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ARAŞTIRMA MAKALESİ
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Determinants of Patient-Centered Communication in American Cancer Patients and Assessment of the Relationships between Patient-Centered Communication, Trust, Health Status and Service Quality

Amerikalı Kanser Hastalarında Hasta Merkezli İletişimin Belirleyicileri ve Hasta Merkezli İletişim, Güven, Sağlık Durumu ve Hizmet Kalitesi Arasındaki İlişkilerin Değerlendirilmesi

Cuma Çakmak[1], İsmail Biçer[2*]

[2]Dicle Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Sağlık Yönetimi Bölümü/Diyarbakır/Türkiye
[1]Pamukkale Üniversitesi, Çivril Atasay Kamer Meslek Yüksekokulu, Sağlık Kurumları İşletmeciliği Programı/Denizli/Türkiye

e-mail: cuma.cakmak@dicle.edu.tr , ismailbiceer@gmail.com,
ORCID: 0000-0002-4409-9669
ORCID: 0000-0003-1878-0546

*Sorumlu Yazar / Corresponding Author: İsmail BİÇER
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Öz

Giriş ve Amaç: Bu çalışma kapsamında Amerikalı kanser hastalarının verileri üzerinden katılımcıların hasta merkezli iletişim düzeyini etkileyen faktörlerin ortaya konulması ve hasta merkezli iletişimin sağlık hizmet kalitesi, genel sağlık durumu ve hastaların sağlık sistemine olan güveni üzerindeki etkisinin ortaya konulması amaçlanmaktadır.

Gereç ve Yöntemler: Bu çalışma tanımlayıcı ve kesitseldir. Çalışma evreninde t-testi ve ANOVA testleri kullanılmıştır. Araştırma katılımcısı olan 900 kanser hastasından elde edilen veriler kullanılarak çoklu regresyon analizleri yapılmıştır.

Bulgular: Kanser hastalarının hasta merkezli iletişim düzeyleri cinsiyet, meslek, ailede kanser öyküsü, medeni durum ve eğitim değişkenlerine göre farklılaşmazken, gelir değişkenine göre farklılık göstermiştir. Hasta odaklı iletişim, hizmet kalitesini, sağlık durumunu ve sağlık sistemine olan güveni olumlu yönde etkilemektedir.

Sonuç: Hasta merkezli iletişim sağlık sonuçlarını olumlu yönde etkiler. Hasta merkezli iletişim sağlık hizmetlerinde etkin bir şekilde kullanılmalıdır. Hastaların ihtiyaçlarını karşılamak için telefon, e-posta, mobil uygulamalar ve çevrimiçi platformlar gibi çeşitli iletişim kanalları sunulmalıdır. Aynı şekilde hasta memnuniyetini ölçmek ve geri bildirim almak için anketler, yorum kutuları ve dijital geri bildirim sistemleri kurulmalıdır.

Anahtar kelimeler: Hasta merkezli iletişim, hizmet kalitesi, genel sağlık durumu, güven, ABD'li kanser hastaları.

Abstract

Aim; Within the scope of this study, it is aimed to reveal the factors affecting the level of patient-centered communication of the participants through the data of American cancer patients, and to reveal the effect of patient-centered communication on health service quality, general health status and patients' trust in the health system.

Method; This study was descriptive and cross-sectional. In the study population, t-tests and ANOVA tests were used. Multiple regression analyses were performed using the data obtained from 900 cancer patients who were research participants.

Results; Patient-centered communication levels of cancer patients did not differ according to gender, occupation, family history of cancer, marital status, and education variables, but PCC levels differed according to income

variables. Patient-centered communication positively affects service quality, health status and trust in the health system.
Conclusion; Patient-centered communication positively affects health outcomes. Patient-centered communication should be used effectively in healthcare. Various communication channels such as telephone, e-mail, mobile applications, and online platforms should be offered to meet patients' needs. Likewise, surveys, comment boxes and digital feedback systems should be established to measure patient satisfaction and receive feedback

Keywords: Patient-centered communication, service quality, general health status, trust, U.S. cancer patients.

