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The Effect of Physician-Patient Communication on Patient Satisfaction in Family Medicine Services*

(Research Article)

Aile Hekimliği Hizmetlerinde Hekim-Hasta İletişiminin Hasta Tatminine Etkisi

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ABSTRACT

Primary health care services are directly connected with countries' sustainable development and general development. It is considered that family medicine services, where people can reach equally and receive the health service closest to them in the physical sense, should be handled from different perspectives due to their unique characteristics. Communication, one of these essential factors, is the primary determinant of life and human development as a social being in many issues in the current period. In this context, physician-patient communication in family medicine and the resulting patient satisfaction are expressed as one of the most critical factors that will alleviate the burden of health institutions. The study aims to examine the effects of health communication, an essential element in the doctor-patient relationship, and the effect of doctor-patient communication on patient satisfaction in family medicine services in Family Medicine Centers serving in Ankara. In this context, data were collected from 656 participants over 18 who received service from family medicine throughout Ankara. It has been concluded that physician-patient communication in family medicine services contributes positively to patient satisfaction. Thus, as a result of the patient's satisfaction with the service received, it is thought that effective primary health care services and family medicine will reduce the burden on secondary and tertiary care and provide significant savings in terms of money and time.

Anahtar Kelimeler:
Aile Hekimliği, İletişim, Hasta Tatmini

ÖZET

Birinci basamak sağlık hizmetlerinin ülkelerin sürdürülebilir kalkınmaları ve genel anlamda gelişmişlikleri ile doğrudan bağlantısı bulunmaktadır. Kişilerin eşit bir şekilde ulaşabildikleri fiziki anlamda da kendilerine en yakın olan sağlık hizmetini alabildikleri aile hekimliği hizmetlerinin kendine has özelliklerinden dolayı farklı açılardan ele alınması gerektiği değerlendirilmektedir. Bu önemli faktörlerden biri olan iletişim, içinde bulunduğumuz dönemde birçok konuda hayatın ve sosyal bir varlık olarak insan gelişiminin temel belirleyicisi olmaktadır. Bu bağlamda aile hekimliğinde hekim hasta iletişimi ve bunun sonunda oluşacak memnuniyet ve hasta tatmini, sağlık kurumlarının yükünü hafifletecek olan en önemli faktörlerden biri olarak ifade edilmektedir. Çalışmanın amacı, Ankara'da hizmet veren Aile Hekimliği Merkezlerinde hekim-hasta ilişkisinde önemli bir unsur olan sağlık iletişimi ile aile hekimliği hizmetlerinde hekim-hasta iletişiminin hasta tatminine etkisinin sonuçlarını incelemektir. Bu kapsamda Ankara genelinde aile hekimliğinden hizmet alan 18 yaş üstü 656 katılımcıdan veri toplanmıştır. Aile hekimliği hizmetlerinde hekim-hasta iletişiminin hasta memnuniyetine olumlu katkı sağladığı sonucuna varılmıştır. Böylelikle hastanın aldığı hizmetten memnun olmasının sonucu olarak etkin kullanılan birinci basamak sağlık hizmetlerinin ve aile hekimliğinin, ikinci ve üçüncü basamaktaki yükü azaltarak maddi ve zaman yönünden ciddi tasarruf sağlayacağı düşünülmektedir.

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1. INTRODUCTION

Individuals communicate to maintain their lives collectively and meet their needs. In this context, communication emerges as one of the dominant elements in the health field, as in all other areas of life. In Turkey, primary health care services supplied by family medicine underlie primary health care services offered in general. Accordingly, Turkey has begun implementing a *"Transformation in Health Care"* program. That new model focuses on the individual and society, briefly people, and one of its components is Family Medicine, which has been put into practice within the scope of primary health care services. In addition, the quality of the communication and time per patient plays a more crucial role in family medicine services than in others (Yılmaz & Şireci, 2020, p. 357).

In the theoretical part of this study on family medicine practices, a literature review was conducted using an inductive method of reviewing academic studies, articles, books, legal regulations, and other resources available on the Internet. Furthermore, data was collected via an online questionnaire form.

In this context, we believe that objectively examining physician-patient communication and patient satisfaction through the family medicine system will bring important information and contribute positively to theorists and practitioners**.**

2. LITERATURE REVIEW

2.1. Family Medicine

Family physicians are responsible for providing comprehensive and continuous personal preventive health services and primary diagnosis, treatment, and rehabilitative health services to every person, regardless of age, gender, and disease. In addition, they also provide mobile health services to the extent necessary and work on a full-time basis. They are family medicine specialists or physicians who received the training stipulated by the Ministry (T. C. Sağlık Bakanlığı Halk Sağlığı Genel Müdürlüğü, 2022).

Family medicine is a specialty and a discipline that is at the forefront of the health system, is trained to take the first step towards providing care for any health problem, requires a specific set of knowledge and skills, and where the physician-patient relationship is significant (Olesen, 2000, p. 355). However, previous definitions have not been entirely satisfactory, as it is generally difficult to understand and define the principles of family medicine or the desirable characteristics of a general practitioner. In this sense, in family medicine, where communication is a significant factor, the primary purpose is to promote and improve health, create sound public health, and meet society's needs in the health field (Jawad Hashim, 2018).

The importance of proper primary care is now well known. Beginning with the Alma-Ata conference, with many declarations such as the Ljubljana Charter, the World Health Organization has drawn attention to primary health services and family medicine, as well as specialty and hospital care, with the discourse of *"Health for all"* (Jack et al., 1997). In primary healthcare organizations, preventive and curative health services are offered together, and people can access all these services by applying to their family physician (Samancı, 2020). It also shows the importance of diagnosis. Furthermore, family medicine is a discipline designed to prevent potentially harmful situations due to its unique role in caring for patients throughout their entire lifespan. Also, family physicians are in the best position to incorporate knowledge into clinical practice regarding the positive effects of early detection on long-term health (Crump, 2015).

Family medicine expertise has matured multidisciplinary through medical, psychological, social, and behavioral sciences as an academic and scientific discipline. That expertise has its concepts, knowledge, skills, and research areas (Lam, 2004). It is also considered that family medicine is more than a mix of knowledge gained from various skills and specialties required for comprehensive and continuing medical care, such as medical counseling, outpatient care, and preventive medicine, and it is a separate discipline (Baker, 1974). On the other hand, some research results show that individuals find the scope of family medicine narrow and do not apply to the family physician first in case of a health problem, and generally prefer family medicine to prescribe medication (Baş, 2017).

