



The Mediating Role of Shared Decision-Making in the Effect of the Patient–Physician Relationship on Compliance With Treatment

Journal of Patient Experience
Volume 8: 1-5
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/23743735211018066
journals.sagepub.com/home/jpx


Serkan Deniz, PhD¹, Mahmut Akbolat, PhD²,
Mesut Çimen, PhD³, and Özgün Ünal, PhD² 

Abstract

Background: For a successful treatment outcome, the components of the treatment process are very important. The patient–physician relationship plays a key role in the successful therapeutic process and effective health service delivery. The patient’s compliance with the treatment directly affects the success of the treatment. **Objective:** This study aims to determine the effect of the patient–physician relationship on compliance with the treatment and to determine whether shared decision-making has an mediating role in this effect. **Patient Involvement:** Most of the study participants (55%) were younger than 35 and their average age was 30. The majority of the participants have an associate degree or higher education. **Method:** The study used a 4-part survey form as the data collection tool. The sample in this study consisted of 399 participants. To analyze the obtained data, Structural Equation Modeling was used by employing the Smart PLS3 software. **Results:** The results of the study show that the patient–physician relationship positively affects the patient’s compliance with the treatment and shared decision-making. In addition, shared decision-making positively affects the patient’s compliance with the treatment. The effect of the patient–physician relationship on compliance with treatment was strengthened through shared decision-making. **Discussion:** The results of the study revealed that patient–physician relationship and shared decision-making are two important factors in patients’ compliance with the treatment. Accordingly, the stronger the patient–physician relationship and the more patients participate in their treatment decisions, the higher their compliance with the treatment.

Keywords

patient–physician relationship, shared decision-making, compliance with treatment

Introduction

Although the main role in the success of health care services belongs to the health care institutions and health professionals, the patients’ share in this success is quite large. The patients’ compliance with the treatment offered by their health care providers will be directly effective in relation to achieving the purpose of the offered health service (1). In the most general sense, compliance with treatment is the overlap of the patient’s behavior (eg, taking medication, following a diet, and changing their lifestyle) and the recommendations of the health service (2,3). In other words, it is the degree to which the patient fulfills the recommendations of the health care provider such as taking medication, dieting, or any lifestyle changes (4).

The patients’ inability to comply with the treatment can cause negativity regarding the patient, society, health institution, and health care expenditure. If patients do not comply with or fail the treatment course that is recommended

¹ Thermal Vocational School, Yalova University, Yalova, Turkey

² Business Faculty, Department of Healthcare Management, Sakarya University, Sakarya, Turkey

³ Department of Healthcare Management, Acibadem Mehmet Ali Aydinlar University, İstanbul, Turkey

Corresponding Author:

Serkan Deniz, Thermal Vocational School, Yalova University, Gökçedere Mah. Nergis Sok, No: 23, 77400 Yalova, Turkey.
Email: serkand100@gmail.com



for them, then the chance of success of the offered health services may decrease and the duration of treatment may be extended (5). This can also lead to an increase in the health care cost and associated expenditure (6). Increasing health care costs and expenditures may adversely affect the country's economies. Given that noncompliance with treatment can have very serious consequences, it is of great importance to determine the factors that may affect the adaptation of individuals to treatment. According to Acerini et al (7), the patients' compliance with treatment is affected by the decision-making processes conducted between the health service provider and the patient. It is thought that the physician-patient relationship and shared decision-making may have an effect on the patient's compliance with the treatment.

The patient-physician relationship is an important factor that may affect the patients' compliance with treatment (2). The patient-physician relationship is a process in which information about the patient and the disease is collected, a diagnosis is made, a treatment plan is made, the patient is cured, and support is offered to the patient (8) and composed of elements such as knowledge, trust, loyalty, and respect (9). In medical practice, the relationship between the patient and physician is the basis of every treatment attempt, and the success of the treatment is based on the extent and strength of the patient-physician relationship (10). A strong patient-physician relationship plays a critical role in the prevention, diagnosis, and treatment of disease (11). Therefore, it can be said that patient-physician communication plays an important role in increasing the patients' compliance with any treatment.

