies to combine data hidden in various applications under common platform and keep the system open for users. Decision makers can access, share and manage qualified and useful data source by using BI applications (Muehlen, M.,and Shapiro, R., 2014). Decision trees in data mining are the most widely used method among classification models, with low cost installation, easy to interpret, high reliability, and easy integration data base systems (Amayri, M.,Arora, A., Ploix, S., et all, 2016).

Computer-based systems that distribute web-based DSS (decision support systems) or decision support tools to managers, business analysts, or customers using Netscape Navigatoror Microsoft Internet Explorer-like web browsers. Web-based DSS reduce the technological barriers in organizations that are spread over a wide geography and making decisions taken on time. The web platform becomes as a client-server which helps for many organizations due to the cost of installation and maintenance. For this reason, today most organizations build multi-task architecture decision support applications that include a browser, web server and databases to overcome geographic and technological barriers related to time. Decisionsupport software manufacturers integrate web Technologies into their products (Babiceanu, R.F. and Seker, R., 2016).

1.3. Difference Between Decision Support Systems and Business Intelligence

The conceptual start of DSS took place before 1970, when the people in the management position could be transformed into the numerical models like daily problems which they have to face. The historical development of DSS is summarized as follows: In the late 1960s- model based DSS or management decision system emerged a new type of information system. In the mid-1980s, group decision support systems (GDDS) and high level information system (EIS) which supports senior manager in strategic position. In early 1990, four new tools for DSS installation appeared, which could be listed as data warehouse, Online Analytical Processing Server (OLAP), data mining and web related Technologies (Shim, J.P.,Warkentin, M., Courtney, J. F. et all. 2002). BI is also well accepted as the top-level point reached in the development process for decision support systems. For this reason, BI scope is wider than DSSs (Yeaoh, W.,Popovic, A., 2015).

DSSs have been used in many areas due to the support it has recently provided for decision making. Examples of some of these areas are marketing, banking, insurance, telecommunications, biology, medicine, genetics, internet mining and document mining (Kaklauskas, A., 2015). DSSs are fed periodically from data sources. On the other hand, some additional solutions need to be developed for these systems to

serve in real time. Acting fast and making quick decisions are becoming more and more important day by day. Therefore, it is becoming increasingly significant for corporate organization to review the results of analysis in a real time as soon as possible (Intezari, A., and Gressel, S., 2017). BI usually targets planned and sustained outputs. For instance, a dashboard with daily reports from an organization is viewed as a BI output. BI analytics includes all the outputs and in addition, the decision process that can only be used once in a projective it works (Duan, L., Xiong, Y., 2015).

The Solution of Business Intelligence in Healthcare Industry

Healthcare organizations can use BI technologies to leverage data and improve operational and clinical efficiency mainly for hospital system utilizations, medical records follow up procedure, health care provider performance, health quality and services, and patient comfort (Brooks, P., Gayar, O. E, and Sarnikar, S., 2015). Since the health care sector is developing and changing very rapidly, it also includes many branches and organizations. The health sector, which is obliged to adapt with unexpected changes and provide proper solution and service to the system.

The hospitals have complex organizations and utilize the information technologies in the most intensive manner during operations. The information systems that provide management, medical and financial information integrity in the platform generally with HIMS (Kao Y. H.,Yu C. M., Masud M., Wu W.H.,Chen L.J., Chun Y. andWu J., 2016).

MATERIAL AND METHODS

2.1. Aim of the Study

This research aims to measure the impact of the performance of BI applications with using ERP system on the chain hospital group MLP Care. With this study, it has been presented the effects of BI applications for decision making with providing timeframe and multi-dimensional data view on the health care sector.

2.2. Type of Study

This research is type of a descriptive research based on a survey study which conducts to measure the effect of BI application on the performance in MLP Care chain hospital group. The main data source was provided as a survey format which has been collect by the mangers in this chain hospital group at a certain time frame. Ethical Committee Submission has been done to Okan University in November 1st, 2018, and the approval has been received, also the legal approval has been collected by MLP Care. All necessary information was obtained from this hospital group by ERP and BI database.

