# PAPER DETAILS

TITLE: Factors Affecting the Demand for Family Medicine: Evidence for Behavioral Model from

Turkey Data

AUTHORS: Mehmet Nurullah KURUTKAN, Hasan Hüseyin YILDIZ, Tuba ARSLAN, Melek

TERZI, Dilek SAHIN

PAGES: 949-959

ORIGINAL PDF URL: https://dergipark.org.tr/tr/download/article-file/1612113



# İzmir İktisat Dergisi

İzmir Journal of Economics

ISSN:1308-8173 Geliş Tarihi: 02.03.2021 E-ISSN: 1308-8505 Kabul Tarihi: 13.09.2020

YIL: 2021 2020 Online Yayın: 11.11.2021 ÖZGÜN ARAŞTIRMA **Cilt:** 36 **Sayı:** 4 **Sayfa:** 949-959 **Doi:** 10.24988/ije.889573

#### Factors Affecting the Demand for Family Medicine: Evidence for Behavioral Model from Turkey Data Mehmet Nurullah KUBUTKAN1 Hasan Hüsevin VII DI72 Tuba ABSI AN3

Mehmet Nurullah KURUTKAN<sup>1</sup>, Hasan Hüseyin YILDIZ<sup>2</sup>, Tuba ARSLAN<sup>3</sup>,

Melek TERZİ<sup>4</sup>, Dilek ŞAHİN<sup>5</sup>

Özet

Bu çalışmanın amacı, kronik hastalıkların ve sosyo-ekonomik faktörlerin, aile hekimliğine yönelik talep üzerindeki etkilerini incelemektir. Kullanılan temel yaklaşım Andersen'in davranışsal sağlık modelidir. Değişkenler 2016 yılına ait "TÜİK Sağlık Araştırması" mikro veri setinden elde edilmiştir. Kronik hastalığa ait verilerin ve sosyo-ekonomik değişkenlerin sağlık talebini etkileme derecesini tespit etmek için üç model kurulmuştur. Modellerin analizinde Binary Logit Regresyon analizi kullanılmıştır. Değişkenlerden cinsiyet, yaş, çalışma durumu, öğrenme güçlüğü, konsantrasyon problemi, tedavi masraflarının Sosyal Güvenlik Kurumu (SGK) tarafından karşılanıyor olması, güvenilir yakınının bulunması, komşularından yardım alma, sağlık hizmeti randevularına gecikme yaşamaları, kronik hipertansiyon ve şeker hastalığına sahip olmaları aile hekimliğinden hizmet alma durumuna etki eden değişkenlerdir (p<0,05). Araştırma sonuçlarına göre, hipertansiyon, şeker ve zihin sağlığı parametreleri ile sosyo-ekonomik değişkenlerin, aile hekimliği hizmeti alma durumu üzerinde etkili olduğu belirlenmiştir. Politika yapıcılar, aile hekimliği sisteminin sürdürülebilir olması ve daha çok tercih edilmesi amacıyla, farklı kronik durumların, demografik ve ekonomik yapının karşılaştırmalı yüküne ilişkin ekonometrik modellere dayalı kanıtlardan faydalanabilir.

Anahtar kelimeler: Aile Hekimliği, Davranışsal Model, Kronik Hastalıklar, Sağlık Talebi, Türkiye Sağlık Araştırması Jel Kodu: 111, 112, 115

# Aile Hekimliğine Olan Talebi Etkileyen Faktörler: Davranışsal Model İçin Türkiye Verilerinden Kanıtlar

Abstract

This study aims to investigate the effects of chronic diseases and socio-economic factors on the demand for family medicine. The basic approach used is Andersen's behavioral health model. The variables used in the analysis were obtained from the "TurkStat Health Survey" micro data set for 2016. Three models were established to determine the degree of chronic disease data and socio-economic variables affecting health demand. Binary Logit regression analysis was used in the analysis of models. The variables such as gender, age, employment status, learning difficulties, concentration problems, treatment costs covered by the Social Security Institution (SGK), having a reliable relative, receiving help from neighbors, delaying health care appointments, having chronic hypertension and diabetes are the variables that influence the condition of receiving service from the family medicine (p<0,05). According to the results of the research, it was determined that hypertension, diabetes, and mental health parameters and socio-economic variables are effective on the status of receiving family medicine services. Policymakers would benefit from evidence-based econometric models of the comparative burden of different chronic conditions, demographic and economic structures in order to ensure that the family medicine system is sustainable and more preferable.

*Keywords:* Family Medicine, Behavioral Model, Health Demand, Turkey Health Interview Survey *Jel Codes:* I11, I12, I15

**ATIF ÖNERİSİ (APA):** Kurutkan, M.N., Yıldız, H.H., Arslan, T., Terzi, M., Şahin, D. (2021). Factors Affecting The Demand For Family Medicine: Evidence For Behavioral Model From Turkey Data. *İzmir İktisat Dergisi*, 36(4), 949-959. Doi: 10.24988/ije.889573

<sup>1</sup>Doç. Dr., Düzce Üniversitesi, İşletme Fakültesi, Sağlık Yönetimi Bölümü, Merkez / Düzce, Türkiye **EMAİL:** nurullahkurutkan@duzce.edu.tr **ORCID:** 0000-0002-3740-4231

<sup>2</sup> Düzce Üniversitesi, Sağlık Yönetimi ABD Doktora Öğrencisi, Merkez/ Düzce, Türkiye **EMAİL:** hhuseyin.yildiz@afad.gov.tr **ORCID:** 0000-0003-1063-5790

<sup>3</sup> Öğr.Gör., Kilis 7 Aralık Üniversitesi, Sağlık Hizmetleri Meslek Yüksekokulu, Tıbbi Hizmetler ve Teknikler Bölümü, Merkez/Kilis, Türkiye. **EMAİL:** tubaarslan@kilis.edu.tr **ORCID:** 0000-0001-6183-9262