According to generally accepted research, family medicine consists of four main subjects:

- Clinical medicine: The problems faced by most family physicians are usually clinical problems. Most of the decisions they make are clinical decisions, and a solid understanding of medical knowledge and clinical methods is needed.
- Epidemiology: The distribution, prevalence, frequency of the problem, and the markers affecting them are essential in preventing and recognizing the disease-producing condition.
- Human behavior: Family medicine requires patients to understand their physical, emotional, and social dimensions. A behavioral style integrated with insight, communication skills, and clinical intelligence is

needed. Understanding the socio-cultural dimension of a patient, knowing the social class and family structure can affect the background, types, and triggers of the diseases he develops.

- Human development: Knowing how people respond to crises and sudden changes and situations in their lives can result from a failure to adapt. How health can deteriorate, and the ongoing relationship with patients informs. These situations, possible deviations, normal development processes, and stages should be followed (Mac Whiney, 1969).

It is considered that family medicine services, where people can reach equally and receive the health service closest to them physically, should be handled from different perspectives due to their unique characteristics. Communication, one of these essential factors, is the primary determinant of life and human development as a social being in many issues. In this context, the effectiveness and efficiency of physician-patient communication, the communication between the health personnel and the patient in family medicine, and the patient satisfaction that will result from these are expressed as one of the most critical factors that will alleviate the burden of health institutions.

2.2. Physician-Patient Communication

People communicate with each other to live together and meet their needs. Sociability is defined as *"relationship and communication with others and preferring being with others to being alone"* (Cheek & Buss, 1981, p. 330). Research asserts that the relationship between various customer groups and service providers shows that the customer's sociability, the service provider's expertise, and the duration of the relationship are essential for the relationship's success (Spake & Megehee, 2010).

The communication model consists of five essential elements.

- It is the *"sender"* that gives the message.
- The *"message"* that is transmitted.
- The *"receiver"* of the message.
- The *"channel"* is where the message is sent.
- The *"feedback"* is the re-encoding of the message transmitted by the sender to the receiver and transmitting it back to the sender (Bolat, 1996, p. 76).

These items are shown in Figure 1.

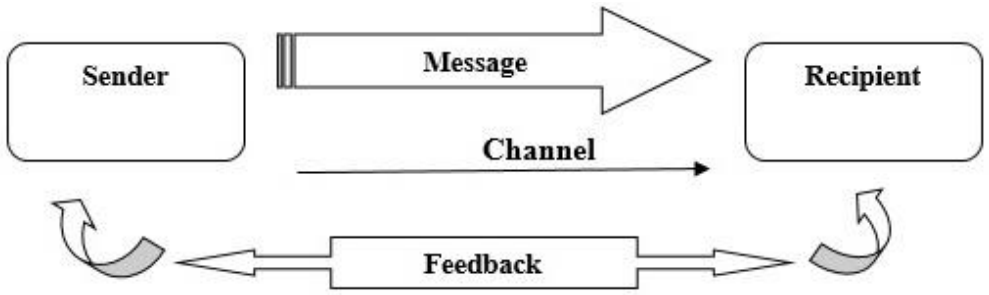

Figure 1. Communication cycle

Source: *Bolat, 1996, p. 76.*

"The interaction-oriented mutual communication models that develop over time have drawn our attention to the importance of the effect on the receiver. All elements in the communication process interact with each other with a more holistic approach, and therefore, communication is a multidimensional and interactive dynamic process" (Batar, 2020, p. 418).

The physician-patient relationship plays a vital role in health care processes. Trust in the physician provides various benefits, including increased satisfaction, adherence to treatment, and continuity of care (Koca & Erigüç, 2021). Communication problems between the patient and the physician are frequently encountered, mainly due to the stress and distress caused by various health problems (Güzel et al., 2022). Health and communication is an issue for individuals and a necessity rather than a choice (Işık, 2021, p. 721). Effective communication in the success of many professions directly related to humans is vital to the success of the medical profession (Dönmez et al., 2021, p. 283). Healthy communication is indispensable in the patient-physician relationship for both the rapid and efficient evaluation of the patient and the professional satisfaction of the physician (Zorlu & Cingi, 2020). Communication between physicians and patients is as old as the history of medicine. However, interest in this communication and relationships has increased in the last 20 years. People have realized the importance of information integration and management, communication skills, teamwork, and content related to medical treatment for effective care in the physician-patient relationship within health systems (Larson, 2003). *"Health communication is the use of various communication strategies to meet the information needs of the individual and*

society on issues related to health status, to create and increase health literacy, to raise awareness of the right to health in individuals, and to make life in a healthy environment possible" (Sezgin, 2010). Throughout history, physician-patient relationships have been recognized to have a significant medical impact, independent of any prescribed medication or treatment. It is known that friendly and reassuring doctors treat patients more effectively (Blasi et al., 2001). On the other hand, studies have reported that patients prefer technically competent doctors who provide sufficient information about the disease and treatment process and expect the physician-patient relationship to be comfortable and warm (Bos et al., 2005, p. 526).

In general, working in healthcare and being the first to touch the patient requires being closer to potentially violent people, and violence in family medicine is still a significant problem. In these cases, healthcare professionals in primary healthcare centers may need to improve their communication skills and interact with patients and their relatives with an empathetic approach (AlAteeq et al., 2016).

"Five specific ways are defined for physicians to empathize during the conflict in their communication with patients. These are recognizing one's own emotions, dealing with negative emotions over time, adapting to patients' verbal and non-verbal emotional messages, and becoming open to negative feedback. More importantly, it has been reported that physicians who learn to empathize with their patients during emotionally charged interactions can reduce anger and frustration and increase their medical impact" (Halpern, 2007, p. 696). In addition, it is considered that there should be an empathetic physician-patient relationship to increase patients' compliance and satisfaction with treatment (Roter et al., 2006).

Patient participation is an inherent feature of health services. It is a multidimensional structure affected by many variables, such as patient satisfaction, quality of health care provided, loyalty, and physician's expertise (Naidu, 2009, p. 209). In the patient-physician relationship, physicians are influential in deciding how health services are delivered, whether and if there will be a procedure, and when it will happen. The balance of power favors the physician (Rajasoorya, 2018). Patients are vulnerable when they entrust their health and life to doctors, so trust is the most essential and indispensable point of this relationship (Ridd et al., 2009).