1.Introduction

According to the report "Crossing the Quality Chasm: A New Health System for the 21st Century", "patient-centeredness" has been attributed significant importance. According to International Organization for Migration (IOM), patient-centered care should respect and respond to the patient's preferences, needs and values and ensure that the patient's values guide all clinical decisions [1]. The IOM report emphasizes that the health care system in the United States needs a strong reform and states that the health care service to be provided should be patient-centered, the service should be provided in a timely manner, should prevent waste, should be provided in an effective and efficient manner and should be in accordance with equity. The fact that patient-centered care is based on a solid communication between patients and healthcare professionals and requires two-way information exchange requires patient-centered communication at the basis of patient-centered care. Thus, with the element of communication, the involvement and active participation of patients in their care can be ensured [2]. Patient-centered communication (PCC) is accepted as the most basic element of patient-centered care and is stated as a priority element in providing patient-centered care by health authorities and health professionals [3].

The PPC approach requires the assessment of the patient, i.e., within a biopsychosocial framework. It is therefore based on recognizing the patient's personality, life history and social structure to develop a mutual understanding of treatment and barriers to treatment [4]. PCC is defined as the process and outcome of interaction between physicians, other healthcare professionals and patients. In addition, PCC aims to (a) elicit and understand the patient's perspective (e.g. the patient's concerns, ideas, expectations, needs, feelings), (b) understand the patient in his/her unique psychosocial and cultural environment, and (c) reach a common understanding or opinion about the patient's problems and treatments that considers the patient's values [5]. The main purpose of PCC is to fulfil the needs of physicians and other healthcare professionals by revealing the expectations and wishes of their patients from the treatment and to have communication skills that can identify and respond to their concerns. Communication and technical skills for communication are among the basic skills that healthcare professionals should learn during their careers [6]. Critical features of PCC include eliciting the patient's perspective of the disease and developing empathy with the patient. Understanding the patient's perspective requires eliciting the patient's feelings, opinions, concerns, and experiences regarding the impact of the disease and the patient's expectations from the physician [7]. There are various factors affecting PCC. The first is patient-related factors such as personality, social values, education, gender, age, and physical and mental health of the patient [8]. In addition to patient-related factors, the literature also refers to the health system (insurance status, access to health care, waiting times, etc.), the service provider (personality, knowledge level, etc.) and relationship factors (communication time, values, and beliefs, etc.) [9]. PCC is associated with many factors, such as service quality perception, general health status and trust in the health system. Academic research on patient-service provider communication and the relationship between this communication style and the patient's health outcomes (short-medium-long term) focuses on the patient's satisfaction with the service, the patient's compliance with the treatment received, the patient's health habits and self-care. PCC improves patient satisfaction, quality of care and health outcomes while reducing costs and health inequalities [2]. PCC has been associated with treatment adherence, improvement in overall health status, patient satisfaction, perception of service quality and greater patient engagement in health promotion activities and trust in healthcare [10].

When the literature is examined, it is stated that PCC may differ according to some determinants. Variables such as basic socio-demographic (gender, age, education, race, household income and insurance) and clinical characteristics (overall health status, have a usual source of care, frequency of physician visits, type of cancer and time since cancer diagnosis) are evaluated in this context [11-12]. In this direction, gender, marital status, education, and employment status relationship factors, such as socio-demographic factors, were included in the model under the determinants of PCC [11]. PCC, which is stated to have many determinants in the literature, affects health outcomes in the short, medium, and long term. PCC affects health-related

quality of life, perception of service quality, and trust in physicians and the healthcare system [13].
The fact that studies on the measurement of PCC, especially in cancer patients, are limited and that there are few studies revealing the level of PCC and the effects of this level on various patient outcomes has been the starting point of this study. This study aims to reveal the determinants of PCC in American cancer patients and the effects of PCC on service quality, general health status and trust in the health system.

2. Method

2.1.Study Design and Participants

This study includes data from 7,000 Americans collected by the United States National Cancer Institute (NCI), which conducts continuous health surveys of the American population between 7 March and 8 November 2022. The population of this study consists of American cancer patients who participated in the Health Information National Trends Survey (HINTS) conducted by the NCI [14]. This study was designed as a descriptive and cross-sectional research. The model of the study is the correlational survey model, which is a causal comparison subtype of quantitative research methods. The study was prepared in accordance with the guidelines for reporting cross-sectional studies of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement.

2.2. Data Collection Tools

The data were collected with the HINTS 6 survey by NCI. Questions in the HINTS 6 survey such as gender, occupation, marital status, family history of cancer, education level, income range, perceived income level, frequency of going to health institutions, general health status, service quality, trust health system, and PCC were used to collect data of the participants.