<sup>4</sup> Araș.Gör., Düzce Üniversitesi, İşletme Fakültesi, Sağlık Yönetimi Bölümü, Merkez/ Düzce, Türkiye **EMAİL:**melekterzi@duzce.edu.tr **ORCID:** 0000-0001-8586-7874

<sup>5</sup> Dr. Öğr. Üyesi, Düzce Üniversitesi, İşletme Fakültesi, Sağlık Yönetimi Bölümü, Merkez/ Düzce, Türkiye **EMAİL:**dileksahin@duzce.edu.tr **ORCID:** 0000-0003-0865-7763

## INTRODUCTION

Many countries with a national health system state that the most appropriate strategy for achieving effectiveness, efficiency and fairness is a comprehensive family medicine program (Family Physician Program; FPP) (Strasser, 2003; Rivo, 1997; Khedmati, 2019). Family physicians, the heart of this system, play an important role in providing health services effectively and equally and act as a communication bridge (Atun et al., 2007).

The behavioral model developed by Andersen (1968) is frequently used in researches on healthcare use (Andersen, 1965; Andersen, 1995; Holtzman et al., 2015; Imbus et al., 2018). According to this model, healthcare use is the result of trends in use (demographic characteristics, social structure, etc.), factors that facilitate use (income level, presence of health insurance, etc.) and need for health care (having a chronic disease, evaluating the general health status, etc.) (Babitsch, 2012). These three factors are considered as "predisposing or personal", "enabling" and "needs-related" factors in most studies (Andersen, 1965; Fortin et al., 2018; Dhingra et al., 2010; Heider et al., 2014).

The development process of the model has been revised four times (Kara and Kurutkan, 2018: 34). Constructive criticism of the model made the revisions mandatory. Social-level factors were included in the model in the first revision, current health system and consumer satisfaction in the second revision. Factors such as personal care, proper and balanced diet, and exercise, etc. were included in the third revision, and indirect effects of factors affecting the use of health services on the level of health were included in the model in the last revision (Andersen, 1995; Gökkaya, 2016; Kılıç and Çalışkan, 2013).

Recently, in the studies on the use of health care and family medicine practice and the factors affecting it; age (Hirshfield et al., 2018; Fortin et al., 2018; Graham et al., 2017), age group (Hirshfield et al., 2018; Fortin et al., 2018), gender (Dhingra et al., 2010; Fortin et al., 2018), marital status, (Dhingra et al., 2010; Heider et al., 2014; Fortin et al., 2018; Graham et al., 2017), employment status (Graham et al., 2017; Hong et al., 2019), number of persons in the household (Graham et al., 2017), ethnic race (Hirshfield et al., 2018), education level (Dhingra et al., 2010; Heider et al., 2014; Fortin et al., 2018; Conner, 2012), sexual orientation (Hirshfield et al., 2018), spoken language (Fortin et al., 2018; Jin et al., 2019), social environment (Heider et al., 2014; Graham et al., 2017; Bradley et al., 2002), religious factors (Conner, 2012), place of residence (Hirshfield et al., 2018; Fortin et al., 2018), household income (Heider et al., 2014; Hirshfield et al., 2018; Hong et al., 2019), source of income (Fortin et al., 2018), health insurance (Heider et al., 2014; Hirshfield et al., 2018), spiritual support (Dhingra et al., 2010), general health status (Dhingra et al., 2010; Chong and Ho, 2018), financial problems (Graham et al., 2017), HIV, diabetes, heart disease, obesity (Hirshfield et al., 2018), cancer (Jin et al., 2019), depression (Hirshfield et al., 2018; Ho, 2018), hypertension Chong and (Ogunsanya et al., 2016), adaptation disorder, suicidal ideation, schizophrenia, anxiety. personality disorder, attention deficit, mood disorder (Fortin et al., 2018), mental disorder (Fortin et al., 2018; Graham et al., 2017), dayto-day treatment service (Heider et al., 2014; Kaya et al., 2019), alcohol and substance use (Hirshfield et al., 2018; Fortin et al., 2018), status of psychiatrist consultation, psychologist consultation, social worker consultation and alcohol and drug consultation (Fortin et al., 2018) are among the variables used.

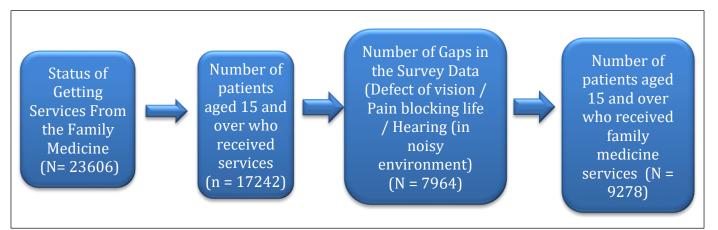
The purpose of this study is to examine the status of receiving services from the family medicine within the framework of the behavioral model developed by Andersen. Differential analysis for preparatory, facilitating and perceived health-related independent variables constitutes the sub-purpose of the study.

İzmir İktisat Dergisi (İzmir Journal of Economics) , Yıl:2021, Cilt:36, Sayı:4, ss. 949-959

### 2. METHOD

In this study, 2016 "Turkey's Health Research" micro data sets were used. The Health Questionnaire is conducted every 2 years by TURKSTAT and the most recent survey belongs to 2016. Its scope is households located in all settlements within the borders of Turkey. The population defined as institutional (population living in dormitories, hospitals, jails, rest homes, and soldiers) are out of coverage and the residential places having less than 20 addresses are left out of coverage since

it is thought that we would not be able to reach enough sample household number. The total number of observations in the data set is 23.606. In this study, since the information about individuals over 15 years old was used, the total number of observations first decreased to 17.242. Afterwards, the number of observations included in the econometric analysis fell to 9.278 including all variables (chronic diseases and socio-demographic factors). The data process is explained in detail in Figure 1.





The binary logit regression analysis method was used to determine the status of going to the family medicine. It is possible to summarize the working algorithm of logit model analysis as follows.