The patient-physician relationship also provides a unique opportunity for shared decision-making (12). Shared decision-making refers to the process in which the physician does not make decisions about the treatment of the patient alone, the patient and the physician share their knowledge and agree on the most appropriate treatment method (13). In cases where the relationship between the patient and physician is strong, it is expected that patients will be attended to decisions. It is also thought that having a say in the treatment that will be applied to the patient may increase the patient's compliance with the treatment in turn. From this point of view, the aim of this study is to determine the effect of the patient-physician relationship on compliance with treatment and to determine the mediating role of shared decision-making. The hypotheses developed in accordance with the aim and conceptual framework of the study have been given below:

H₁: The patient-physician relationship has an effect on shared decision-making.

H₂: The patient-physician relationship has an effect on compliance with treatment.

H₃: Shared decision-making has an effect on compliance with treatment.

H₄: Participation in decisions has a mediating role in the effect of patient-physician relationship on treatment compliance.

Method

Study Population

The population of the study consisted of individuals residing in the Yalova province of Turkey. The data in the study were collected by the online questionnaire method. As the main criteria for participation in the study is that the participants had to be older than the age of 18 and they received health services in the last year. The population of Yalova is 262 234 and the minimum sample size that can represent this population is 384 people (14). In the study, data were collected from 399 participants. The survey was administered between May 20, 2020, and June 1, 2020.

The majority of the participants in this study were women (54.1%) and the average age of the participants was 30. In addition, 57.6% of respondents were single, the majority were educated to high school level or under (37.1%) and 54.6% of the respondents were individuals working in any job.

Measurements

A questionnaire was used as the data collection tool in this study. The questionnaire consisted of 4 parts:

Demographic information: This consisted of questions on age, gender, educational status, and marital status.

Patient-Physician Relationship Questionnaire (PDRQ-9): The scale developed by Van der Feltz-Cornelis et al (15) consists of 9 expressions including "My physician helps me," "My physician has enough time for me," and "I trust my physician" used to determine the patient-physician relationship.

Shared Decision-Making Questionnaire (SDM-Q-9): The scale was developed by Kriston et al (16). The scale consists of 9 expressions such as "My physician asked me which treatment option I prefer" and "My physician and I selected a treatment option together" in order to determine the extent to which the patients are able to intervene and participate in the treatment process.

Compliance Scale: The scale developed by Hausman (17) consists of 5 phrases such as "When I am ill, I always take all the medication prescribed by my physician" and "I return to the physician on the schedule he/she suggests."

The scales used in the study were designed in the form of a 5-point Likert scale and the participants were asked to mark the most suitable option ranging from 1 to 5 on the survey form (1 = absolutely disagree, 5 = absolutely agree).

Ethical Considerations

Before the start of the research, the Medical Research Evaluation Board of Acıbadem Mehmet Ali Aydınlar University approved the research as being ethically appropriate with decision number 2020-08/18 dated May 14, 2020.

Table 1. Factor Loadings of Scales' Items.

Items	SDM	CT	PPR
SDM1	0.747		
SDM2	0.809		
SDM3	0.771		
SDM4	0.789		
SDM5	0.857		
SDM6	0.791		
SDM7	0.840		
SDM8	0.752		
SDM9	0.788		
CT1		0.814	
CT2		0.784	
CT3		0.706	
CT4		0.811	
CT5		0.750	
PPR1			0.807
PPR2			0.826
PPR3			0.821
PPR4			0.839
PPR5			0.840
PPR6			0.754
PPR7			0.776
PPR8			0.857
PPR9			0.727

Abbreviations: CT, compliance with treatment; PPR, patient-physician relationship; SDM, shared decision-making.

Data Analysis

The data were analyzed using Smart PLS 3 software. A structural equality model (SEM) was used in the analysis of the data as well.

Results

Validity and Reliability

Cronbach α coefficient was used in the data reliability analysis. The Cronbach α value of the scales was 0.932 for the "Patient-Physician Relationship Questionnaire," 0.927 for the "Shared Decision Making Questionnaire," and 0.832 for the "Compliance Scale." According to these findings, the scales have enough conditions for reliability (18).