On the other hand, especially in the highly specialized treatment process of rare diseases, insufficient expertise of healthcare providers emerges as a fundamental problem in the physician-patient relationship based on patient satisfaction (Budych et al., 2012, p. 154). "*From day one, medical students are taught that their primary obligation is to heal patients, but identifying their patients is another matter. The question of who is considered a patient is a complex and legal question with important implications for determining when a physician becomes a doctor"*. The patient's legal definition and the physician's corresponding duties have been discussed for a long time (Blake, 2012, p. 403).

The family physician's obligations are to provide treatment for the patient's medical condition, refer the patient to an appropriate specialist if necessary, and obtain and duly inform the patient of informed consent for medical treatment or surgery. However, the evidence shows that doctors are generally emotionally distant and focused on technique, technology, and medicine in their patient interactions and approach (Levinson, 2000, p. 1022). However, how they define the physician-patient relationship also varies according to the internal rules of the states (Blake, 2012, p. 404). On the other hand, nurses should consider cultural factors in their relationship with the patient. Considering the patient's culture, they should show respect and understanding, benefit from its supportive aspects, and make appropriate interventions in this context (Bolsoy & Sevil, 2006).

Patient satisfaction and quality of service are required to meet users' needs, ensure their satisfaction, and thus create loyalty. For this, it is vital to know the service quality dimensions that satisfy the service user and to observe the effect of service quality on customer satisfaction (Afthanorhan et al., 2019, p. 14). The user's expectations of the service may be lower or higher than their perceptions regarding the system's operation and the services' quality. In addition, research shows that service quality and patient satisfaction mediate between patient satisfaction and patient loyalty (Mosahab et al., 2010, p. 73). In this context, it is considered that knowing the connections between service quality, value, patient satisfaction, and behavioral intentions in health institutions will help these institutions develop more effective strategies (Varinli, 2004, p. 33). Service recipients' satisfaction with the service is an essential determinant of consumer behavior, and if customers are satisfied with the services, they will be satisfied. As a result, they are likely to continue to receive service, and in this context, one of the many factors affecting user satisfaction is the level of perceived satisfaction (Al-Kasasbeh et al., 2011, p. 1).

In modern competitive environments, the service issue is becoming increasingly crucial regarding the competitiveness of both organizations and countries. Therefore, to increase user satisfaction, instead of a standardized service type, local or harmonized services equipped with unique features are offered (Petruzzellis et al., 2006, p. 350). *"Therefore, standardization versus customization and customization in service design is an essential topic of discussion. However, although it is accepted that service providers should standardize or customize their services, it remains unclear how such efforts will affect customer satisfaction"* (Wang et al., 2010, p. 2). On the other hand, studies in this field show that positive emotions do not affect satisfaction. However,

negative emotions significantly affect dissatisfaction, and a complex relationship exists between emotions, satisfaction level, and behavioral intention (Koenig-Lewis & Palmer, 2014, p. 2008).

In service delivery, to increase service satisfaction, the presence of all implicit, explicit, and physical services is considered to increase satisfaction. In addition, it has been realized that the expectation may increase as communication with the service recipient is established, significantly affecting the perception of service quality. Therefore, it is essential for the personnel who provide the service directly to be able to define and understand different education levels for service satisfaction (Islam et al., 2011, p. 182).

Especially in the service sector, satisfaction, quality, and performance appear as causally and cyclically related factors, and this relationship is shown in Figure 2.

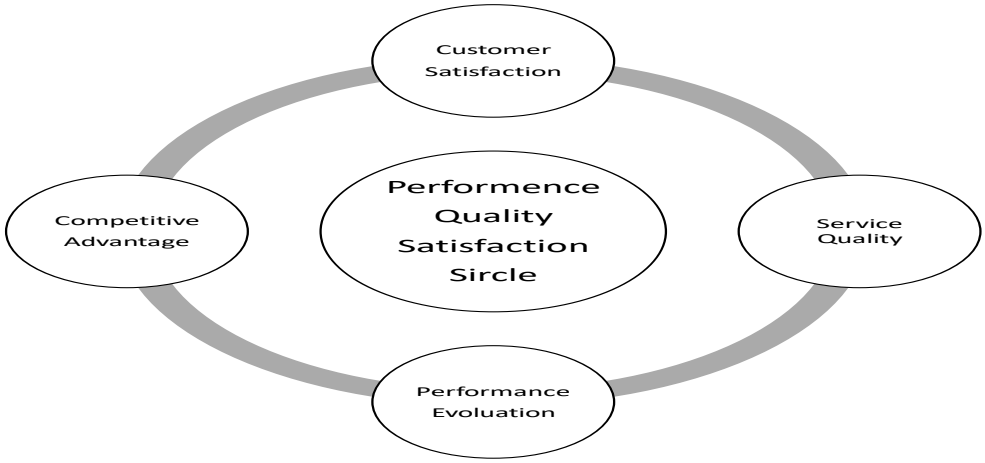

Figure 2. Performance-quality-satisfaction cycle

Source: *Petruzzellis et al., 2006: 353*

The globalizing competitive environment has highlighted the strategic importance of user satisfaction and quality in providing a competitive advantage in the battle for consumer preference and sustainability. In this context, the level of satisfaction perceived by the service recipient is considered one of the crucial factors that will ensure that the service is received again.

It is difficult to make a generally accepted definition of the concepts of satisfaction or dissatisfaction due to the variability in the states of being satisfied or dissatisfied (İşlek & Öztürk, 2021, p. 92). However, satisfaction is defined as being contented, happy, and rejoiced, according to the Turkish Language Institution (Türk Dil Kurumu, 2022). In other words, satisfaction is the most favorable result when evaluating the real feelings reached at the end of the service-related experience (Oliver, 1981, p. 27). In this context, it can also be expressed as the difference between the expectation and the actual.

The healthcare space is unique and different from other customer service standards. In other services, consumer participation in decisions may be low, or the service received may be postponed to a later date, depending on the nature of the service. However, it should be considered that avoiding or delaying the decision to receive health services may have severe consequences for the patient's health and may even result in death.

Managers in different industries have long been concerned with the link between consumers' satisfaction with a product or service and their decision to purchase and consume (Keiningham et al., 2007). In a service, consumer participation level and trust emerge as the primary relational benefits affecting relational response behaviors (Hennig-Thurau et al., 2002). In this context, exploring and understanding the mutual expectations of both parties as a service provider and receiver is a vital prerequisite for interacting in service exchange. However, in the service context, measuring expectations and performance has always been problematic (Hubbert et al., 1995, p. 7).