Patient Centered Communication

The PCC scale measures the patient's communication with physicians, nurses, and other healthcare professionals. The scale consists of 7 questions and has a 4-point Likert scale.

Trust (*TrustHCSystem)*

How much do you trust the health care system (for example, hospitals, pharmacies, and other organizations involved in health care)?
Not at all, A little, Some, A lot

Frequency of going to health institutions

In the past 12 months, not counting times you went to an emergency room, how many times did you go to a doctor, nurse, or other health professional to get care for yourself? FreqGoProvider
1 time, 2 times,3 times,4 times,5-9 times, 10 or more times

General Health

In general, would you say your health is...?
Excellent, Very good, Good, Fair 5Poor

Quality Care

Overall, how would you rate the quality of health care you received in the past 12 months?

Since 2003, HINTS surveys have been conducted on a regular basis. Participants reflect the American population. Participants in this study were cancer patients aged 18 years and older living in the United States. When the sampling strategy for the HINTS 6 survey is analyzed, it is seen that it consists of a two-stage design. Firstly, in the first stage, a stratified address selection was made based on the residential addresses of the population. Then, one adult from each sampled household was selected to participate in the survey. At the end of this two-stage sampling method, when the data set was analyzed, a sample size of 900 cancer patients was reached. The Health Information National Trends Survey (HINTS) collects nationally representative data routinely about the American public's use of cancer-related information. HINTS data are available for public use.

Excellent, Very good, Good, Fair, Poor

2.3. Data Analysis

Descriptive statistics were used to report demographics and other discrete variables. Pearson Correlation Coefficient was used for correlation analysis. To reveal the difference in PCC between groups, a t-test was conducted in pairs, and ANOVA analysis was conducted in groups of more than two. The kurtosis and skewness values were examined to examine whether the data showed a normal distribution, and it was determined that the values were between -1.5 and 1.5 and therefore showed a normal distribution. Games-Howell, one of the Post Hoc tests, was applied to detect the differences reported in the ANOVA analysis. Multiple linear regression analysis revealed the impact of PCC on healthcare quality, general health status, and trust [15]. The independent variable is patient-centered communication, and the dependent variables are general health status, trust, and perception of service quality. However, variables were included in the analysis to determine the effect of other variables in the regression model. All analyses performed a two-sided p-value < 0.05 at a 95% confidence level with Jamovi Version 2.4 computer software [16-17].

2.4. Ethical Consideration

The data set obtained within the scope of this study is accessible to all researchers. Since the data are presented publicly and anonymously, ethical approval and participant consent are not required.

3.Results and Discussion

3.1.Results

When Table 1 was examined, it was determined that the cancer patients were female, and the majority were retired. It was observed that more than one-third of the participants were married, all of them had a family history of cancer, and the majority felt that they could live a comfortable life with their current income. In addition, considering the income group of the participants, it was reported that most of them had annual earnings of 50 thousand dollars and above, and their education level was college or above. When the cancer types of the patients are analyzed, it is seen that the highest frequencies are breast, genitourinary, skin and patients with multiple cancer diseases (Table 1).

Table 1. Disease Type and Demographic Information of Cancer Patients

Variables		n	%
Gender	Male	269	44.2
	Female	340	55.8
Occupation	Employed only	234	32.3
	Retired only	491	67.7
Marital Status	Married	339	55.7
	Divorced	109	17.9
	Widowed	105	17.2
	Single, never been married	56	9.2
Family Ever Had Cancer	Yes	472	77.5
	No	88	14.4
	Not sure	49	8.0
Income Feelings	Living comfortably on present income	356	58.5
	Getting by on present income	203	33.3
	Finding it difficult on present income	50	8.2
Income Ranges	$15,000 to $19,999	35	5.7
	$20,000 to $34,999	87	14.3
	$35,000 to $49,999	88	14.4
	$50,000 to $74,999	124	20.4
	$75,000 to $99,999	101	16.6
	$100,000 to $199,999	121	19.9
	$200,000 or more	53	8.7
Education	12 years or completed high school	109	17.9
	Post-high school training other than college	48	7.9
	Some college	140	23.0
	College Graduate	153	25.1
	Postgraduate	159	26.1
Cancer Type*	Breast	140	15,55
	Digestive/Gastrointestinal	52	5,77
	Endocrine and Neuroendocrine	15	1,66
	Eye	51	5,66
	Genitourinary	115	12,77
	Gynecologic	83	9,22
	Hematologic(Blood	39	4,33
	Respiratory	10	1,11
	Skin	187	20,77
	With Multiple Cancer	168	18,66
	Other (Head and neck, musculoskeletal, etc)	31	3,44
	Missing	9	1
Total		900	100

*Based on the cancer classification of the National Cancer Institute of the USA (National Cancer Institute, 2020), a classification was made according to the location of the cancer in the body.