As shown in Table 1, the factor loading of the scale expressions ranges from 0.727 to 0.857 for the "Patient-Physician Relationship Questionnaire," 0.747 to 0.857 for "Shared Decision Making Questionnaire," and 0.706 to 0.814 for "Compliance Scale." These values show that the scales are suitable for use in this analysis.

The SEM analysis results can be seen in Table 2. The average variance extracted for each structure in the model was calculated to be in the range of 0.599 to 0.650, while the composite reliability values were calculated to be in the range of 0.882 to 0.943. These values are above the threshold values (19). These findings support the reliability of the scales used in this study and the structural validity of the model.

Table 2. Average Variance Extracted and Composite Reliability Values.

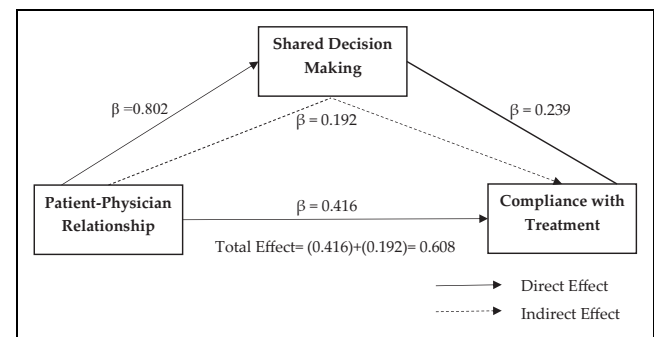
Scales	AVE \geq 50	CR \geq 70
1. Patient-physician relationship	0.631	0.939
2. Shared decision-making	0.599	0.882
3. Compliance with treatment	0.650	0.943

Abbreviations: AVE, average variance extracted; CR, composite reliability.

Table 3. *T* Values Statistics.

	<i>T</i> statistics	<i>P</i> values
PPR \rightarrow SDM	41.600	.000
PPR \rightarrow CT	5.689	.000
SDM \rightarrow CT	3.112	.002
PPR \rightarrow SDM \rightarrow CT	3.056	.002

Abbreviations: CT, compliance with treatment; PPR, patient-physician relationship; SDM, shared decision-making.

**Figure 1.** Model output.

Findings

The results obtained from the SEM analysis can be seen in Figure 1 and Table 3. According to the model, the patient-physician relationship affects the patient's compliance with the treatment ($\beta = 0.416$, $t = 5.689$, $P < .01$), the patient-physician relationship affects shared decision-making ($\beta = 0.802$, $t = 41.600$, $P < .01$), and shared decision-making affects the patient's compliance with the treatment ($\beta = 0.239$, $t = 3.112$, $P < .01$) significantly and positively. Furthermore, the effect of the patient-physician relationship on compliance with treatment is strengthened through shared decision-making ($\beta = 0.192$, $t = 3.056$, $P < .01$). According to these results, all of the hypotheses were accepted.

Discussion and Conclusion

According to the results of this study, the relationship between the patient and the physician affects the patient's compliance with the treatment. These results are similar to the some studies in the literature. Orom et al (20) stated that the quality of the patient-physician relationship improves compliance and positively affects the treatment outcomes.

Similarly, Schmidt (21) claims that the patient–physician relationship strengthens the patient’s compliance with any treatment. In another study, it is suggested that the relationship between the patient and the physician is based on trust with the correct communication increasing the patient’s compliance with the treatment (1). Both the results of this study and those of the other studies in the literature reveal the importance of the patient–physician relationship in relation to the patient’s compliance with treatment. Strong patient–physician relationship would help the physician to provide a better understanding of the demands and expectations of their patients. In this way, the expectations of patients from health services would be increased. The patients whose expectations are met and who have a positive relationship with their physician would increase their trust in their physicians. In addition, the patient–physician relationship including a high trust would allow the patients to obtain the necessary information about their diseases and treatments from their physicians. Diagnosis and treatment processes carried out within the framework of a strong patient–physician relationship have an important role in the implementation of the treatment plan presented to the patient (11).