2.3. Universe and Sample Selection

The universe of the research is composed of people who have the authority and access to use BI at MLP care group for this study. The number of authorized people on the ERP system was 591 and 65.0% of them have filled out the requested survey. The number remained due to permission and not being able to provide connection. 45 employees did not accept the survey. 231 was our minimum number and for increasing the reliability we have modified our number of samples to 383. So 383 samples were reached to strengthen the validity and the reliability of the survey. In this sample range, it was also aimed to compare the performance impact between senior, intermediate and operational level managers.

Table 1: Manager Levels Survey Numbers

Manager Level	Universe	Survey Applied	Current Survey	%
Senior Manager	165	135	135	82.0
Mid-level Manager	205	161	151	74.0
Operational Level Manager	221	114	97	44.0
Total	**591**	**410**	**383**	**65.0**

2.4 Data Collection Tool and Statistical Method

The study is designed from ground up as a survey scale which measures the impact of BI application on performance in the health sector. For measuring the effect of BI application on performance, 62 questions were prepared in 7 sub-dimensions by making explanatory factor. The questions in the scale were evaluated according to the 5-point Likert scale technique. 1- Strongly disagree, 2 -Disagree, 3- Neither agree/disagree, 4- Agree, 5 – Strongly agree. Reliability analysis was applied to the results obtained with 30 participants pilot study. After the reliability results were significant, the survey has continued, and explanatory factor analysis has applied.

2.5 Limitations of the Study

Total number of hospitals in Turkey is around 1500 and MLP care group has 32 hospitals. 4 hospitals are in foundation university hospital and 28 of them are in private hospital status. Conducting the research in only one chain hospital

group in health sector constitutes the limitation of the research.

2.6 Data Analysis

SPSS Version 22(Statistical Package for Social Sciences, SPSS in, Chicago, IL USA) has been used as a statistical software for analyzing the data in the study. In all analyzes, statistical significance was evaluated at p<0,05 level.

The Compliance of all data to normal distribution in statistical analysis decision has been verified with "One-Sample Kolmogorov Smirnov Test". Histogram is drawn up by looking at the skewness (=<3) and Kurtosis Coefficients for multiple variables, and parametric tests are used in cases that are convenient for normal distribution, and non-parametric tests are used.

Moreover, the frequency tables and central-prevalence criteria have been used for all given data in the study. For the statistical analyzes of the research, t-test and one-way ANOVA tests were applied in parametric independent groups.

2.7 Validity and Reliability Analysis of the Survey

The test results of the effect of BI application on performance scale has been evaluated with Kaiser-Meyer-Olkin sample adequacy test came out in this study; 0,9957 and it was accepted as an excellent over 0,90. It has been also concluded that Bartlett's Test outcome was convenient with factor analysis (p<0,05). The primary data sources of the study were by Oracle data record and secondary data sources from the result of the survey. The research data have been analyzed in the context of reason-effect relationship and the results were interpreted.

The sub-dimensions of the effect of business intelligence applications on performance scale:

Factor 1: Questions regarding on the effect of BI usage on the overall performance perception.

Factor 2: Questions regarding on the effect of BI for its users

Factor 3: Questions about the effect of BI on reporting techniques

Factor 4: Questions regarding on the effect of using BI for clinical processes

Factor 5: Questions regarding on the effect of using BI for income analysis

Factor 6: Questions regarding on the effect of using BI for financial analysis

Factor 7: Questions about the effect of using BI in terms of satisfactory analysis

When Cronbach's alpha reliability coefficients are reviewed for sub-dimensions of the scale titled "Effect of Business Intelligence Applications on Performance", the score was 0.962 for effect of using business intelligence on the general performance perception, 0.920 for effect of business intelligence on user, 0.882 for effect of business intelligence on reporting techniques, 0.971 for effect of business intelligence on clinical processes, 0.987 for effect of business intelligence on income analysis and 0.988 for effect of business intelligence on satisfaction. In this study, rotated factor matrix is created to determine the scaled factors and their sub-items. The factor loads of subscales obtained through the rotated factor matrix applied on surveys of 383 participants are given in following tables. Total variance of total 7 factors (sub-dimension) is 79.3 percent.