Studies examining the relationship between perceived value, satisfaction, and loyalty in service recipients found that satisfaction has a direct positive effect on loyalty (El-Adly, 2019, p. 322). It is thought that a high level of patient satisfaction will be achieved by keeping the patient's views in the foreground in choosing among the proposed treatment options, starting from the determination of the appointment date and time in health service procurement (DuPree et al., 2011).

Service providers' primary purpose is to meet their consumers' expectations. From a domain-based healthcare perspective, the *"consumer"* is the patient, and healthcare providers should strive to minimize the differences between patient expectations and actual experiences. Research shows that the quality of the interaction between the patients and the employees who come into contact with the patients in the front line of health service delivery

is the most crucial determinant of the real perceptions of the patients (Lloyd & Luk, 2011, p. 176). In this context, patient satisfaction can be accepted as an indicator of a healthy physician-patient relationship (Levine et al., 1997).

In the doctor-patient relationship, the elements related to communication start before the medical relationship. Therefore, the patient's desire to choose his/her physician, with whom he/she has to talk about all kinds of unique situations, is one of the patient's fundamental rights. Therefore, if the patient's satisfaction is a priority in the physician-patient relationship, it would be appropriate to talk about successful communication at this point (Uludağ, 2011).

The issue of patient satisfaction is also related to quality-related measurement tools such as measurements to be made in terms of better quality health care, findings, the paths individuals naturally take, and their ratings on service (Kessler & Mylod, 2011, p. 266). On the other hand, while measuring patient satisfaction, along with many parameters, the length of hospital stay and the importance of some socio-demographic variables should be considered (Quintana et al., 2006, p. 1). Furthermore, since inpatients are generally expected to experience good postoperative pain, it is claimed that satisfaction levels mainly depend on the attention of hospital staff, cleanliness, quality of the facility, and food (Gan et al., 2014, p. 153).

Healthcare organizations with higher patient satisfaction have lower mortality, better processes, and more permanent measures (Jaipaul & Rosenthal, 2003). On the other hand, nursing care and the patient's relationship with the nurse are also important determinants of overall patient satisfaction during health service procurement. It shows that nurses' knowledge about factors that affect patient satisfaction will positively affect to improve the quality of health care services (Khan et al., 2007, p. 27).

In recent years, the importance of quality has been increasing due to the legal regulations related to the health industry and the increasing number of private health institutions. Therefore, quality emerges as one of the primary elements of competitive advantage and sustainability in the healthcare industry today (Bilgin & Göral, 2017, p. 152). In this context, it has been found that health consumers' perceptions of service quality and patient satisfaction differ according to socio-economic variables other than education (Suhail & Srinivasulu, 2021). According to research, health institutions that have a positive image and establish long-term relationships with patients are perceived as patient-oriented, empathetic, understanding of patients' demands, attentive to interpersonal communication, and competent organizations (van Dolen et al., 2004). In addition, it is seen that satisfaction positively affects the consumer's intention to stay with a service provider and not change (Burnham et al., 2003, p. 119). Therefore, since satisfied consumers are pleased, the healthcare provider must improve the quality of service to maintain long-term relationships later (Elleuch, 2008, p. 692).

In this context, considering the importance of the service received and the level of satisfaction, health institutions should assume that the employees in contact with the patient and their attitudes contribute to delivering quality service in terms of patient satisfaction (Hartline & Ferrell, 1996).

3. MATERIAL AND METHOD

Communication is more crucial than ever since it is the primary element we use while transmitting information. Because of that, it is the most important source of power in our age (Başol, 2018, p. 76). It is seen that most negative situations experienced in health services are caused by communication.

Significant progress has been made in the field of family medicine practices in Turkey. Especially with the health reform practices, legal regulations, and changes in this regard, it aims to reach a sufficient level in practice (Oral, 2015, p. 2). From this point of view, the study seeks to examine the effects of health communication, an essential element in the physician-patient relationship, and the impact of physician-patient communication on patient satisfaction in family medicine services in Family Medicine Centers serving in Ankara. Thus, as a result of the satisfaction of the patient with the service received, it is thought that effective primary healthcare services and family medicine will reduce the burden in secondary and tertiary care and provide significant savings in terms of money and time.

According to Address Based Population Registration System Results in 2020, the total population in Ankara is 5,663,322 people, of which 4,269,423 are adults over 18 (TÜİK, 2020). Therefore, the research population was accepted as 4.269.423 people. In calculating the sample size, the sample size table according to the population size created by Sekaran (1992) was used (Karagöz, 2019, p. 308). According to the table, it is stated that data should be collected from a minimum of 384 people for populations ranging from 100,000 to 10,000,000 people in a 95% confidence interval. This condition was met since data was collected from 656 people in the study.

The usefulness of taking advantage of convenience sampling is expressed in the questionnaires developed mainly in the internet environment and becoming increasingly widespread (Karagöz, 2019, p. 313). Furthermore, according to Nakip (2006, p. 204), the convenience sampling method is the easiest way to reach fast and financially

affordable data. Therefore, this study used the convenience sampling method to collect data, considering the time and financial constraints.

Based on the literature, the hypotheses of the research were formed as follows:

- H_1: Physician-patient communication has a statistically significant effect on patient satisfaction.
- H_2: Patient satisfaction level shows a statistically significant difference between demographic variables.
  - H_{2a}: Patient satisfaction level shows a statistically significant difference according to age.
  - H_{2b}: Patient satisfaction level shows a statistically significant difference according to gender.
  - H_{2c}: Patient satisfaction level shows a statistically significant difference according to marital status.
  - H_{2d}: Patient satisfaction level shows a statistically significant difference according to different education levels.
  - H_{2e}: Patient satisfaction level shows a statistically significant difference according to different income levels.
- H_3: The level of physician-patient communication shows a statistically significant difference between demographic variables.
  - H_{3a}: The level of physician-patient communication shows a statistically significant difference according to age.
  - H_{3b}: The level of physician-patient communication shows a statistically significant difference according to gender.
  - H_{3c}: The level of physician-patient communication shows a statistically significant difference according to marital status.
  - H_{3d}: The level of physician-patient communication shows a statistically significant difference according to different education levels.
  - H_{3e}: The level of physician-patient communication shows a statistically significant difference according to different income levels.