Another result of this study shows that shared decision-making affects the patient’s compliance with the treatment. Although there is no complete consensus on this issue in the literature, there are findings that indicate that shared decision-making will improve the patients’ compliance with treatment in general. For example, Ben-Zacharia et al (22) suggests that shared decision-making positively affects the patient’s compliance with treatment. Similarly, Bauer et al (23) emphasizes that the patients’ nonconformity with any treatment is associated with the patients’ limited participation in any decisions made. In contrast, Milky and Thomas (24) stated that shared decision-making increases the patients’ satisfaction but does not relate to their compliance with the treatment. When the studies in the literature and the result of this study are taken together, it can be said that it is very common for patients to have a say in their treatment and that they intend to adhere to a treatment option that reflects their own preferences. On the other hand, an important point to be taken into consideration is that there are a number of factors that affect Shared Decision-Making (SDM) processes. These factors are the training, SDM-related intentions and incentives of health care professionals; intentions, comprehension levels, and education levels of patients (25); available treatment options, adverse impacts of the treatments, disease severity, and type of disease (acute/chronic) (26). The fact that SDM is affected by many factors will seriously affect both the applicability of SDM and whether the alternatives decided with SDM are the best options.

According to current study, shared decision-making positively contributes to the effect of the patient–physician relationship on compliance with treatment. It was previously stated that the patient–physician relationship and shared decision-making had a positive effect on the patient’s

compliance with the treatment. It is a very common result that the patient’s relationship with the physician and the shared decision-making together increase the patient’s compliance with treatment since the patient–physician relationship is a process established to help the patient and it includes many elements such as knowledge, trust, loyalty, and respect (9,27). Shared decision-making is also a process that includes patient–physician cooperation and communication (28) that aims to establish a treatment option that reflects the patient’s preferences.

As a result of this research, it was determined that the role of the patient’s participation in their medical decisions had a mediating role in terms of the effect of the patient–physician relationship on compliance with treatment. The relationship between the patient and the physician plays an important role in providing the support that the patients will need during the diagnosis and treatment of their disease. Shared decision-making as part of a treatment plan is where the patients are considered to be individuals in line with their preferences. Therefore, it is recommended that health managers and health service providers work to improve the patient–physician relationship and that they take steps to enable the patients to participate in decisions to improve the patients’ compliance with the treatment.

Limitation

It is a limitation that the changes in decision-making of factors such as the type of diseases of the participants, the characteristics of the treatment, and the important side effects of the treatment cannot be examined in the study.


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) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Özgün Ünal, PhD  <https://orcid.org/0000-0002-1245-2456>

References

1. Akbolat M, Karakaya F, Uğan Ç, Durmuş A. The effect of trust communication in patient-physician relationship on satisfaction and compliance to treatment. *Int J Health Med Curr Res*. 2017;2:610-9.
2. Taskaya S. Treatment Compliance Levels of Diabetic Patients, Healthcare Use and Factors Affecting Quality of Life. Dissertation Degree of Doctor of Philosophy. Hacettepe University Institute of Social Sciences; 2014.
3. Misdrahi D, Llorca PM, Lancon C, Bayle FJ. Compliance in schizophrenia predictive factors, therapeutical considerations and research implications [in French]. *Encephale*. 2002;28:266-72.