RESULTS

3.1 Demographic Outcomes

The socio-demographic outcomes from the participants are in Table 2 below:

Table 2: Sociodemographics of participants

Variables		N	%
Gender	Female	211	55.1
	Male	172	44.9
Marital Status	Married	276	72.1
	Single	107	27.9
Age	31 and below	84	21.9
	32-39	150	39.2
	40-47	124	32.4
	48 and above	25	6.5
Education Status	PhD / Medical Doctor	8	2.1
	Master's Degree	70	18.3
	Bachelor's Degree	205	53.5
	High School	100	26.1
The Position at the Hospital	Executive Manager	135	35.2
	Senior Manager	151	39.4
	Operational Manager	97	25.3
Total		383	100.0

Female participants ~~are~~ were 55.1% and higher than male. 72% of participants were married. Most of the participants age interval was between 32-39. Education status of the participants were mostly bachelor's degree. Senior Managers were in majority than the others position at the hospital.

3.2 Experience of the participants and BI feedbacks

The level of experience and Business Intelligence (BI) feedbacks has been evaluated in Table 3 below.

Table 3. Sociodemographics of participants

Variable		N	%
Total Experience in this sector	Less than 1 year	14	3.7
	1-3 years	30	7.8
	4-5 years	40	10.4
	6-10 years	109	28.5
	11 years and above	190	49.6
Business Intelligence (BI) or any other similar technique usage situation before joining to this hospital group	Yes	102	26.6
	No	281	73.4
The Level of knowledge and experience in Business Intelligence and related techniques	Beginner	83	21.7
	Intermediate	207	54.0
	Advanced	82	21.4
	Master	11	2.9
The ability of preparing related reports from BI screen on your own study field	Yes	263	68.7
	No	120	31.3
BI usage frequency	Once in a week	94	24.5
	Two times or four times in a week	72	18.8
	Once in a day	62	16.2
	Two to three times in a day	84	21.9
	More than 4 times in a day	71	18.5
Total		383	100.0

The participants were mostly in this hospital area for 11 years and above. Most of the participants learn the BI with this hospital with 73,4% ratio. The average level of BI users in this hospital is intermediate. The ability of BI related reports could be mostly done. BI were used mostly once in a week according to participants feedback.

3.3. BI and Software TechniquesUsage by the company internal feedbacks

The usage of BI and the related techniques have been evaluated with company employee feedbacks in Table 4 below.

Table 4. Categorizing use of business intelligence software and techniques in the company (more than one item is answered)

	N	**%**
It is a significant factor and affects the success of the entire organization.	271	42.2
It supports the business strategy and affects the realization in long term.	233	36.2
It provides minor improvements and affects daily routine business feedback.	42	6.5
It helps to maintain current situation and has no significant feedback on our operations.	21	3.3
It reduces efficiency and has negative effect on the timeframe of the process.	9	1.4
It does not only provide the support on administrative decision side for the physicians, but also in diagnosis and treatment process.	67	10.4
Total	643	100.0

Considering the distribution of the category of the BI usage and related techniques within the company, 42.2% of the participants have selected as an important success factor; 36.2% of them has also selected BI which affects the entire organization. For 10.4% of the participants; BI does not only provide the support on administrative decision side for the physicians but also in diagnosis and treatment process. 3.3% of the participants selected that BI helps to maintain current situation and no significant feedback on their operations.

3.4 The sub-dimensionsimpact of BI applications on the performance and central tendency measures

The BI impacts on the performance and central tendency side of feedback shave been presented in Table 5.

Table 5. Measures of central tendency for sub-dimensions of effects of the business intelligence applications on performance

Sub-dimensions	**n**	**X**	**Sd**	**Min.**	**Max.**
The effect of BI on overall performance perception	368	4.146	0.612	1.17	5.00
The effect of BI on users	374	4.078	0.611	1.00	5.00
The impact of BI on reporting techniques	377	3.217	1.050	1.00	5.00
The effect of using BI on clinical process	354	3.868	0.754	1.00	5.00
The effect of using BI on income analysis	369	4.172	0.725	1.00	5.00
The effect of using BI on financial analysis	360	4.052	0.712	1.17	5.00
The effect of using BI on confidence	367	4.226	0.726	1.00	5.00

The participants outcome of BI application on sub-dimension measurements have been obtained below:

a) The performance perception impact: minimum 1.17, maximum 5 and mean 4.146 (± 0.612).

b) The impact for users: minimum 1, maximum 5 and the mean 4.078 (±0.611).

c) The impact on reporting techniques; minimum 1, maximum 5 and the mean 3.217(±1.050).

d) The clinical process and assessment impacts; minimum 1, maximum 5 and the mean 3.868 (±0.754).

e) The impact of income analysis; minimum 1, maximum 5 and the mean 4.172(±0.725).

f) The effect on financial analysis; minimum 1,17, maximum 5 and the mean 4.052(±0.712).

g) The effect on confidence; minimum 1, maximum 5 and the mean 4.226(± 0.726).