The logit method is used as an alternative to discriminant analysis and cross tables in case of various assumption distortions (normality, having common covariance). In case the dependent variable is binary such as 0/1 or polychotomous discrete variable involving more than two levels, it is used as an alternative to linear regression analysis due to the disruption of normality assumption (Kaşko, 2007).

#### **3. FINDINGS**

General descriptive statistics about demographic factors are given at the beginning of the findings section. The findings section consists of two main headings:

- Difference analysis table of variables (Table 1),
- Binary logit regression analysis for factors affecting the status of receiving services from a family medicine (Dependent variable) (Table 2)

The average age of the people in the study is 48,20 (SD ± 888). Most of the participants are women (63,50%), primary school graduates (43,50%), married (72,70%), their household incomes are 1265-1814 TL (27,80%) and they did not work in any job (67.10%). While 89.1% (n = 8270) of the participants received service from the family medicine, the remaining 10.9% (n = 1008) received no service from the family medicine

*Differential analyzes for preparatory factors:* Among the preparatory factors, the analysis of the differences between only three variables (gender, employment status and difficulty in remembering) is statistically significant (p<0,05). According to the analysis, it was determined that the rate of women using the family medicine is higher than that of men.

In terms of employment status, it was found that non-employed people have higher rates of using family medicine than employees. In terms of remembering, it was found that people who have difficulty remembering have higher rates of using the family medicine. No difference was found between the groups of variables evaluated within the other preparatory factor.

*ifferential analyzes for facilitating factors:* The analysis of differences between groups of seven variables (household income, being a member of the SGK, reliable relative, interest from the environment, help from neighbors, delay in treatment because of not making an appointment and delay in medical care caused by insufficient payment capacity) from facilitating factors is statistically significant (p<0.05). In terms of household income, it was found that families with incomes between 2541-3721 TL were more likely to use family medicine. In terms of treatment costs, it was determined that people who are assured by SSI-Social Security Institution (SGK) have a higher rate of using family medicine. In terms of reliable relative and neighbor help, it was found that people who have a reliable relative and who can get help from their neighbors have a higher rate of using the family medicine. From the point of view of the delay in the appointment, it was determined that people who experience a delay in appointment have a higher rate of using the family medicine. In terms of payment difficulties in medical care, people who do not have payment difficulties were found to have higher rates of using the family medicine. The reason for this is thought to be due to the fact that people who do not have payment difficulties have social security.

*Difference analysis for Perceived Health:* The variables under this factor consist of variables for both chronic diseases and mental health. In total, a difference was found between the

groups of fifteen variables (p < 0.05). People with moderate general health status were found to be more likely to use family medicine

In terms of difficulty in seeing and hearing in a noisy environment, it was found that people who have difficulty in seeing and hearing in a noisy environment have a higher rate of using the family medicine. In terms of disease-health status, it was found that people with any disease use family medicine more. From the point of view of physical pain, it was found that people with higher levels of physical pain use family medicine more. At the same time, from the point of view of the pain-blocking life, it is determined that people whose life is blocked due to pain use family medicine more. In terms of chronic diseases, it was determined that people who experience hypertension, asthm, arthritis, depression, diabetes, coronary heart disease, lower back and neck diseases use family medicine more.

There is no statistically significant difference between subgroups of variables such as age and marital status, place of birth, learning difficulties, concentration problem, alcohol use status, receiving inpatient service for the last 12 months. receiving psychologist consultation for the last 12 months, receiving psychotherapist consultation for the last 12 months, unofficial aid, delay in receiving health to transportation problems, care due depression, feeling the pleasure, feeling worthless, difficulty in hearing in a quiet stroke-paralysis, environment, chronic bronchitis, kidney disease and infarction (p>0,05).(Table 1).

According to the results of Model 1, individuals' age increases their likelihood of applying for family medicine service by 1,016 times and their educational status by 1,088 times. On the other hand, gender differences decrease the likelihood of individuals applying to family medicine service by 0.58 times, employment status by 0.814 times and learning difficulties by 0.8 times. İzmir İktisat Dergisi (İzmir Journal of Economics) , Yıl:2021, Cilt:36, Sayı:4, ss. 949-959

