


The Impact of Patient Satisfaction on Patient Commitment and the Mediating Role of Patient Trust

Journal of Patient Experience
2020, Vol. 7(6) 1642-1647
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DOI: 10.1177/2374373520967807
journals.sagepub.com/home/jpx


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Abstract

The purpose of this study is to determine the effect of patient satisfaction on patient commitment and the mediating role of patient trust in this effect. The study was conducted with 595 patients receiving healthcare services from the city center of Sakarya in Turkey. The data were collected between March 30, 2017, and May 29, 2017, via questionnaire method. The Patient Satisfaction Scale by Chang et al, the Patient Commitment Scale by Torres et al, the Patient Trust Scale by Ozawa, and an Introductory Information Form were used as the data collection tools in the study. Descriptive statistical methods, exploratory factor analysis, reliability analysis, correlation analysis, and Model 4 within the Process Macro regression analysis for SPSS developed by Hayes in order to determine the mediating role were used for the data analysis. The analyses were made at a 95% confidence interval, and the variables of patient satisfaction, patient trust, and patient commitment have a strong positive correlation. The result of this study demonstrated that patient satisfaction affects patient trust and patient commitment. Another outcome of this study is that there is a mediating effect of patient trust in the impact of patient satisfaction on patient commitment. In conclusion, these related concepts might influence the beliefs and behavior of the patient concerning the healthcare institution in question or the services that they have received.

Keywords

patient satisfaction, patient commitment, patient trust, quantitative methods

Introduction

Technological and societal changes influence the healthcare sector, which requires a high amount of investment and necessitates constant innovation (1). Healthcare institutions need to evaluate the services that they offer to individuals. They may not overlook elements that will provide an added value when compared with their competitors, if they aim to adapt to change in order to succeed and survive (2). While healthcare institutions strive to gain an advantage over their competitors, they also need to prevent people from opting for other institutions or physicians while acknowledging the necessity of high-quality, effective service provision to satisfy the needs and demands of individuals (3,4). Within this scope, healthcare institutions must prioritize patient satisfaction in order to meet the needs of patients in an appropriate manner in addition to providing healthcare services effectively and accurately (5,6).

Patient satisfaction is described as a complex combination of perceived needs, healthcare expectations, and care experience, which is an indicator of patient behavior (5). This concept has a multidimensional structure encompassing

basic features such as techniques, functions, infrastructure, interactions, and the environment (7). In the academic literature, patient satisfaction is handled in two ways: (a) by providing satisfaction specific to the activity occurring with the use of the service in question for the first time and (b) by generating general satisfaction following the use of the service multiple times. While the former type of satisfaction denotes an instantaneous perception, the latter usually concerns the experience of using services over time and it contributes to the formation of patient commitment (2). Creating patient commitment might energize the relationship between the patient and the institution. The patient may choose the

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same institution and physician when they need healthcare services again.

Patient commitment signifies a situation in which patients choose or use the healthcare institution for their services when they need healthcare services again (8). Loyal patients might recommend the healthcare institution that they prefer to other people needing healthcare services and they will act more tolerant when they encounter problems with the healthcare institution in question. Nonloyal patients, on the other hand, may stop using the healthcare services provided by the institution and change their institution or physician (9). For this reason, healthcare institutions pay attention to meeting the needs of patients and seeking to establish close relationships, which can attach importance to building trust among the patients (10). If not, the negative experiences of the patients might harm their trust and commitment (11).

Trust is a concept closely related to the nature of the interactions among the patients, healthcare institutions, and systems while laying the foundation for a healthy society and maintaining the health of society (12). In other words, patient trust denotes the belief of the patient that their physician will tend to their needs in the best way and that they will provide the proper medical care (13). Furthermore, it signifies the way that the patient has faith in the services that they receive in order to regain their health.

Although patients are vulnerable and dependent on decisions made by healthcare providers, trust can reinforce the relationship between the patient and service provider by building cooperation and privacy in treatment (14). The development of the patient's sense of trust can affect the use of health because a patient with a developed sense of trust may apply to the healthcare institution for treatment at the first stage of the disease. However, if a patient has not developed a sense of trust, this patient may not apply to the health institution for treatment or seek healthcare for treatment unless his/her illness worsens (15). At the same time, the patient's trust can both affect the service and/or be affected by the service as a patient having a sense of trust in the service provider can participate in every stage of the treatment and share his/her private information with the doctor easily. In addition, the doctor can provide the required treatment for the patient and avoid unnecessary examinations (16). Thus, improving the sense of the patient trust can decrease their negative attitudes and behaviors (17).