The difference between men and women, as well as working and retired people, in terms of PCC score was examined. According to the t-test results of this analysis, there was no statistically significant difference between men and women, working and retired cancer patients (Table 2).

Table 2. Scores of Patients' Perceptions of Patient-Centered Communication According to Demographic Characteristics (T-Test Results)

									95% Confidence Interval	
Variables		N	Mean	SD	Statistic	df	p	Effect Size	Lower	Upper
Gender	Male	360	75.0	26.9	0.945	885	0.345	0.064	-0.069	0.199
	Female	521	73.2	29.3						
Occupation	Employed only	234	72.2	29.5	-1.15	723	0.252	-0.091	-0.247	0.064
	Retired only	491	74.8	27.6						

No significant difference was reported according to the results of ANOVA, which tests the differences in PCC scores of cancer patients according to the cancer history in the patients' family. PCC scores of cancer patients did not differ according to marital status and education level. PCC scores of cancer patients showed a statistical difference according to their income group and feeling of income ($p<0.01$). According to the Games-Howell Post Hoc test performed to reveal these differences, the groups found to be different in income groups are \$0 to \$9,999 and \$75,000 and \$200,000 groups ($p<0.01$). The analysis revealed a significant difference between the groups based on the perceived income level of the participants. Specifically, a difference was observed between the "Living comfortably on present income" group and the "Finding it difficult on present income" group. Cancer patients in the "Finding it difficult on present income" group had a significantly higher PCC score ($p < 0.05$)

Table 3. Scores of Patients' Perceptions of Patient-Centered Communication According to Demographic Characteristics (ANOVA Results)

Variables		n	Mean	SD	F	df1	df2	p
Family ever had cancer	Yes	677	75.1	27.2	2.08	2	884	0.128
	No	129	71.2	30.8				
	Not sure	81	68.7	32.8				
Marital Status	Married	435	76.4	26.3	1.77	3	840	0.153
	Divorced	162	71.9	29.6				
	Widowed	163	72.2	28.6				
	Single, never been married	84	71.6	31.6				
Education	8 through 11 years	45	61.6	40.4	1.83	5	871	0.104
	12 years or completed high school	151	74.3	30.0				
	Post-high school training other than college	65	73.4	30.0				
	Some college	204	74.4	27.2				
	College Graduate	216	73.9	27.2				
	Postgraduate	196	75.5	25.4				
Income Ranges	\$0 to \$9,999	45	59.1	34.6	3.09	8	812	**0.002****
	\$10,000 to \$14,999	38	73.2	28.6				
	\$15,000 to \$19,999	45	66.4	33.4				
	\$20,000 to \$34,999	113	77.4	27.2				
	\$35,000 to \$49,999	111	73.5	30.5				
	\$50,000 to \$74,999	151	72.2	28.3				

	$75,000 to $99,999	120	79.0	23.0				
	$100,000 to $199,999	142	73.8	27.1				
	$200,000 or more	56	79.6	22.2				
Income Feelings	Living comfortably on present income	447	77.1	26.2				
	Getting by on present income	292	72.1	29.6				
	Finding it difficult on present income	96	68.0	27.7	5.04	3	869	**0.002****
	Finding it very difficult on present income	38	64.9	36.2				

*Note: Welch's and Wisher's; * p<0.05; **p<0.01; ***p<0.001*

The correlation results were conducted to determine the correlation between the variables of service quality, frequency of receiving health care, general health status, trust in the health system and age at diagnosis of cancer, which are thought to be related to PCC, are given in Table 4. Accordingly, it was determined that there was a positive, statistically significant relationship between the PCC scores of cancer patients and all variables except the frequency of healthcare use (p<0.05). According to these findings, PCC increases with healthcare quality, general health status, trust in the healthcare system, and the age at which cancer is diagnosed (Table 4).