**Table 1.** Differential Analysis of Variables Affecting the Status Of Receiving Services From The FamilyMedicine

Gen der			ļ							0							-:-
Gender		N	8	Mean	Std	5	$\vdash$				N	8	Mean	Std	8		Sig
	Female	5892	63,5	,91	,0 04	06'	,92 0,000	_	General Health Status	Very Bad	407	-	,87	,016	8 <sup>6</sup>	,91	0,0,00
	Male	3386	36,5	,86	,0 06	85	,87			Bad	3466	37,4	,87	,006	38,	8	
Age	15-120	9278		48,20	17,888		0,054	54		Moderate	3600	-	.92	,005	.91	.93	
Marital Status	Sinele	2531	273	88	0.06	87	89 0.051	15		Good	1610	+	06	008	8	16	
	Married	6747	72.7	06	-0.04	68	+			Verv Good	195	+	- 85	.026	80	06	
Education	Illiterate	1412	15.2	80	0.09	87	.90 0.084	+	Distress	Disturbed	5125	55.2	68.	.004	68	90	0.355
	Didn't finish anvschool	658	7.1	90	.012	8	$\vdash$	┝		Didn't disturb	4153	+	68	005	8	90	
	Primary School	4038	43,5	6.	,0.05	68	.91	Fet	Feeling the Pleasure	Disturbed	4659	+	68'	,005	ŝ	90	0,885
	Middle School	735	7,9	-89	,012	,87	.91			Didn't disturb	4619	-	68'	,005	8	90	
	High School	1381	14.9	.87	60.0°	86	89	Fe	Feeling worthless	Yes	2871	┢	-89	,006	8	90	0.467
	College	346	3,7	90	,016	87	-94		0	No	6407	$\vdash$	68'	,004	68	90	
	University	615	9.9	06	.012	87	-92	De	Defect of vision	Having difficulty	4054	┢	06	005	88	16	0.034
	Port and at a Marton (Bh D.)			0.0	020	20	10	5		No the weight of the output	E7.74	t	0	100	0	00	
Place of Birth	Turker	010	100	50	200	2 00	90 0C10	+	Disease Health Status	Notinavinguintuity Vee	6169	+	ý 5	100	ą 6	6	0000
	Other	164	1 8	5	200	ç ç	+	+	הכמהב ווכמותו הנפותה	1 C	3110	+	36	100	S, S	101	
Franch sectors of Charter of	- net	101	2.0	0	220	5	+	+				+	6		ą a	p c	0000
Employment Status	Employee	3 0 5 2	32,9	18	'0.00°	ŝ	,88 0,000		Kestryction of vital activities related to h ealth problems	Kestructed	5188		.,	,004	06'	26'	00.0'0
	N ot employee	6226	67,1	90	,0.04	96	,91			Not Restricted	40.90	_	,87	,005	,86	8	
Learning	Having difficulty	2260	24,4	06'	,0.06	89	,91 0,259		Physical pain	Too much	503		,87	,015	Ŕ	90	0,007
	Not having difficulty	7018	75,6	68,	,004	80	06'			Much	1726	18,6	,91	,007	68	,92	
Recalling	Having difficulty	2863	3 0,9	96	,0 06	89	,91 0,021	21		Mod erate	2407	25,9	6,	,006	8 <sup>6</sup>	,91	
	N ot having difficulty	6415	69,1	89	,0 04	80	-			Little	1992	+	68'	,007	ŝ	,91	
Concentration Problem	Yes	2494	26,9	06'	,0.06	89	,91 0,060	60		Very Little	2650	28,6	8	,006	86	89	
	No	6784	73.1	89	-0.04	80	06	E	Pain blocking life	Blocking	7723	┢	06.	.003	68	-16	0.0.0
Alcoholuse status	Vec	2138	23.0	68	0.07	81	90 0.314	+	0	Not Blocking	15.55	16.8	58	600	8	87	
	No	7140	77,0	68	0.04	68	+	+	Difficulty hearing when chatting in	Having difficulty	1616	+	68	008	ŝ	.91	0,754
							-	+	quiet room			+					
Receiving in patient service for the last 12 months	Yes	1486	16,0	06'	80.0	ŝ	,91 0,390	+		Not having difficulty	7662	+	68	,004	ę	06'	
	No	7792	84,0	69	,0 04	00 00	06'	Dif	Difficulty hearing when chatting in a noisy room	Having difficulty	2810	30,3	06'	,006	6	,91	0,028
Receiving psychologist consultation for the last 12 months	Yes	269	2,9	,91	,018	87	,94 0,401		maar fr	Not having difficulty	6468	69,7	-89	,004	Ŕ	89	
	No	6006	97,1	68	,0 03	80	-	+	Hypertension	Yes	2521	-	,94	,005	-93	·95	0'0'0
Receivingpsychotherapist consultation for the last 12 months	Yes	413	4,5	90	,015	,87	,93 0,531	-		No	6757	-	,87	,004	,87	8	
	No	8865	95,5	68	0.03	8	06'	ß	Stroke/paralysis	Yes	130	-	,91	,025	38	96'	0,547
Facilitating Factors	21							-		No	9148		-89	,003	8	90	
		N	8	Mean	Std	0	Sig.	-	Asthma	Yes	1156	12,5	,91	,008	96'	,93	0,007
Household income	0-1264 TL	2333	25,1	-86	,0 07	85	-	-		No	8122	-	68'	,003	8į	-89	
	1265-1814 TL	2578	27,8	89	,0 06	8	,91	8	Chronic Bronchitis	Yes	1054	-	,91	,009	86	,93	0,052
	1815-2540 TL	1668	18,0	,91	0.02	06'	.93			No	82.24	+	68'	,003	ŝ	96'	
	2541-3721 TL	1415	15,3	-92	,0 07	06'	,93	An	Arthrosis	Yes	13.55	+	6	,007	16	-94	0,000
	3722+П	1284	13,8	89	600'	,87	-	-		No	7923	-	68'	,004	8ę	89	
Treatm ant cost SGK	Yes	7727	83,3	,91	0.03	06'	,91 0,000	-	Kidn ey disease	Yes	952	-	<b>06</b> '	,010	ĸ	,92	0,2.09
	No	1551	16,7	,82	,010	80	-	-		No	83.26	-	-89	,003	æ	.90	
Reliable Relative	I have	8734	94,1	89	,0 03	89	90000 06'	-	Depression	Yes	1112	_	,92	,008	06'	,93	0,004
	I don't have	544	5,9	38 <sup>5</sup>	,016	,82				No	8166		-88	,003	8ę	-89	
Interest From the Environment	Too much	1085	11,7	ŝ	,010	86	,90 0,001	-	Diabetes	Yes	1428	+	, <sup>93</sup>	,007	,92	<b>9</b> 5	0,000
	Much	4635	5 0,0	66	004	68	06'			No	7850	+	8	,004	8ę	68	
	N ot sure	2308	24,9	89	,0 06	ő	.91	μ	Infar ction	Yes	356	+	6,	,016	,87	,94	0,417
	Little	880	9'2	,91	,010	8	.93			No	8922	+	68'	,003	ŝ	96	
	None	370	4,0	\$ <del>6</del>	,019	80	-	-	Coronary heart disease	Yes	10.67	-	,91	600'	66'	,93	0,017
Help From Neighbors	Very difficult	369	4,0	80	,021	,76	,84 0,000	_		No	8211	+	68'	,003	ő	96	
	Difficult	813	8,8	<sup>,87</sup>	,012	\$	68	Ę	Low back problems	Yes	4185	-	6,	,005	68	,91	0,006
	Mod erate	1391	15,0	66	0.08	68	,92			No	5093	-	8	,004	,87	68	
	Easy	5159	55,6	66	,0 04	8	06'	Ne	Neck region diseases	Yes	2937	+	,91	,005	66	,92	0,0 00
	Very Easy	1546	16,7	66	,0 08	æ	-			No	6341	68,3	8	,004	8ę	89	
Un official Aid	Yes	1013	10,9	66	60.0'	68	,92 0,197	16				_					
	No	8265	1,93	68	500	80 e	+										
Delay due to long appointment time	Yes	1674	18,0	91	200'	68	,92 0,012	12									
	00	100+	0/7.9	60	+00°	õ o	+	5									
D eray que to transportation or distance	165	C/TT	171	ę e	200 <sup>2</sup>	à à	50±'0 0.6'	3									
Parant Difficulty in Madical Care	Vac	8103	172	62	010	20 X	-20 US4	34									
r ayment punctury in themes care	51 51	0126	0171	00	000	2 B	+	5									
	DV	2010	110	e.	20.02	à	A.C.	_			_	_					