In light of the given information above, patients can either continue or terminate the service procurement and they can also change the thoughts of potential patients positively or negatively. For this reason, health institutions should provide quality service to patients, value them, instill a sense of trust, and try to create patient commitment with a satisfactory service.

The study aims to examine the impact of patient satisfaction on patient commitment and to determine if patient trust plays a mediating role in this impact. The model shown in Figure 1 was developed as per the research objective. In this respect, the study can contribute to the academic circles,

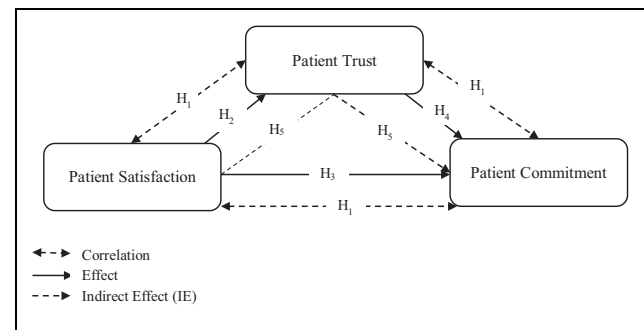


Figure 1. Research model.

application areas, and the theoretical basis in the field of health services with the obtained findings.

The following hypotheses were developed based on the conceptual model in Figure 1.

- H₁: There is a relationship between patient satisfaction, patient trust, and patient commitment.
- H₂: Patient satisfaction affects patient trust.
- H₃: Patient satisfaction affects patient commitment.
- H₄: Patient trust affects patient commitment.
- H₅: Patient trust has a mediating role in the effect of patient satisfaction on patient commitment.

Methods

Sample

The population of the study consists of all patients, who are over 18 years old and who have received healthcare services at least once, from the city center of Sakarya in Turkey. Random sampling method was used during the sample selection, and the minimum sample size was calculated ($n = 384$) (18). In this study, data were collected from 595 patients to strengthen the results of the study and improve the representation of the universe.

Data collection from patients with the help of the survey investigation was performed between March 30, 2017, and May 29, 2017. According to our findings obtained from surveys, 54.5% of the participants were female while 45.5% were male. In respect to civil status of the participants, 51.9% are single whereas 46.7% are married. The average age of the participants was 34.56 ± 14.01 , and 56.1% of them were between 18 and 34 years old. Frequency analysis for the patients applied to the hospital showed that 22.5% of patients request the services from health institutions 7 or more times, 12.8% of patients 5 to 6 times, 31.4% 3 to 4 times, and 31.6% 1 to 2 times.

Data Collection

The participants who met the inclusion criterion were included in the study. The survey form, which was delivered to the participants, involved information about the purpose

of the study and the documents of ethics approval. In accordance with the principles set by the ethics committee, participants filled the surveys after the introduction of the study by researchers. During the interview, participants could consult the researchers about questions in the survey when they need it and the participants had sufficient time to fill in the survey anonymously.

Instruments

A survey form consisting of four sections was used as the data collection tool in the study. The *sociodemographic features* examined were age, sex, civil status, and the frequency of soliciting hospital services.

Patient Satisfaction Scale. The scale developed by Chang et al (19) is used to measure patient satisfaction in this study. This scale consists of 4 statements like “*I am very satisfied with all the services provided by the hospital*” in a single dimension. The statements are grouped under a single dimension at the end of the exploratory factor analysis regarding patient satisfaction. The total explained variance of the scale is 85.89%. The Kaiser-Meyer-Olkin (KMO) value of 0.85 and Bartlett’s test of sphericity is significant. The Cronbach’s alpha value for the scale is 0.95. As for the original scale, this value was calculated as 0.89 (19).

Patient Commitment Scale. This study utilized the Commitment Scale developed by Torres et al (20). Consisting of a single dimension and 6 statements, the scale includes questions concerning the commitment of the patient to the hospital, their continuation of services use, and their promotion of the positive features of the hospital (eg, I feel very committed to this hospital). The Patient Commitment Scale consists of a single dimension. The total explained variance of the scale is 75.02%. The KMO value of 0.91 and Bartlett’s test of sphericity are significant. The Cronbach’s alpha value for the scale is 0.93. As for the original scale, this value was calculated as 0.92 (20).