Frequency analysis, T-Test, ANOVA Analysis, Regression Analysis, and Correlation Analysis were applied to the data obtained through the SPSS 22 package program. In addition, the model's validity and the mediation effect between the variables were examined through structural equation modeling using the AMOS package program.

While analyzing the research, the following reference values were taken into consideration:

- A range of -2 to +2 is accepted for kurtosis and skewness values (George & Mallery, 2010).
- In the factor analysis, the minimum factor load was taken as 0.400 (J. F. J. Hair et al., 2010, p. 708).
- Varimax Rotation, recommended in such studies, was used in the exploratory factor analyses (J. Hair et al., 2013).
- The following intervals were used to interpret the reliability coefficient (Cr-Alpha) (Alpar, 2013, p. 848).
  - ✓ not reliable if $0 < R2 < 0.40$
  - ✓ $0.40 \leq R2 < 0.60$ at low reliability
  - ✓ highly reliable if $0.60 \leq R2 < 0.80$
  - ✓ high reliability if $0.80 \leq R2 < 1.00$
- The following reference values were taken as the basis for acceptable fit indices in the confirmatory factor analysis.
  - ✓ Chi-Square/sd <5 (Wheaton et al., 1977)
  - ✓ RMSEA 0,076 $0,05 \leq RMSEA \leq 0,08$ (Noudoostbeni et al., 2018)
  - ✓ TLI > 0.9 (Hu & Bentler, 1999)
  - ✓ CFI > 0.9 (Bentler & Bonett, 1980)
  - ✓ SRMR <0.01 (Schermelleh-Engel et al., 2003).

Hausman's (2004) Communicative Openness / Communication Openness (Patient / Physician, 5-point Likert) scale and Westbrook and Oliver's (1991) Satisfaction / Satisfaction (5-point Likert) scale were applied. General information about the scales is given in Table 1.

Table 1. General Info about The Scales

Scale	Reference	Reliability (Cronbach's Alpha)	Number of Items	Answer Option Range
Satisfaction	(Westbrook & Oliver, 1991)	It varies from study to study, between 0.73 and 0.92	7	5-point Likert

Communication Openness (Physician-Patient)	(Hausman, 2004)	It varies from study to study, between 0.78 and 0.83	7	5-point Likert

3.1. Ethical Approvals of the Research

After the scales were translated into Turkish, opinions were taken from three people, one of whom is an English teacher and the other two are experts in their fields, to form the questionnaire.

A digital survey created by Google Forms was applied to collect the data. In addition to the two scales, a demographic question set was also used to collect demographic information.

The research has some limitations, such as time and finances. Ethical approval was taken from the T. C. Ufuk University Ethics Committee, numbered E-81182178-605.99-23601. This research was conducted between 11.03.2022 and 31.05.2022.

4. FINDINGS

Frequency analysis results of demographic data are shared in Table 2.

Table 2. Demographic Data of Participants

Gender	Answers	%
Female	345	52.6
Male	311	47.4
Total	656	100

Education	Answers	%
Primary School Graduate	7	1.1
Secondary School Graduate	9	1.4
High School Graduate	243	37
Associate Degree Graduate	75	11.4
Undergraduate Degree	222	33.8
Post Graduate	81	12.3
Ph.D. Graduate	19	2.9
Total	656	100

Marital Status	Answers	%
Married	335	51.1
Single	321	48.9
Total	656	100

Age	Answers	%
Between 18-25	233	35.5
Between 26-33	65	9.9
Between 34-41	110	16.8
Between 42-49	120	18.3
Between 50-57	50	7.60
Between	78	11.9
Total	656	100

Income status	Answers	%
Income Less Than Expenses	191	29.1
Income Equivalent to Expenses	316	48.2
Income More Than Expenses	149	22.7
Total	656	100

It is seen that; the gender and marital status were almost equal, and the sum of the group whose income was less than their expenses and whose income was more than their expenses was equal to the group whose income was equal to their expenses. Undergraduate and high school graduates comprise 70% of the group, while the remaining 30% comprise primary school, secondary school, high school, associate degree, and doctorate graduates. In the

age distribution, the highest rate was 35% for 18-25 and 35% for 34-49, and the remaining 30% were between 26-33 and 50 and over.

Table 3. Differences between Genders

	Gender	N	Average	Std. Deviation	t	p
Satisfaction	Female	345	3.420	0.925	0.666	0.506
	Male	311	3.370	0.950		
Communication	Female	345	3.130	0.825	0.232	0.816
	Male	311	3.110	0.892		

An Independent Sample t-test was applied to examine whether there is a significant difference in measurement values between people of different genders. As a result of the independent sample t-test, there was no significant difference between men and women for measurements.

The results of the T-test to determine whether the satisfaction and communication scale scores of the marital status variable differ are shared in Table 4.

Table 4. Differences between Marital Status for Measurements

	Marital Status	N	Average	Std. Deviation	t	p
Satisfaction	Female	335	3.430	0.953	1.100	0.272
	Male	321	3.350	0.919		
Communication	Female	335	3.150	0.914	0.782	0.435
	Male	321	3.090	0.794		

In order to examine whether there is a significant difference in measurement values between individuals with different marital statuses, the Independent Sample t-test was applied. As a result of the independent sample t-test applied, there was no significant difference between married and single people for measurements.

The results of the Anova Analysis to determine whether the satisfaction and communication scale scores of the age variable differ are shared in Table 5.

Table 5. Differences Between Age Groups for Measurements

	Age	N	Avg.	Std. Dev.	F	p	Diff.
Satisfaction	Between 18-25	233	3.360	0.908	4.224	0.001	6-1.3.4
	Between 26-33	65	3.360	1.016			
	Between 34-41	110	3.260	0.897			
	Between 42-49	120	3.250	0.917			
	Between 50-57	50	3.670	0.968			
	58 and over	78	3.750	0.921			
Communication	Between 18-25	233	3.100	0.766	5.136	0.000	6-1.3.4
	Between 26-33	65	3.140	0.944			
	Between 34-41	110	3.020	0.835			
	Between 42-49	120	2.910	0.891			
	Between 50-57	50	3.330	0.948			
	58 an over	78	3.480	0.846			

One-way analysis of variance (ANOVA) was applied to examine whether there was a significant difference between individuals in different age groups regarding measurement values. As a result of the one-way ANOVA, significant differences were determined for the measurements in age groups. Accordingly, the Patient Satisfaction measurement level of people aged 58 and over is significantly higher than those aged 18-25, 34-41, and 42-29. In addition, for the level of Patient-Physician Communication, the level of people aged 58 and over is significantly higher than that of people aged 18-25, 34-41, and 42-29.