According to the results of Model 2, individuals' age increases their likelihood of applying for family medicine service by 1,012 times, having a concentration problem by 1,18 times, household income by 1,075 times, treatment costs covered by SGK by 1,74 times, having reliable relatives by 1,42 times, getting help from neighbors 1,13 times and delay in receiving health services due to long appointment system 1,37 times. However, gender decreases the probability of individuals to apply for family medicine service by 0.64 times and their employment status by 0.79 times.

According to the results of Model 3, individuals' age increases their likelihood of applying for family medicine service by 1 time, having a concentration problem by 1,27 times, household income by 1,072 times, treatment costs covered by SGK by 1,72 times, having reliable relatives by 1,39 times, getting help from neighbors 1,41 times and delay in receiving health services due to long appointment system 1,35 times, having hypertension disease 1,62 times and having diabetes 1.31 times. However. gender decreases the probability of individuals to apply for family medicine service by 0.69 times and their employment status by 0.81 times. (Table 2)

# 4. DISCUSSION AND LIMITATIONS

Within the scope of this research, the factors affecting the status of receiving services from the family medicine were examined within the framework of the behavioral model developed by Andersen. In the study, the frequency of using a family medicine was found to be high with 89.1%. In similar studies on the subject, the rate of application to the family medicine was between 35.3% and 84.6% (Hirshfield et al., 2018; Fortin et al., 2018; Franck et al., 2020). In this study, it was revealed that women (63.5%) mostly used the family medicine in terms of gender. This result is in line with similar studies. Within the scope of other studies, between 50.6% and 61.7% of women used health care (Dhingra et al., 2010;

Hong et al., 2019; Conner, 2012; Jin et al., 2019; Roh et al., 2017; Liu et al., 2019). However, some studies determine that men (around 53%) receive more health services (Holtzman et al., 2015; Kaya et al., 2019).

In this study, it was revealed that the most married people (72.7%) used a family medicine. If we look at similar studies on the subject, it was determined that 52.9% to 84% of the married people use health service (Heider et al., 2014; Hong et al., 2019; Jin et al., 2019; Ogunsanya et al., 2016; Kaya et al., 2019; Franck et al., 2020; Liu et al., 2019). Some studies determine that those who receive health services (66% and 84.6%) are not married (single, divorced and widows) (Fortin et al., 2018; Hirshfield et al., 2018; Lee et al., 2020). In terms of educational status, it was found out that primary school graduates (43.5%) used family medicine more. Fortin et al.'s study also found that primary school graduates (53.5%) mostly used health care. According to the research conducted by Kaya et al. (2019: 377), it was revealed that primary or secondary school graduates (46.1%) mostly used healthcare services. However, studies are showing that this situation varies from country to country. In some countries, university graduates are more likely to use family medicine services, while in others, high school graduates are reported to receive more services (Dhingra et al., 2010; Heider et al., 2014; Hirshfield et al., 2018; Hong et al., 2019; Conner, 2012; Jin et al., 2019; Ogunsanya et al., 2016; Franck et al., 2020; Roh et al., 2017; Liu et al., 2019; Lee et al., 2020).

In terms of employment status, it was revealed that people who did not work (67,1%) used family medicine the most. If we look at similar research on the subject; According to the research conducted by Conner (2012: 372), it was revealed that people who could not do work physically (desk workers; white collar) (60,6%) use health care. However, according to the research conducted by Hong et al. (2019: 44), it was determined that the working people (53,1%) used the health services the most.