Patient Trust Scale. The Public/Private Healthcare Provider Trust Scale used in the study was developed by Ozawa (14). The scale consists of 10 statements (eg, the decisions taken by the hospital concerning medical treatments are completely reliable), and it evaluates the reliability, helpfulness, meticulousness, quality, and communicative strength of the hospitals. The Patient Trust Scale, similarly with the original scale, consists of a single dimension. The total explained variance of the scale is 60.74%. The KMO value of 0.93 and Bartlett’s test of sphericity are significant. The Cronbach’s alpha value for the scale is 0.93. In the original scale, the reliability value was calculated as 0.82 for private hospitals and 0.89 for public hospitals (14).

The scales used were designed using the 5-point Likert scale structure. Value 1 signifies complete disagreement, while 5 represents complete agreement. The participants

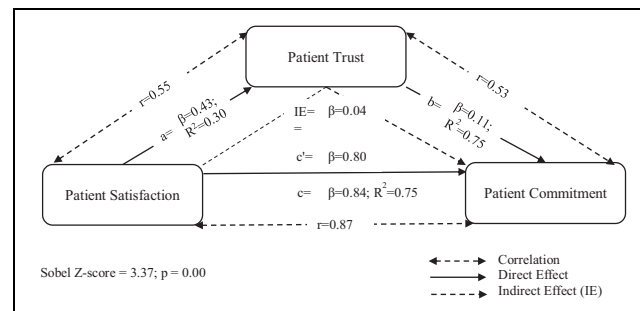


Figure 2. Correlation and regression analysis results.

were asked to select one of the options (ie, ranging from 1 to 5) which suited them best in the surveys. An increase in the agreement rate is considered to be positive.

Analyses Used in the Study

Firstly, descriptive statistical methods were used for data analysis. Exploratory factor analysis and reliability analysis were then conducted in order to evaluate the validity and reliability of the scales. *Exploratory factor analysis* is a process for finding factors based on the relationships between variables (21). Depending on KMO sampling adequacy of the scales, which gives test results, the sample size used in the study reaches perfection when KMO approaches 1 (eg, 0.90 is considered as perfect, and 0.80 is considered as very good). Also, high values (eg, between 0.5 and 1.0) indicate the factor analysis is appropriate (22–24).

The Bartlett’s test of sphericity used to evaluate the suitability of the scales in the data set for factor analysis shows the overall significance level of all correlations in the correlation matrix. Accordingly, this test examines whether there is a relationship between the variables in the universe (22,25).

Correlation analysis was conducted in order to determine the internal consistency of the variables. Finally, Model 4 within the Process Macro regression analysis for SPSS was developed by Hayes (26) in order to determine the mediating role of patient trust in the impact of patient satisfaction on patient commitment. The analyses were made at a 95% confidence interval ($P = .05$).

Results

Correlation Between Patient Satisfaction, Patient Trust, and Patient Commitment

Pearson’s correlation analysis was employed to determine whether there is a statistically significant correlation between the variables. The correlation analysis results of the model are shown in Figure 2. The analyses illustrated that hypothesis H_1 is confirmed. According to outcomes, patient satisfaction is associated with patient trust ($r = 0.55$) and patient commitment ($r = 0.87$), and also, another correlation

Table 1. Total, Direct, and Indirect Effect Values.

The Indirect Effect of the Mediating Role of Patient Trust	Total Effect	Direct Effect	Indirect Effect	Bootstrap Confidence Interval (BoLLCI-BoULCI)
Patient satisfaction → patient commitment	0.84	0.80	0.04	0.020-0.073

was found between patient trust and patient commitment ($r = 0.53$; **significant at the level of $P < .01$).

The Impact of Patient Satisfaction on Patient Commitment and the Mediating Role of Patient Trust

This chapter tackles the effect of patient satisfaction on patient commitment and the mediating role played by patient trust in this effect. SPSS Process Macro Model 4 regression analysis was used to evaluate this effect. Process is based on the calculation of the confidence interval. A value is calculated within a confidence interval using the bootstrap method. If the values for this confidence interval do not contain 0, this indicates that your hypothesis is supported. In Model 4, the program calculates the confidence interval on its own algorithm. The regression analysis results of the model are shown in Figure 2.

As seen in the first model (a), the analysis was conducted to answer the question of whether patient satisfaction influences patient trust. The results of the analysis revealed that patient satisfaction has an impact of 30% on patient trust in the model. Furthermore, the impact of patient satisfaction on patient trust is found to be positive ($\beta = 0.43$).