Table 4. Results of Correlation Between Variables

Variables	**1**	**2**	**3**	**4**	**5**	**6**
PCCScale (1)	1					
QualityCare (2)	0.541***	1				
FreqGoProvider(3)	-0.039	0.003	1			
GeneralHealth (4)	0.202***	0.328***	0.318***	1		
TrustHCSystem(5)	0.338***	0.413***	0.094**	0.108**	1	
WhenDiagnosedCancer(6)	0.099**	0.071*	0.089*	0.009	0.124***	1

* p<0.05; **p<0.01; ***p<0.001. **NOTE: PCCScale:** PCC Score; **QualityCare:** Healthcare Quality or Service Quality; **FreqGoProvider:** Frequency of Receiving Health Care;**GeneralHealth:** General Health Status; **TrustHCSystem:** Trust of Health System; **WhenDiagnosed Cancer:** Age at diagnosis of cancer

The results of the multiple linear regression analysis conducted to reveal the effect of the PCC score on healthcare service quality are given in Table 5. When the results were examined, it was seen that the established regression model was significant (F=18,600; p<0.01). The independent variables in the model explain approximately 40% of the variance of the model. High PCC scores of cancer patients have a statistically positive effect on the quality of healthcare services (t=14.069; p<0.001). Similarly, trust in the healthcare system has a statistically positive effect on the quality of healthcare services (t=8.600; p<0.001). Another variable that positively affects health care is general health status. Accordingly, individuals' good general health status increases their Perception of health service quality (t=7.843; p<0.001). According to the standardized regression coefficient (β), the order of relative importance of the independent variables on healthcare quality is general health status, PCC, and trust in the healthcare system. The results of the multiple linear regression analysis conducted to reveal the effect of the PCC score on general health status are given in Table 5.

The results of the multiple linear regression analysis conducted to reveal the effect of the PCC score on general health are given in Table 5. Likewise, when the results were analyzed, it was seen that the regression model was significant (F=25,157; p<0.01). The independent variables in the model explain approximately 11% of the variance of the model. Accordingly, the results of the analysis show that only health service quality positively affects general health status. The other variables in the model had no effect on general health status. Higher health quality perceptions of cancer patients increase their general health status (t=7.843; p<0.001).

The results of the multiple linear regression analysis conducted to reveal the effect of PCC score on trust in the health system are given in Table 5. When the results are analyzed, it is seen that the regression model is significant (F=50,100; p<0.001). The independent variables in the model explain approximately 20% of the variance of the model. The results of the analysis showed that PCC and healthcare quality had a statistically significant positive effect on trust in the healthcare system (p<0.001). High-level PCC scores of cancer patients increase trust in the healthcare system (t=4.163; p<0.001). Likewise, it was determined that perceived healthcare quality increased trust in the health system (t=8.600; p<0.001). It was observed that other variables did not statistically affect the trust in the health system. According to the standardized regression coefficient (β), the relative importance of the independent variables on trust in the healthcare system is PCC and perceived healthcare quality.

Table 5. Regression Analysis Results Evaluating the Relationships Between Variables

Quality care	**B**	**SE**	**β**	**t**	**P**	**VIF**	**Tolerance**
Intercept	2.2167	0.17325		12.7947	< .001		
PCCScale	0.0172	0.00122	0.1313	14.0689	< .001	1.17	0.854
TrustHCSystem	0.3313	0.03852	0.1222	8.5997	< .001	1.14	0.876
GeneralHealth	0.2057	0.02623	0.1655	7.8431	< .001	1.05	0.956
WhenDiagnosedCancer	-7.04e−5	0.00136	-0.0551	-0.0519	0.959	1.02	0.980
R=0.631; R^2=0.398; Adj. R^2=0.395; F=18,600; p<0.001; Durbin Watson=1.89.							
General Health	**B**	**SE**	**β**	**t**	**P**	**VIF**	**Tolerance**
Intercept	2.29022	0.23060		9.931	< .001		
PCCScale	0.00188	0.00175	0.07565	1.072	0.284	1.45	0.689
QualityCare	0.34032	0.04339	0.06158	7.843	< .001	1.55	0.647
TrustHCSystem	0.04962	0.05171	0.16909	0.960	0.338	1.24	0.804
WhenDiagnosedCancer	0.00166	0.00174	-0.00136	0.952	0.341	1.02	0.981
R=0.332; R^2=0.111; Adj. R^2=0.106; F=25.157; p<0.001; Durbin Watson=2.13.							
Trust health system	**B**	**SE**	**β**	**t**	**P**	**VIF**	**Tolerance**
Intercept	1.76360	0.15311		11.519	< .001		
PCCScale	0.00488	0.00117	0.19400	4.163	< .001	1.42	0.702
QualityCare	0.25055	0.02913	0.00133	8.600	< .001	1.52	0.656
GeneralHealth	-0.02269	0.02364	0.05921	-0.960	0.338	1.12	0.890
WhenDiagnosedCancer	-0.00315	0.00117	0.12214	-2.688	0.007	1.01	0.988
R=0.444; R^2=0.197; Adj. R2=0.193; F=50.100; p<0.001; Durbin Watson=2.06.							