-	First Model					Second Mod	el				Third Model	l			
Variables	Coefficient	OR	р	95% Cl	[	Coefficient	OR	р	95% CI		Coefficient	OR	р	95% Cl	[
Gender	-,535	,585,	,000,	,504	,681	-,435	,647	,000,	,555	,755	-,363	,695	,000,	,594	,814
Calculated Age	,016	1,016	,000,	1,012	1,021	,012	1,012	,000,	1,008	1,017	,007	1,007	,018	1,001	1,012
Marital Status	-,119	,888,	,123	,763	1,033	-,064	,938	,411	,805	1,093	-,092	,912	,244	,781	1,065
Education	,085	1,088	,001	1,036	1,143	,013	1,013	,630	,960	1,069	,023	1,023	,401	,970	1,080
Place of Birth	,351	1,420	,143	,888,	2,271	,290	1,337	,229	,833	2,147	,306	1,357	,209	,843	2,186
Employment Status	-,206	,814	,009	,697	,950	-,236	,790	,003	,676	,923	-,211	,810	,009	,691	,948
Concentration Problem	,126	1,134	,124	,966	1,332	,172	1,187	,039	1,008	1,398	,244	1,276	,014	1,050	1,550
Learning	-,224	,800	,029	,654	,977	-,125	,882,	,229	,719	1,082	-,128	,880,	,239	,712	1,088
Recalling	,037	1,038	,676	,872	1,236	,039	1,039	,669	,871	1,240	,002	1,002	,987	,834	1,203
Alcohol use status	,133	1,142	,124	,964	1,352	,098	1,103	,262	,929	1,308	,101	1,106	,252,	,931	1,315
Receiving inpatient service for the last 12	007	.994	051	,825	1,198	010	1 0 1 0	044	044	1 3 3 0	-,027	074	,787	,802	1 102
months	-,006	,994	,951	,825	1,198	,019	1,019	,844	,844	1,230	-,027	,974	,/8/	,802	1,182
Receiving psychologist consultation for the last	110	1 1 1 6	620	715	1 742	,086	1 000	700	606	1 707	015	1.015	,948	647	1 606
12 months	,110	1,116	,630	,715	1,742	,080	1,090	,708	,696	1,707	,015	1,015	,948	,642	1,606
Receiving psychotherapist consultation for the	001	.999	.994	.702	1,421	.004	1,004	,983	,703	1,434	-,095	,910	,622	,624	1,326
last 12 months	-,001	,999	,994	,702	1,421	,004	1,004	,903	,703	1,434	-,095	,910	,022	,024	1,320
Household income						,072	1,075	,017	1,013	1,141	,069	1,072	,023	1,010	1,138
Treatment cost SGK						,556	1,744	,000,	1,471	2,069	,545	1,725	,000,	1,453	2,049
Reliable Relative						,356	1,428	,006	1,108	1,840	,329	1,390	,012	1,075	1,796
Interest From the Environment						,058	1,060	,121	,985	1,141	,069	1,072	,069	,995	1,154
Help From Neighbors						,126	1,134	,000,	1,058	1,216	,132	1,141	,000,	1,064	1,224
Unofficial Aid						,121	1,128	,293	,901	1,412	,117	1,124	,312	,896	1,411
Delay due to long appointment time						,316	1,372	,003	1,116	1,687	,304	1,355	,004	1,100	1,670
Delay due to transportation						-,147	,864	,205	,688	1,083	-,141	,868,	,226	,691	1,092
Payment Difficulty in Medical Care						-,012	,988	,912	,795	1,227	-,044	,957	,696	,768	1,193
General Health Status											-,054	,948	,345	,847	1,060
Disease Health Status											-,015	,985	,884	,809	1,201
Asthma											,106	1,112	,407	,865	1,430
Chronic Bronchitis											-,055	,947	,677	,733	1,224
Infarction											-,196	,822	,349	,546	1,239
Coronary heart disease											-,006	,994	,967	,766	1,291
Hypertension											,485	1,624	,000	1,317	2,003
Stroke/paralysis											-,033	,968	,918	,517	1,810
Arthrosis											,178	1,195	,146	,940	1,518
Low back problems											-,045	,956	,575	,815	1,120
Neck region diseases											,051	1,053	,557	,887	1,250
Diabetes											,273	1,314	,027	1,032	1,674
Kidney disease											-,051	,951	,680	,747	1,209
Depression											,259	1,295	,050	1,000	1,677
Physical pain											,047	1,048	,161	,981	1,119
Pain blocking life											,303	1,355	,001	1,131	1,623
Feeling the Pleasure											084	.920	.363	.768	1,101
Distress											.084	1,088	,368	,905	1,308
Feeling worthless											-,220	.802	,025	,662	,973
Restriction of vital activities related to health															-
problems											,293	1,341	,003	1,108	1,623
Hearing (in silence environment)											-,309	,734	,026	,559	,963
Hearing (in noisy environment)											,133	1,142	,251	,910	1,432
Defect of vision	1										-,100	,905	,204	,775	1,056

**Table 2:** Binary Logit Regression Analysis for Factors Affecting the Status of Receiving Services fromFamily Medicine

In terms of household income, it was revealed that people with the second group (1265-1814 TL) income (27.8%) used the family medicine. If we look at similar research; according to the research conducted by Dhingra et al. (2010: 526), it was revealed that people with the third group (\$ 20000-49999) income (34.3%) used health care. According to the research conducted by Franck et al. (2020: 54), it was revealed that people with the highest fifth group (2800-4200 €) income (28.4%) used health care. According to the research conducted by Hirshfield et al. (2018: 791), it was revealed that people with the third group (\$ 50,000 and above) income (51%) used health care.

It was found that people (83.3%), whose treatment expenses were covered by the SGK,

used the family medicine the most. If we look at similar studies on the subject, individuals under a social security umbrella were found to use health care between 62.8% and 92.2% (Dhingra et al., 2010; Heider et al., 2014; Hong et al., 2019; Jin et al., 2019; Roh et al., 2017; Lee et al., 2020).

In the study, it was revealed that people with a reliable relative (94,1%) used the family medicine the most. If we look at similar research on the subject; those with close social relationships and reliable relatives were determined to use health care between 51,6% and 89,7% (Kaya et al., 2019; Liu et al., 2019). In the study, it was revealed that people who did not have difficulty in payment in medical care (87.7%) used the family medicine the most. Similar studies on the subject reveal that

41,6% to 85,4 % of people who did not have payment difficulties turned out to be using the health services the most (Graham et al., 2017; Hong et al., 2019).

The study showed that people with moderate overall health conditions (38,8%) used a family medicine the most. Considering similar researches on the subject, it was determined that people with the highest general health status (33,9%) used health care the most according to the research conducted by Dhingra et al. (2010: 526). According to the research conducted by Franck et al. (2020: 55), it was found that people (58,1%) whose health status ranged from good to very good used health services the most. According to the research conducted by Liu et al. (2019: 6), it was determined that the people whose general health status was ordinary, good or very good (76%) used health services the most. According to the research carried out by Ogunsanya et al. (2016: 11), it was found that people (48,8%) with a very good or excellent general health status used the health service the most.