The second model (b + c') analyzed the common effect of patient satisfaction and patient trust on patient commitment. The results of the analysis indicated that patient satisfaction ($\beta = 0.80$) and patient trust ($\beta = 0.11$) have a positive effect on patient commitment. The independent and mediating variables have an impact of 75% on the explanation of patient commitment.

The third model (c) demonstrated a positive effect of patient satisfaction on patient commitment ($\beta = 0.84$). The predictive impact of patient satisfaction on patient commitment was found to be 75%.

The findings obtained to determine the mediating role are shown in Table 1. As there is no P value in the indirect effect of x on y model, the indirect effect is tested using bootstrapping. For this reason, confidence intervals should be calculated depending on the study performed by Hayes.

Therefore, the part where the confidence intervals are interpreted is located here. If there is no zero (0) among the confidence interval values in this section, it can be said that there is a mediating effect in the study. The analysis results demonstrated that the direct effect of patient satisfaction on patient commitment ($\beta = 0.80$) and the indirect effect of the mediating role of patient trust ($\beta = 0.04$) were found to be positive. In this case, the indirect effect (IE = 0.04) is statistically found as significant: 95% confidence interval = 0.02 to 0.07. Moreover, the results of the Sobel test were

analyzed to find the significance of the mediating effect. The test results revealed the Z score as 3.37 and the significance level as 0.00. Therefore, it can be said that the mediating role of patient trust in the correlation between patient satisfaction and patient commitment is limited.

Based on these findings, hypotheses H_2 , H_3 , H_4 , and H_5 are confirmed.

Discussion

This study concludes that the variables of patient satisfaction, patient trust, and patient commitment have a strong positive correlation, and the results of this study are consistent with the other studies in the academic literature. For example, Kandemir and Işık (27), Shabbir et al (28), and Spake and Bishop (10) found a strong positive correlation between patient trust, patient satisfaction, and patient commitment. Çetintürk (4) identified a positive significant relationship between patient satisfaction and patient commitment. These results indicate that maintaining both patient satisfaction and patient trust is necessary to create a commitment to the healthcare service in question (29). When patients receiving required healthcare services, they feel that the healthcare institution has met their needs, which provide a dynamic relationship between the patients and healthcare institutions (17). Therefore, patients will prefer the same institution and physician when they need healthcare services again.

An important outcome of the study is that patient satisfaction affects patient trust and patient commitment. Another result manifests the mediating effect of patient trust in the impact of patient satisfaction on patient commitment. Similar to the findings of the present study, in a study conducted by Hoşgör et al (30) with 182 outpatients, patient satisfaction was seen to have a positive effect on patient commitment. Aghily et al (31) performed a study by examining 160 patients receiving healthcare services from a public hospital and reported that patient satisfaction has an exploratory effect of 60% on the patient commitment. The study conducted by Moliner (29) on 341 patients (171 from private hospitals and 170 from public hospitals) showed that patient satisfaction influences patient trust and patient trust affects patient commitment. The study conducted by Platonova et al (13) examining 554 outpatients presented that patient satisfaction and patient trust positively affect patient commitment. Based on these conclusions, it can be said that patient satisfaction and patient trust are a precursor of commitment. By increasing patient satisfaction and improving trust, patient commitment can be strengthened.

Conclusion

In conclusion, these related concepts might influence the beliefs and behavior of the patient concerning the healthcare institution in question or the services that they receive. Improving patient satisfaction, trust, and commitment may, therefore, be beneficial for fostering positive behavior toward the healthcare institutions and their physicians. Furthermore, healthcare institutions should evaluate the satisfaction of patients with the services, the level of trust in themselves and the healthcare professionals, and their commitment. Evaluations might help healthcare institutions to determine suitable strategies.

Authors' Note

Both authors conceived, designed, did statistical analysis and editing of the manuscript, did data collection, and did manuscript writing. M.A. did review and final approval of the manuscript. Before conducting the field research for this study, an ethics committee report [29.03.2017, no. 61923333/044] stating that the study is in accordance with the set ethical rules was obtained from the Sakarya University Board of Ethics Committee. Consent for publication was obtained for every individual person's data included in the study.

Acknowledgments

The authors would like to thank all the participants for their contributions.


Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was developed from master's degree thesis of Ayhan Durmuş and it is fully supported by the Scientific Research Projects Unit [2017-60-01-002] at the Sakarya University.

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