3.2. Discussion

This study aims to determine the level of PCC in American cancer patients to determine the determinants (socio-demographic characteristics of the patient) associated with this level and to reveal whether the level of PCC of patients is adequate in-service quality, health status, and trust in the health system. In this direction, The data of 900 adult cancer patients collected by the National Cancer Institute at the American society level were evaluated. The evaluations regarding the results obtained within the scope of the research are given below under subheadings.

Within the scope of the research, univariate analyses were performed to determine the variables related to PCC of cancer patients. These analyses investigated whether the PCC levels of cancer patients differed according to the socio-demographic characteristics of the patients (gender, occupation, family history of cancer, marital status, education, and income).

Within the scope of the study, it was determined that the PCC evaluations of the patients did not differ statistically significantly according to gender, occupation, family history of cancer, or marital status variables. On the other hand, it was determined that patients' evaluations of PCC differed statistically significantly according to income level.

Within the scope of the research, PCC does not differ statistically significantly according to gender variables. Studies have determined that the level of PCC differs according to gender [11]. Another study conducted with 501 collective cancer patients revealed that women had higher levels of PCC than men [18]. On the other hand, Uludağ (2016) concluded that there was no significant difference between gender and patient-centeredness perception [19]. Similarly, in Wang's (2016) study, it was determined that patients' evaluations of PCC did not differ significantly according to their gender [12].

Within the scope of the study, it was determined that the PCC levels of the patients did not differ according to their working status. According to the study conducted by Calo et al. (2014) with 450 patients, the level of PCC is similar according to working status [20]. The fact that the patients receive treatment continuously and their treatment is complex and troublesome may have yet to achieve a statistically significant difference according to the working status because the patients cannot work simultaneously during the treatment process.

Within the scope of the research, it was determined that patient-centered communication did not differ statistically significantly according to the variable of having a history of cancer in the family. This study determined that cancer patients' evaluations of PCC did not differ statistically according to their marital status. Looking at similar results obtained in the literature in this field, a study conducted in Korea determined that PCC did not differ according to marital status [21]. Similarly, Wang (2016) found that PCC did not differ according to marital status [12].

Within the scope of this study, it was determined that PCC did not differ statistically according to the education variable. The literature findings support this result. When the literature is examined, it is possible to find studies that do not find a relationship between the level of PCC and education [12]. However, as the level of education increases, PCC is expected to increase [22]. Studies in the literature show that PCC differs according to education. According to the results of a study conducted with the data of 1794 cancer patients in the USA, it was found that patients with higher education levels had lower PCC scores [11-13]. Found that participants with high school or less education had lower scores in patient-service provider communication than other groups [11]. A study by Treiman et al. (2008) found that patients with university education had higher levels of PCC than patients with high school education and below [18].

Patients' PCC scores differ according to their income within this study's scope. When the literature is examined, some studies reveal that income is an essential determinant of PCC [11]. For example, Uludağ's (2016) study found that evaluations of patient-centeredness differed according to income and that participants with moderate income had higher perceptions of patient-centeredness [19]. Within the scope of the study, it can be stated that patients with high income and positive income perceptions have higher perceptions of PCC, especially since it is a factor that facilitates access to American health services.