The results of the Anova Analysis to determine whether the satisfaction and communication scale scores regarding the education level variable differ are shared in Table 6.

Table 6. Differences Between Graduation Levels for Measurements

	Education	N	Avg.	Std. Dev.	F	p
Satisfaction	Primary, Secondary and High School Graduate	259	3.400	0.901	1.003	0.391
	Associate Degree Graduate	75	3.480	1.070		
	Undergraduate Degree	222	3.420	0.950		
	Post and Ph. D. Graduate	100	3.250	0.887		
Communication	Primary, Secondary and High School Graduate	259	3.140	0.797	0.638	0.591
	Associate Degree Graduate	75	3.220	1.016		
	Undergraduate Degree	222	3.100	0.872		
	Post and Ph. D. Graduate	100	3.05	0.848		

One-way ANOVA was applied to examine whether there was a significant difference between individuals with different educational backgrounds in measurement values. As a result of the one-way analysis of variance applied, there was no significant difference between the individuals with varying levels of education for the measurements.

The results of the Anova Analysis to determine whether the satisfaction and communication scale scores regarding the income status variable differ are shared in Table 7.

Table 7. Differences between Income Status for Measurements

	Income Status	N	Avg.	Std. Dev.	F	p
Satisfaction	Income Less Than Expenses	191	3.460	0.935	1.588	0.205
	Income Equivalent to Expenses	316	3.400	0.929		
	Income More Than Expenses	149	3.280	0.951		
Communication	Income Less Than Expenses	191	3.160	0.845	0.426	0.653
	Income Equivalent to Expenses	316	3.110	0.847		
	Income More Than Expenses	149	3.080	0.895		

One-way ANOVA was applied to examine whether there is a significant difference between individuals in different income groups regarding measurement values. As a result of the applied one-way analysis of variance, there was no significant difference between people in other income groups for the measurements.

Table 8 shows the average distribution of the answers given by the participants on the Physician-Patient Communication Scale.

Table 8. Physician-Patient Communication Scale Scores

		Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
Communication between my doctor and myself is excellent	N	42	121	213	186	94
	%	6.40	18.40	32.50	28.40	14.30
My doctor is willing to share all relevant information with me	N	50	92	200	226	88
	%	7.60	14.00	30.50	34.50	13.40
There is little communication between my doctor and myself.	N	82	155	155	178	86
	%	12.50	23.60	23.60	27.10	13.10
My doctor was willing to answer all of my questions	N	40	90	200	227	99
	%	6.10	13.70	30.50	34.60	15.10
My doctor talked to me in	N	25	43	151	312	125

terms I could understand.	%	3.80	6.60	23.00	47.60	19.10
The direction of information is usually from me to my doctor, rather than from my doctor to me	N	38	138	230	204	46
	%	5.80	21.00	35.10	31.10	7.00
There are few opportunities to have informal conversations with my doctor	N	244	223	105	58	26
	%	37.20	34.00	16.00	8.80	4.00

Table 9. Explanatory Factor Analysis for the Physician-Patient Communication Scale

	Total	Total Variance Explained (%)
Physician-Patient Communication	3.767	62.776

As a result of the Exploratory Factor analysis applied to the Physician-Patient Communication scale, which consists of one dimension and seven items, the factor load score of the 6th item was removed from the scale, and the analysis was repeated since it was below 0.400. As a result of the repeated analysis of the remaining six items in the structure, it was seen that six items were aligned in one dimension, and all items had a score above 0.400. On the other hand, that one dimension explains 62.77% of the structure.

As a result of the exploratory factor analysis, factor loads for each item of the physician-patient communication scale are given in Table 10.

Table 10. Factor Loads for the Physician-Patient Communication Scale

Questions	Factor Load
Communication between my doctor and myself is excellent	0.901
My doctor is willing to share all relevant information with me	0.898
There is minor communication between my doctor and myself.	0.707
My doctor was willing to answer all of my questions	0.899
My doctor talked to me in terms I could understand.	0.812
There are few opportunities to have informal conversations with my doctor.	0.427

The factor load value of all the items of the one-dimensional and 6-item structure is over 0.400.

Reliability coefficient Cronbach Alpha values for the physician-patient communication scale are given in Table 11.

Table 11. Scale Reliability Analysis for the Physician-Patient Communication Scale

Sub-Dimensions	Number of Questions	Cronbach's Alpha	Reliability
Physician-Patient Communication	6	0.866	Highly Reliable

Yıldız and Uzunsakal (2018) state that if the Cronbach Alpha coefficient is 0.80 < R2 < 1.00, the question set can be mentioned as a high-reliability measurement tool. As a result of the reliability analysis of the Patient Satisfaction Scale, it can be said that the value is in this range, and the question set has high reliability.

The visual of the confirmatory factor analysis of the physician-patient communication scale is shared in Figure 3.

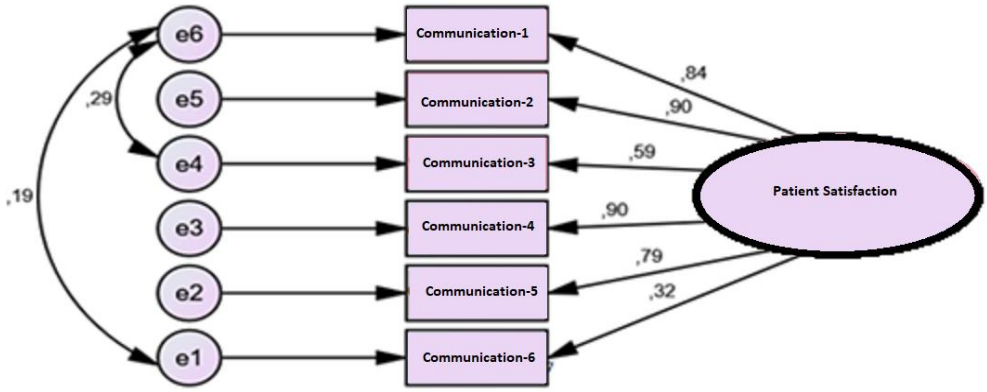

Figure 3. Confirmatory Factor Analysis for the Physician-Patient Communication Scale

The fit indices and acceptable limit value range for the physician-patient communication scale are given in Table 12.