In terms of psychological factors, in this study, it was revealed that people who are suffering from depression (55.2%), who do not feel pleasure (50.2%) but who also feel worthless (69.1%) use the family medicine the most. Considering similar researches on the subject, it was determined that people with mood disorders (44%) used health care the most according to the research conducted by Fortin et al. (2018: 590). According to the research conducted by Dhingra et al (2010: 526), it was revealed that people (64.8%) who did not have difficulty remembering used health care the most. According to the study conducted by Fortin et al. (2018: 110), it was revealed that individuals (81.8%) who experienced somatic disorder (a condition that occurs when people overlv concerned about physical are symptoms such as fatigue or pain) use health care the most. According to the research conducted by Franck et al. (2020: 55), it was revealed that people who did not experience depressive disorder (70.9%) used health care the most. According to the research conducted by Graham et al. (2017: 173), it was revealed that people (74%) who experienced the most psychological problems used health care the most.

In this study, it was found that people whose lives were restricted (55.9%) used family medicine the most. According to a similar study conducted by Franck et al. (2020: 55), it was revealed that people without a functional limitation (44.4%) due to a health-related problem used health care the most. In this study, the prevalence of twelve chronic diseases ranged from 1.4% to 45.1%. The most common chronic disease is a low back problem. The least common chronic disease is stroke- paralysis. Chronic diseases affecting the state of going to the family medicine are only hypertension (1,624 times increased) and diabetes disease (1,314 times increased). Considering similar researches on the subject, depression (Holtzman et al., 2015; Chong et al., 2018), schizophrenia (Fortin et al., 2018), diabetes, hypertension, an endocrine disorder, gynecology, cancer and obesity diseases (Jin et al., 2019; Franck et al., 2020; Liu et al., 2019), AIDS and heart diseases (Hirshfield et al., 2018) affect the state of going to healthcare professionals. According to the studies conducted by Jin et al.(2019) and Jane et al. (2020), cancer disease affects the condition of receiving treatment. According to the studies conducted by Liu et al.(2019: 6), hypertension and diabetes diseases affect the condition of receiving treatment. According to the studies conducted by Travers et al.(2020: 3) (Travers et al., 2020) diabetes, hypertension and heart diseases affect the condition of receiving treatment.

In Babitsch et al.'s systematic review study in 2012, a large number of variables evaluated within the Behavioral model was identified. Of the variables obtained from all studies, the names of which are given in quotes below were not included in the analysis because they are not in the Turkish Health Survey data. (Babitsch et al., 2012: 3): there are no data on the number of children in the country, area of

## İzmir İktisat Dergisi (İzmir Journal of Economics) , Yıl:2021, Cilt:36, Sayı:4, ss. 949-959

residence (urban, rural, etc.), family structure, ability to speak English, health beliefs, trust in healthcare institutions, acculturation, stress factor at work, life satisfaction, number of first aiders, age-gender interaction, racial discrimination, health monitoring, prison history, victimization, homelessness, exposure to violence.

In addition, there are no data on doctor's diagnosis, full-time studentship, the time between referral and mental health assessment, people's preparation for access barriers, special medical needs, preparation for ethnic or cultural distinctions, availability of health-related information, crime rate, foreign language skills of medicine and preparing people for unemployment.

There are no data on perceived health, cancer, high cholesterol, thyroid, anxiety, suicidal ideation, metabolic syndrome, epilepsy, birth control pill use, history of violence, ulcers, hospital number of admissions, the relationship between quality of life and health, injuries, pregnancy, flu infection, prostate problems, blood circulation status. а gastrointestinal condition, gynecological problems, pulmonary status, and need for help with alcohol or substance use problem, which are among the ""requirement/need factors".

## 5. RESULT

Understanding healthcare-seeking behavior and its determinants help governments adequately allocate and manage existing health resources. B This is particularly important in countries with limited resources. such as Turkey. Inequalities in the use of the public and private health sectors remain a widespread problem. Informal healthcare providers (traditional healers, unskilled medical practitioners, faithful healers) remain the first point of contact in some areas. Because health service search behavior is linked to worse health outcomes, identified determinants can provide valuable insights designing personalized into health interventions and capacity building for health care providers.

Two of the biggest barriers to accessing the service are particularly significant. Having low income and not being able to pay for the service to be received are among the problems that reduce inequalities. Social policy tools should come into play for these two obstacles. In addition, priority should be given to preventive health services in order to combat diseases such as diabetes, waist and neck problems, hypertension and arthrosis, which are found to increase the workload of family medicine statistically. In this regard. governments should apply the method of resource allocation.

As a result, policymakers should conduct prioritization studies aimed at the factors that increase and decrease individuals' family medicine service use behavior. It is important that the monitoring and investigation of these components in the execution of the services to ensure that the family medicine system is sustainable and more preferable, is a guide for health managers in creating and executing related policies

#### REFERENCES

Andersen, R. (1968). A behavioral model of families' use of health services. A behavioral model of families' use of health services., (25).

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter?. Journal of health and social behavior, 1-10.

Atun, R. A., Kyratsis, I., Jelic, G., Rados-Malicbegovic, D., & Gurol-Urganci, I. (2007). Diffusion of complex health innovations implementation of primary health care reforms in Bosnia and Herzegovina. Health policy and planning, 22(1), 28-39.

Babitsch, B., Gohl, D., & Von Lengerke, T. (2012). Re-revisiting Andersen's Behavioral Model of Health Services Use: a systematic review of studies from 1998–2011. GMS Psycho-Social-Medicine, 9.

Bradley, E. H., McGraw, S. A., Curry, L., Buckser, A., King, K. L., Kasl, S. V., & Andersen, R. (2002). Expanding the Andersen model: The role of psychosocial factors in long-term care use. Health services research, 37(5), 1221-1242.

Chong, W. F., & Ho, R. M. H. (2018). Caregiver needs and formal long-term care service utilization in the Andersen Model: An individual-participant systematic review and meta-analysis. International Journal of Integrated Care (IJIC), 18.

Conner, N. E. (2012). Predictive factors of hospice use among blacks: applying Andersen's behavioral model. American Journal of Hospice and Palliative Medicine®, 29(5), 368-374.