4. World Health Organization. Adherence to long-term therapies: evidence for action. World Health Organization; 2003. Accessed May 11, 2021. https://www.who.int/chp/knowledge/publications/adherence_full_report.pdf?ua=1
5. Ünal Ö, Akbolat M, Amarat M. The effect of patients' perception of physician quality on physician trust and compliance with treatment. In: Bostan S, ed. 4 International Health Sciences and Management Conference; İstanbul, Turkey: June 20-23, 2019:112-117.
6. Maldonado MR, Chong ER, Oehl MA, Balasubramanyam A. Economic impact of diabetic ketoacidosis in a multiethnic indigent population: analysis of costs based on the precipitating cause. *Diabetes Care*. 2003;26:1265-9.
7. Acerini CL, Segal D, Criseno S, Takasawa K, Nedjatian N, Röhrich S, et al. Shared decision-making in growth hormone therapy—implications for patient care. *Front Endocrinol*. 2018;9:1-14.
8. Lichstein PR. Terminating the doctor/patient relationship. In: Lipkin M, Putnam SM, Lazare A, Carroll JG, Frankel RM, eds. *The Medical Interview*. Frontiers of Primary Care. Springer; 1995.
9. Ridd M, Shaw A, Lewis G, Salisbury C. The patient–doctor relationship: a synthesis of the qualitative literature on patients perspectives. *Br J Gen Pract*. 2009;59:e116-33.
10. Atıcı E. The concept of patient-physician relationship. *J Uludağ Uni Facul Med*. 2007;33:45-50.
11. Cerier E, Beal EW, Chakedis J, Chen Q, Paredes A, Sun S, et al. Patient-provider relationships and health outcomes among hepatopancreatobiliary patients. *J Surg Res*. 2018; 228:290-8.
12. Légaré F, Witteman HO. Shared decision making: examining key elements and barriers to adoption into routine clinical practice. *Health Aff*. 2013;32:276-84.
13. Charles C, Gafni A, Whelan T. Shared decision-making in the medical encounter: what does it mean? (or it takes at least two to tango). *Soc Sci Med*. 1997;44:681-92.
14. Coşkun R, Altunışık R, Bayraktaroğlu S, Yıldırım E. *Sosyal Bilimlerde Araştırma Yöntemleri*. 8. Press Sakarya Bookstore; 2015.
15. Van der Feltz-Cornelis CM, Van Oppen P, Van Marwijk HW, De Beurs E, Van Dyck R. A patient-doctor relationship questionnaire (PDRQ-9) in primary care: development and psychometric evaluation. *Gen Hosp Psychiatry*. 2004;26:115-20.
16. Kriston L, Scholl I, Hölzel L, Simon D, Loh A, Härter M. The 9-item shared decision making questionnaire (SDM-Q-9). Development and psychometric properties in a primary care sample. *Patient Educ Couns*. 2010;80:94-9.
17. Hausman A. Taking your medicine: relational steps to improving patient compliance. *Health Mark Q*. 2001;19:49-71.
18. Kalayci S. *Application of SPSS; Very Variable Statistical Techniques*. 6. Press. Asil Publishing; 2014.
19. Garson GD. *Partial Least Squares: Regression and Structural Equation Models*. Statistical Associates Publishers; 2016.
20. Orom H, Underwood III W, Cheng Z, Homish DL, Scott IY. Relationships as medicine: quality of the physician–patient relationship determines physician influence on treatment recommendation adherence. *Health Serv Res*. 2018;53:580-96.
21. Schmidt C. *Physician-Patient Relationships and Their Effect on T2DM Patient Treatment Adherence*. Dissertation Degree of Doctor of Philosophy. Amberton University; 2018.
22. Ben-Zacharia A, Adamson M, Boyd A, Hardeman P, Smrtka J, Walker B, et al. Impact of shared decision making on disease-modifying drug adherence in multiple sclerosis. *Int J MS Care*. 2018;20:287-97.
23. Bauer AM, Parker MM, Schillinger D, Katon W, Adler N, Adams AS, et al. Associations between antidepressant adherence and shared decision-making, patient–provider trust, and communication among adults with diabetes: diabetes study of northern California (DISTANCE). *J Gen Intern Med*. 2014;29: 1139-47.
24. Milky G, Thomas III J. Shared decision making, satisfaction with care and medication adherence among patients with diabetes. *Patient Educ Couns*. 2020;103:661-9.
25. Joseph-Williams N, Lloyd A, Edwards A, Stobbart L, Tomson D, Macphail S, et al. Implementing shared decision making in the NHS: lessons from the MAGIC programme. *BMJ*. 2017;357.
26. Müller-Engelmann M, Keller H, Donner-Banzhoff N, Krones T. Shared decision making in medicine: the influence of situational treatment factors. *Patient Educ Couns*. 2011;82:240-6.
27. Adams N, Grieder DM. *Treatment Planning for Person-Centered Care: Shared Decision Making for Whole Health*. Academic Press; 2013.
28. Siminoff LA, Step MM. A communication model of shared decision making: accounting for cancer treatment decisions. *Health Psychol*. 2005;24:S99.