Table 6. Comparing sub-dimensions of effects of business intelligence applications on performance by managerial positions of participants

Sub-Dimensions	**Manager Level**		**N**	**X**	**Sd**	**F**	**p**	
The effect of BI on overal performance perception	Senior Manager	1	130	4.106	0.672	3.836	0.022	3 < 2 3 < 1 1 < 2
	Mid-level Manager	2	148	4.248	0.542			
	Operational Level Manager	3	90	4.036	0.609			
	Total		368	4.146	0.612			
The effect of BI on users	Senior Manager	1	133	3.975	0v654	3.448	0.033	3 < 2 3 > 1 1 < 2
	Mid-level Manager	2	146	4.166	0v595			
	Operational Level Manager	3	95	4.086	0.553			
	Total		374	4.078	0.611			
The effect of BI on reporting technuques	Senior Manager	1	135	3.195	1.008	0.048	0,953	3 > 2 3 > 1 2 > 1
	Mid-level Manager	2	149	3.224	1.121			
	Operational Level Manager	3	93	3.237	1.004			
	Total		377	3.217	1.050			

According to the management of the participants in the study, when the effect of business intelligence applications on performance is studied, the effect of using business intelligence on general performance is seen by the management level, according to a significant difference ($p < 0.05$). In advanced analysis, the difference in management in the effect of the use of business intelligence on general performance was determined between mid-level and operative managers, and the score of mid-level managers was higher than that of operative managers. Another secret is the degree of business intelligence, which was determined to be between mid-level managers and senior managers, and the middle-level manager's score was higher. Information about real experience of business intelligence could not be quoted as real meaningful ($p > 0.05$).

Table 7. Comparing sub-dimensions of effects of business intelligence applications on performance by managerial positions of participants

Sub-Dimensions	**Manager Level**		**n**	**x**	**x X**	**SS Sd**	**p**	
The effect of BI on clinical process	Senior Manager	1	127	3.947	0.768	3.982	0.020	3 > 2 3 > 1 2 < 1
	Mid-level Manager	2	136	3v727	0.748			
	Operational Level Manager	3	91	3.970	0v719			
	Total		354	3.868	0.754			
The effect of using BI on income analysis	Senior Manager	1	129	4.085	0.789	2.621	0.074	3 > 1 3 < 2 2 > 1
	Mid-level Manager	2	146	4.276	0.649			
	Operational Level Manager	3	94	4.128	0.733			
	Total		369	4.172	0.725			
The effect of using BI on financial analysis	Senior Manager	1	128	4.001	0.768	1.546	0.214	3 < 1 3 < 2 2 > 1
	Mid-level Manager	2	142	4.133	0.651			
	Operational Level Manager	3	90	3.995	0.716			
	Total		360	4.052	0.712			
The effect of using BI on confidence	Senior Manager	1	129	4.238	0.780	0.108	0.897	3 < 1 3 < 2 2 > 1
	Mid-level Manager	2	146	4.235	0.68			
	Operational Level Manager	3	92	4.196	0.726			
	Total		367	4.226	0.726			

When the sub-dimensions of the effect of business intelligence applications on performance were compared according to the management level of the participants in the study, a statistically significant difference was found between the effect

of business intelligence use on clinical processes and management levels ($p < 0.05$). In the advanced analysis, it was observed that the difference was between the mid-level manager and the senior manager and the operative manager, and the effect score of the use of business intelligence on the clinical processes of the mid-level manager was lower than the other managers. No statistically significant difference was found between the effect of business intelligence on income analysis, the effect of business intelligence on financial and financial analysis, and the effect of business intelligence on satisfaction and management levels ($p > 0.05$).