Table 12. Goodness of Fit for the Physician-Patient Communication Scale

Indices	Values	Limits
χ^2	29.012	-
Degrees of freedom	7	-
P	0.000	-
χ^2/df	4.145	<5
TLI	0.980	>0.90
CFI	0.991	>0.90
RMSEA	0.069	<0.08
SRMR	0.019	<0.10

The Patient-Physician Communication scale was found in one dimension and six items. In the confirmatory factor analysis applied, it was seen that the factor loads of all items were high enough. In the analysis, the items with high relevance and conceptually not an obstacle to defining the relationship between them were linked, modifications were made, and the model with increased model fit values was ensured to show acceptable fit.

The factor loads obtained as a result of confirmatory factor analysis are given in Table 13.

Table 13. Factor Loads for the Physician-Patient Scale

Questions	Factor Load
Communication between my doctor and myself is excellent	0.844
My doctor is willing to share all relevant information with me	0.896
There is minor communication between my doctor and myself.	0.588
My doctor was willing to answer all of my questions	0.895
My doctor talked to me in terms I could understand.	0.787
There are few opportunities to have informal conversations with my doctor.	0.423

Table 14 shows the average distribution of the participants' answers on the Patient Satisfaction Scale.

Table 14. Patient Satisfaction Scale Scores

Questions		Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
This is one of the best family physicians, I could have used	N	62	123	259	134	78
	%	9.50	18.80	39,50	20.40	11.90
My family physician is exactly what I needed.	N	36	94	252	194	80
	%	5.50	14.30	38,40	29.60	12.20
I am satisfied with my decision to choose this family physician	N	29	64	202	243	118
	%	4.40	9.80	30,80	37.00	18.00
My choice to choose this family physician was a wise one.	N	31	98	196	222	109
	%	4.70	14.90	29,90	33.80	16.60
If I could do it over again, I'd choose a different family physician	N	47	107	180	206	116
	%	7.20	16.30	27,40	31.40	17.70
I genuinely enjoy this family physician.	N	38	97	194	212	115
	%	5.80	14.80	29,60	32.30	17.50
I am not happy I chose this family physician	N	156	247	146	82	25
	%	23.80	37.70	22,30	12.50	3.80

According to the distribution of the patient satisfaction scale, it was observed that more than 70% of the participants were satisfied with the health service they received from their family physician.

Reliability coefficient Cronbach Alpha values for the physician-patient communication scale are given in Table 15.

Table 15. Descriptive Statistics of Scale Values

	N	Avg.	Std. Dev.	Distort.	Std. Er.	Coefficient of Kurtosis	Std. Er.
Patient Satisfaction	656	3.390	0.936	-0.222	0.095	-0.433	0.191

As a result of the Exploratory Factor analysis applied to the Patient Satisfaction scale, which consists of one dimension and seven items, it was seen that the factor loads of all items were above 0.400. Therefore, it can be said that one dimension can explain 74.68% of the structure.

Table 16. Patient Satisfaction Scale Exploratory Factor Analysis

	Total	Total Variance Explained (%)
Patient Satisfaction	5.228	74.680

As a result of the exploratory factor analysis, factor loads for each item of the Patient Satisfaction Scale are given in Table 17.

Table 17. Patient Satisfaction Scale Factor Loads

Questions	Factor Load
This is one of the best family physicians I could have used	0.818
My family physician is exactly what I needed.	0.766
I am satisfied with my decision to choose this family physician	0.929
My choice to choose this family physician was a wise one.	0.930
If I could do it over again, I'd use a different family physician	0.934
I genuinely enjoy this family physician	0.943
I am not happy I chose this family physician	0.696

The factor load values of all items are over 0.400, and the structure has one dimension.

The Cronbach Alpha values of the Reliability Coefficient of the Patient Satisfaction Scale are given in Table 18.

Table 18. Reliability Analysis for the Patient Satisfaction Scale

Sub-Dimensions	Number of Questions	Cronbach's Alpha	Reliability
Patient Satisfaction	7	0.941	Highly reliable

Yıldız and Uzunsakal (2018) state that if the Cronbach Alpha coefficient is 0.80 < R2 < 1.00, it can be mentioned as a high-reliability measurement tool. As a result of the reliability analysis of the Patient Satisfaction Scale, it can be said that the question set has high reliability.

The visual of the confirmatory factor analysis of the Patient Satisfaction Scale is shared in Figure 4.

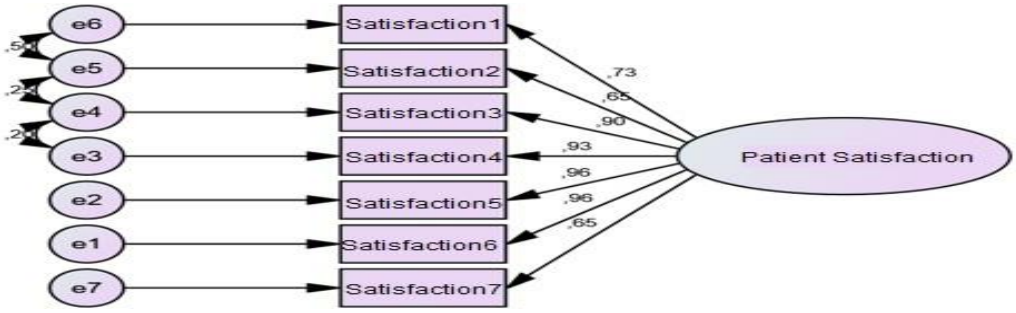

Figure 4. Confirmatory Factor Analysis for the Patient Satisfaction Scale

Confirmatory Factor Analysis controls whether a previously used scale complies with the original factor structure when used in the current research and, if so, how appropriate. It is applied to show the validity of the sub-dimensions obtained from the analysis and based on the obtained fit indices. It is evaluated whether the given factors have a valid structure (Yaşlıoğlu, 2017, p. 75).

The fit indices and acceptable cutoff value range for the Patient Satisfaction Scale are given in Table 19.

Table 19. Goodness of Fit for the Patient Satisfaction Scale

Indices	Values	Limits
χ^2	40.653	-
Degrees of freedom	11	-

P	0.000	-
χ^2/df	3.696	<5
TLI	0.989	>.90
CFI	0.994	>.90
RMSEA	0.064	<.08
SRMR	0.014	<.10

The Patient Satisfaction Scale has one dimension and seven items. In the confirmatory factor analysis applied, it was seen that the factor loads of all items were high enough. In the analysis, the items with high relevance and conceptually not an obstacle to defining the relationship between them were linked, modifications were made, and the model with increased model fit values was ensured to show acceptable fit.