In life-threatening diseases such as cancer, doctor-patient communication has an even more meaningful impact on patient outcomes. Research shows that physicians' communication behaviors can have a significant impact on short-term patient outcomes (patient satisfaction and willingness to adhere), mid-term patient outcomes (e.g., treatment compliance), and long-term patient outcomes (e.g., quality of life, health status, recovery) [23]. The communication relationship with doctors and other healthcare professionals can have a positive impact on the health outcomes of patients and can vitally improve them. Communication is an important and integral part of medical care for both healthcare professionals and patients. Among the forms of communication in health care, patient-centered or person-centered care embodies high quality health care [24]. Various studies have shown a significant link between physician communication and patient health outcomes [25]. There is growing evidence that effective and compassionate communication between physicians, cancer patients, and their families can influence patients' health status, satisfaction with care, and medical outcomes of cancer treatment [26]. According to these results, high levels of PCC are positively associated with improved health status and reduced symptom burden in cancer patients. Frequency visits with physician and other healthcare professionals improves the health care quality. Health care quality is also associated with good social and family well-being. Relationships with physicians and other healthcare professionals can enhance the therapeutic alliance. Ensure a positive care experience and social support by increasing the involvement of patients and their relatives in health care decisions. Attentive and sustained listening can help physicians better understand the patient's subjective experience of the disease, thereby developing a treatment plan that minimizes deterioration in the patient's quality of life [25].

One of the areas where PCC (a form of communication in which healthcare professionals actively seek the patient's perspective) comes in handy is in patient-perceived service quality [27]. A research conducted by Maatouk-Bürmann et al. (2016) reported that PCC plays a crucial role in improving the quality of care regarding the patient engagement, therapeutic relationship, and treatment process [28]. PCC is considered an essential component of quality services and has been mentioned in many Studies [9]. According to results of a study conducted on data from 261 patients in a physical therapy and rehabilitation clinic in Turkiye, PCC was found to increase trust in doctors and positively impact service quality [29]. In another study conducted by 312 cancer patients, it was revealed that PCC increases the perception of service quality [30]. Similar results were found that PCCs are critical to maintaining quality care [5]. Another study of 359 cancer patients found that PCC improved cancer patients' perceptions of service quality [11]. In another study conducted with 3959 patients' data and examining the PCC between patient and healthcare provider, having a usual source of care and health service quality ratings, patients with a usual source of care stated that they experienced more PCC. It was also found that this patient group had a higher quality of care. This study confirmed the importance of PCC in shaping patients' perceptions of the quality of their care [31].

This study has shown that PCC has a positive relationship with patients' trust in healthcare providers, especially physicians, and the healthcare system, as well as PCC evaluations. Investigating the phenomenon of trust on scientific grounds with appropriate measurement methods will help examine its positive effect in terms of PCC and reveal its effect on PCC and trust in the health system. In social life, repeated interactions are built on interpersonal trust because building trust involves meeting expectations in relationships and testing whether expectations are realized [32]. PCC is essential in the relationship between physician and patient. Especially in serious diseases such as HIV/AIDS, PCC should be more effective in the trust of the patient in the physician, other health professionals and the health system [33]. Within the scope of this study, PCC increases trust in the health system. McWhinney (1993) states that consultations between the patient and the physician are short sections of an ongoing relationship, and the relationship's growth needs time. He states that when visits are frequent, patients' trust in their physicians emerges [34]. It is stated that individuals with more trust in healthcare providers will make more medical visits over time by asking more questions in medical settings and assuming that they can participate more actively in decisions, thus increasing trust through communication [35].

4.Conclusion

Communication between cancer patients and healthcare providers positively affects various health outcomes. Communication also positively affects cancer patients' perceptions of service quality, improves their general health status, and increases trust in the health system. Communication can be affected by different socio-economic factors in various societies. This study, conducted in American society, revealed that income is an essential determinant of PCC. Based on the findings of the study, the following recommendations can be made:

- Healthcare providers should receive regular trainings to strengthen patient-centered communication. These trainings should include skills such as empathizing, speaking clearly and concisely, and listening to patient concerns.

- Counseling and guidance services should be provided to low-income patients to strengthen their communication with health care providers. These services can ensure that patients are informed about their health rights and communication skills.
- Healthcare providers should be sensitive to the socio-economic and cultural status of patients and communicate with this awareness. In this way, communication barriers based on income level can be reduced.
- Patient education programs should be organized to ensure that patients have more information about treatment processes and their rights. Informative sessions where patients can freely ask questions about the treatment process will increase their confidence and compliance with treatment.
- Patients' trust in the healthcare system should be increased by providing more transparent information on patient rights and service quality within the healthcare system. To this end, transparency and open dialog with healthcare providers should be encouraged.

As a result, PCC, a communication style that focuses on the patient's point of view, considers their concerns and expectations, and gives importance to their opinions, should be encouraged within health systems.

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