DISCUSSIONS

Using information system Technologies and digitalization is very significant in terms of strategic decision-making ability for all management levels including executive managers. The ability to make strategic decisions has been simplified and the data could affect the results are provided to managers; it is possible by presenting it up to date and integrated. With this study, the effects of Business Intelligence (BI) applications that contribute to the decision making and the action process of senior management, operational units, executive managers. It also increases performance by considering the information obtained by literature. Along with the results of the income and expense analysis included in the study; the performance effectiveness levels of BI applications in terms of financial results, clinical process and analysis outcomes of operational process are discusses.

In the study titled "The Effect of Using Information Technologies on Organizational Performance: A Research in the Service Sector", was found that there was a moderate strong relationship between information technologies and organizational performance in this analysis, which was carried out individually through information technologies. This inference does not suggest that there is no relationship, but it reveals that there is no strong relationship (Şeker, Ş.A. 2013).

The study by Wang et al (2016) that the contribution of Big Data Analysis as benefit to the business values in 5 main titles in their studies "Exploring the Path to Big Data Analytics Success in Healthcare". IT infrastructure benefits include operational, organizational, administrative, and strategic benefit. To achieve these benefits, it is based on the necessity of collecting big data as the first stage, processing the data, as the second stage displaying data for the third stage. The ranking of the 5 main benefits according to these 238 criteria in the evaluation on 64 companies in the health industry; operational capabilities with 128 talents, IT infrastructure benefits with 55 talents, managerial benefits with 37 talents, organizational talents with 11 talents, and strategic benefits with 7 talents were observed (Wang, Y, Hajli, N. 2016).It is seen that the benefits of business intelligence, which are formed in terms of general grouping, the fields of income and expense analysis, financial analyses, clinical process analysis, customer confidence analysis and the operational analysis processes are the main topics and support our work as categorization.

In the thesis titled "Business Intelligence Requirement Analysis Small and Medium Enterprises to Master thesis", Işık (2016) presented that the BI usage increase in the companies for improving their decision-making processes as was as their performance. ERP and CRM together usage awareness also increased. If the company is doing RD it also helps the outcome in terms of creativity (Işık, F. 2016). The fact that the chain hospital group with our study group was conducted is a company using ERP and CRM, and the high-performance effect towards customer satisfaction with BI applications supports this study.

In the survey study by Najah et al (2017) has the title "The Effect of Information systems on Performance on Valuation: Industrial Enterprises Survey", was conducted on 40 medium and large-scale textile companies which were operating in Denizli, was investigated ERP issues. The outcome was that the ERP usage in the sector is 51%. Institutions' ERP usage is generally in the areas of inventory management, finance-accounting, and production tracking. Organizations state that there is not a significant decrease in transaction costs in the enterprise with the use of ERP, but they consider the improvement of working process and easy access to quality information as the biggest chain (Najah, R., Rahman, N.R. 2017).

The use of information systems technologies and digitalization in enterprises at all levels of management, including the highest levels of management, is very important in terms of their ability to make strategic decisions. The ability to make strategic decisions can be achieved by presenting simplified and results to managers in summary, up-to-date and integrated form. In this context, the effects of business intelligence practices that contribute to the decision-making and action process of senior management and operational units and increase performance have been evaluated by taking into account the information obtained from the literature. Along with the results related to income and expense

analyses within the scope of the study; the levels of effectiveness of business intelligence applications in terms of financial and financial results, clinical processes and analysis outputs of operational processes were discussed.

Özçam et al. (2016) stated in their study titled "A Research on the Examination of the Usage Levels of Business Intelligence of Businesses Operating in Turkey" that a large part of the institutions implementing business intelligence received help from personnel at all levels who need business intelligence. However, there are only businesses where managers or some employees identified with managers benefit from business intelligence products. In this study, business intelligence users in enterprises were found to be only senior managers 1.49%, middle managers 11.19%, some determined employees 12.69%, and all employees in need 74.63% (Özçam, Y, Çoşkun, E. 2016).

When the sub-dimensions of the effect of business intelligence applications on performance were compared according to the level of management of the participants in our study, a statistically significant difference was found between the effect of business intelligence use on clinical processes and management levels ($p<0.05$). In the further analysis, it was observed that the difference was between the mid-level manager and the senior manager and the operational manager, and that the effect of the mid-level managers use of business intelligence on clinical processes was lower than the other managers.