As a result of the exploratory factor analysis, factor loads for each item of the Patient Satisfaction Scale are given in Table 20.

Table 20. Factor Loads for the Patient Satisfaction Scale

Questions	Factor Loading Scores
This is one of the best family physicians I could have used	0.731
My family physician is exactly what I needed.	0.649
I am satisfied with my decision to choose this family physician	0.901
My choice to choose this family physician was a wise one.	0.932
If I could do it over again, I'd use a different family physician	0.956
I genuinely enjoy this family physician	0.963
I am not happy I chose this family physician	0.648

Table 21 shows the average distribution of the answers given by the participants on the Physician-Patient Communication Scale.

Table 21. Distribution for Physician-Patient Communication Scale

		Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
Communication between my doctor and myself are excellent.	N	42	121	213	186	94
	%	6.40	18.40	32.50	28.40	14.30
My doctor is willing to share all relevant information with me	N	50	92	200	226	88
	%	7.60	14.00	30.50	34.50	13.40
There is little communication between my doctor and myself.	N	82	155	155	178	86
	%	12.50	23.60	23.60	27.10	13.10
My doctor was willing to answer all of my questions.	N	40	90	200	227	99
	%	6.10	13.70	30.50	34.60	15.10
My doctor talked to me in terms I could understand.	N	25	43	151	312	125
	%	3.80	6.60	23.00	47.60	19.10
The direction of information is usually from me to my doctor, rather than from my doctor to me.	N	38	138	230	204	46
	%	5.80	21.00	35.10	31.10	7.00
There are few opportunities to have informal conversations with my doctor	N	244	223	105	58	26
	%	37.20	34.00	16.00	8.80	4.00

When the effect of physician-patient communication on patient satisfaction was tested with structural equation modeling, it was found to have a significant impact.

H_0: There is no significant relationship between Physician-Patient Communication and Patient Satisfaction. (Hypothesis Rejection, $p<0.05$)

When the effect on the Physician-Patient Communication and Patient Satisfaction scale was examined, it was determined that there was a significant effect. Accordingly, an increase of 1 unit in the level of Patient-Physician Communication increases the level of Patient Satisfaction by 0.834 units.

5. CONCLUSION AND RECOMMENDATIONS

Health institutions must efficiently use their resources, such as human resources, equipment, and technological equipment (Bektaş, 2010, p. 231). Quality service is to respond to demands, needs, and expectations at a high level and above expectations (Arlı, 2012, p. 29). In this direction, to be unique and different in health institutions, it is essential to base the needs of the patients, to use their communication skills at the highest level, to increase the quality of service by providing patient satisfaction (Tarım et al., 2010, p. 149). According to the quality of the service, patients will choose the health institution with positive past experiences (Dursun & Çerçi, 2004, p. 7).

There is no statistically significant difference in terms of gender, marital status, education, and income level in the patient satisfaction scale and physician-patient communication scale values. For this reason, it can be recommended that family physicians treat everyone equally in communicating with their patients regarding patient satisfaction. As a result of the analysis made among people in different age groups, it was observed that the patient satisfaction measurement level of people aged 58 and over was significantly higher than the level of people aged 18-25, 34-41, and 42-49. Accordingly, patients younger than 58 years of age, especially those in the 34-41 and 42-49 age groups, where the difference is statistically higher, and those in the 18-25 age group, have lower satisfaction levels from family medicine health services, and 18-25 years of age should be used to increase the satisfaction level at this point. It may be advisable to consider criteria such as providing appropriate communication environments and tools, especially for people aged 34-41 and 42-49. For the level of physician-patient communication, it was observed that the level of physician-patient communication perceived by those over 58 years of age was significantly higher than the levels of those in the 18-25, 34-41 and 42-49 age groups. According to this, arranging training for family physicians and other assistant health personnel will increase doctor-patient communication, especially for the 42-49 age group, which has the lowest communication level, and for the groups aged 34-41 and 18-25, according to patient expectations, and appropriate physical and It is advisable to improve their technical equipment. In addition, to increase the level of communication in the physician-patient relationship, it can be recommended to increase empathic communication, especially with people younger than 58 years old (AlAteeq et al., 2016), and it is considered that a team with empathy skills will probably provide a more effective treatment medically (Roter et al., 1998). On the other hand, previous studies on this subject have revealed that perceived service quality affects patient satisfaction positively (Dursun & Çerçi, 2004, p. 9).

The results obtained in our study include findings worth considering for the researchers and the development of family medicine services. In this study, three scales were translated into Turkish. Their validity and reliability have been ensured. In this sense, a contribution has been made to the literature. We think that Westbrook and Oliver's (1991) Satisfaction scales can be used by researchers in different studies. From now on, different variables can be added to the research model to shed light on the studies to be done in this area, and the results can be examined, and it can be investigated whether there is a moderator effect of the age variable and personality traits.

In terms of practitioners, the positive effect of the level of doctor-patient communication on patient satisfaction pointed out that there is a need for some measures to be taken by family medicine personnel to increase satisfaction with different communication methods according to the individual characteristics of each patient. In this context, increasing the level of sensitivity and positive communication that physicians will show in their communication with patients will improve patient satisfaction and prevent the density in the 2nd and 3rd steps, thanks to positive word-of-mouth communication and, therefore, efficient family medicine services. In addition, it should be taken into account that the physical elements in the service environment may also be essential and that the other family health personnel who mediate the provision of the service may also adopt a correct communication style (midwife, nurse, health officer and emergency medical technician, etc.) that may have an impact on the intention of patients to recommend the service and help them. It is considered appropriate to train and raise awareness of the personnel accordingly.

In addition to the physician producing family medicine service, the appropriate behavior of assistant health personnel such as nurses, technicians, health officers, and midwives in terms of communication skills will increase the perceived quality level of the service. In addition, other health personnel in the service environment also affect the satisfaction level of the patients. Employees' expertise, knowledge, and attitudes are critical in providing satisfactory service (Jones et al., 2003). For this reason, service providers in family medicine, one of the service-intensive institutions, should be competent, expert, and reliable. According to the literature on satisfaction, especially in the service sector, satisfaction, quality, and performance are interrelated factors (Petruzzellis et al., 2006, p. 353). For this reason, it can be recommended that they increase their service quality performance to increase their level of service. Therefore, they need to give importance to their communication skills.

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