Dhingra, S. S., Zack, M., Strine, T., Pearson, W. S., & Balluz, L. (2010). Determining prevalence and correlates of psychiatric treatment with Andersen's behavioral model of health services use. Psychiatric Services, 61(5), 524-528.

Fortin, M., Bamvita, J. M., & Fleury, M. J. (2018). Patient satisfaction with mental health services based on Andersen's Behavioral Model. The Canadian Journal of Psychiatry, 63(2), 103-114.

Fortin, M., Cao, Z., & Fleury, M. J. (2018). A typology of satisfaction with mental health services based on Andersen's behavioral model. Social psychiatry and psychiatric epidemiology, 53(6), 587-595.

Franck, J. E., Ringa, V., Coeuret-Pellicer, M., Chauvin, P., & Menvielle, G. (2020). The determinants of cervical cancer screening uptake in women with obesity: application of the Andersen's behavioral model to the CONSTANCES survey. Cancer Causes & Control, 31(1), 51-62.

Gökkaya, D. (2016). Bireylerin Hastalık Şiddeti Algısıyla Sağlık Hizmetleri Kullanımına Etki Eden Faktörlerin Değerlendirilmesi (Yüksek Lisans Tezi, Süleyman Demirel Üniversitesi, Isparta).

Graham, A., Hasking, P., Brooker, J., Clarke, D., & Meadows, G. (2017). Mental health service use among those with depression: an exploration using Andersen's Behavioral Model of Health Service Use. Journal of affective disorders, 208, 170-176.

Heider, D., Matschinger, H., Müller, H., Saum, K. U., Quinzler, R., Haefeli, W. E., ... & König, H. H. (2014). Health care costs in the elderly in Germany: an analysis applying Andersen's behavioral model of health care utilization. BMC health services research, 14(1), 1-12.

Hirshfield, S., Downing Jr, M. J., Horvath, K. J., Swartz, J. A., & Chiasson, M. A. (2018). Adapting Andersen's behavioral model of health service use to examine risk factors for hypertension among US MSM. American journal of men's health, 12(4), 788-797.

Holtzman, C. W., Shea, J. A., Glanz, K., Jacobs, L. M., Gross, R., Hines, J., ... & Yehia, B. R. (2015). Mapping patient-identified barriers and facilitators to retention in HIV care and antiretroviral therapy adherence to Andersen's Behavioral Model. AIDS care, 27(7), 817-828. Hong, Y. R., Samuels, S. K., Huo, J. H., Lee, N., Mansoor, H., & Duncan, R. P. (2019). Patientcentered care factors and access to care: a path analysis using the Andersen behavior model. Public health, 171, 41-49.

Imbus, J. R., Voils, C. I., & Funk, L. M. (2018). Bariatric surgery barriers: a review using Andersen's Model of Health Services Use. Surgery for Obesity and Related Diseases, 14(3), 404-412.

Jin, S. W., Yun Lee, H., & Lee, J. (2019). Analyzing factors enabling colorectal cancer screening adherence in Korean Americans using the Andersen's Behavioral Model of Health Services Utilization. Journal of psychosocial oncology, 37(6), 729-745.

Kara, O., & Kurutkan, M. N. (2018). Mikro İktisadi Açıdan Sağlık Hizmetleri Piyasasının Analizi. Nobel Bilimsel Eserler, (113).

Kaşko Y. (2007). Çoklu Bağlantı Durumunda İklili (Binary) Lojistik Regresyon Modelinde Gerçekleşen 1. Tip Hata ve Testin Gücü. (Yayımlanmamış Yüksek Lisans Tezi, Ankara Üniversitesi Fen Bilimleri Esntitüsü, Ankara)

Kaya, S., Sain Guven, G., Aydan, S., & Toka, O. (2019). Predictors of hospital readmissions in internal medicine patients: Application of Andersen's Model. The International journal of health planning and management, 34(1), 370-383.

Khedmati, J., Davari, M., Aarabi, M., Soleymani, F., & Kebriaeezadeh, A. (2019). Evaluation of urban and rural family physician program in Iran: a systematic review. Iranian journal of public health, 48(3), 400.

Kılıç, D., & Çalışkan, Z. (2013). Sağlık hizmetleri kullanımı ve davranışsal model. Nevşehir Hacı Bektaş Veli Üniversitesi SBE Dergisi, 2(2), 192-206.

Lee, Y. S., Roh, S., Moon, H., Lee, K. H., McKinley, C., & LaPlante, K. (2020). Andersen's Behavioral Model to Identify Correlates of Breast Cancer Screening Behaviors among Indigenous Women. Journal of Evidence-Based Social Work, 17(1), 117-135.

Liu, Z., Tan, Y., Liang, H., Gu, Y., Wang, X., Hao, Y., ... & Hao, C. (2019). Factors influencing residents' willingness to contract with general practitioners in Guangzhou, China, during the GP policy trial phase: A cross-sectional study based on Andersen's behavioral model of health services use. INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 56, 0046958019845484.

Ogunsanya, M. E., Jiang, S., Thach, A. V., Bamgbade, B. A., & Brown, C. M. (2016, December). Predictors of prostate cancer screening using Andersen's Behavioral Model of Health Services Use. In Urologic Oncology: Seminars and Original Investigations (Vol. 34, No. 12, pp. 529-e9). Elsevier.

Rivo, M. (1997). Family Practice In The New Millennium: From Health Care To Health Improvement. Fam Pract Manag. 33(4), 259-267.

Roh, S., Burnette, C. E., Lee, K. H., Lee, Y. S., Martin, J. I., & Lawler, M. J. (2017). Predicting help-seeking attitudes toward mental health services among American Indian older adults: Is Andersen's behavioral model a good fit?. Journal of Applied Gerontology, 36(1), 94-115.

Strasser, R. (2003). Rural Health Around The World: Challenges And Solutions.

Travers, J. L., Hirschman, K. B., & Naylor, M. D. (2020). Adapting Andersen's expanded behavioral model of health services use to include older adults receiving long-term services and supports. BMC geriatrics, 20(1), 1-1.