When the sub-dimensions of the effect of business intelligence applications on performance status were compared according to the level of management of the participants in our study, a statistically significant difference was found between the effect of business intelligence use on general performance perception, effect on the user and management levels ($p<0.05$). In the further analysis, it was determined that the difference in the level of management in the effect of using business intelligence on overall performance perception was between the mid-level manager and the operational manager and the score of the mid-level managers was higher than the operational managers. It is actually expected that mid-level managers will be higher in terms of performance perception than operational managers. Another difference in the effect of business intelligence on the user sub-dimension was found to be between the mid-level manager and the senior manager and the score of the mid-level managers was higher.

When the sub-dimensions of the effect of business intelligence applications on performance were compared according to the level of management of the participants in our study, a statistically significant difference was found between the effect of business intelligence use on clinical processes and management levels ($p<0.05$). In the further analysis, it was determined that the difference in the level of management in the effect of using business intelligence on overall performance perception was between the mid-level manager and the operational manager and the score of the mid-level managers was higher than the operational managers.

CONCLUSION

Healthcare is the one of the largest business sectors which is growing very fast. In health management, the configuration of big data is getting high importance. With aid of big data configuration creates the prediction of the diseases and providing the basic treatment methods. On the other hand, the big data configuration helps to decrease the health care expenditure with better lifestyle and quality.

It is seen that the design and implementation of business intelligence implementation projects in accordance with the strategic objectives of the company contributes positively to the business performance of the manager at all levels. It is possible to see that institutions that are able to establish the business intelligence use and system and establish a sustainable structure achieve much more effective results than their competitors. Businesses that can properly complete the aforementioned business intelligence projects and be adapted to the developing technology are in a superior position in terms of time, speed, reduction of workforce burden, competitiveness, making it easier to control and manage corporate data and information and access to quality information.

As a result of the research, it was determined that it has a positive and significant effect on measurable performance indicators if the managers from all levels in the managerial levels actively follow the corporate business intelligence application screens. In this context, when businesses monitor and control their operational activities through corporate business intelligence, it has been concluded that performance indicators provide less time loss, high reliability, integrated data, quality and accurate valuation advantages in the evaluation process. In the research, it was observed that the effect of performance results of operational managers' business intelligence applications from management levels was higher

than that of senior and middle level managers. This can be explained as the fact that operational managers are much more in the field of application than middle and senior managers.

It is an inevitable fact that the companies that internalize such works by absorbing them in the coming years will be included in the class of successful companies and the managers working in these companies will take their place in the sector as successful managers. By allowing business intelligence to be used by mobile channels, it will facilitate the business of companies implementing important strategic decisions in the digitalizing modern world and ensure integration and strengthen the company's vision and communication network with its external partners.

It is also very important for managers to direct their business intelligence screens with data working with probable future-oriented algorithms in addition to routine reporting and to activate warning mechanisms in order to establish an accurate decision support system. When there are too many deviations from the planned target rates in the performance indicators monitored in the system or when an undesirable situation occurs in the system, the activation of the warning mechanism and informing the responsible persons about the situation ensures that many negative results are prevented from the beginning. In institutions where sudden changes are important, these applications should definitely be added to the system.

It is very important that top management's strategic company goals and business intelligence initiatives run in parallel. Otherwise, many studies are quite likely to be wasted. No matter how well the system is designed, the contribution of the output to the corporate performance when it is not fed with the right input will be minimal. Unclean data will not produce clean results. It will be possible to have an enterprise structure in which only qualified labor force will come to the forefront thanks to the processing and structuring of the big data and automation of the processes by taking decisions that will affect the functions of the enterprise from these structured data. To successfully achieve strategic business value, businesses need to plan the strategic role of data analysts well, investing not only in data infrastructure and analytical technologies but also in the point of talented analysts. Likewise, as the sponsor of business intelligence, a consistent, effective and visionary manager should be sustainably maintained within the company.

Acknowledgments:

The legal approval has been collected by MLP Care. All necessary information was obtained from this hospital group by ERP and BI database. Thanks to MLP Care Company for their decks

Conflict of Interest:

The authors declare that they have no conflict of interest.

Ethical Approval (Must be answered):

Ethical Committee Submission has been done to Okan University 1st November 2018, and the approval has been received.

Funding:

No financial support

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