Original Article

Inpatients' Perceptions of Physicians' Empathy and Their Level of Satisfaction Regarding Medical Care Measured by Jefferson Scale of Patient's Perceptions of Physician Empathy

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Abstract

Background: Physician empathy toward patient is an important factor and humanistic aspect of patient -centered cares and effective therapeutic consultation. The aim of the present study was to evaluate inpatients perceptions of physician empathy and their level of satisfaction regarding medical care besides evaluating the association of the variables with the decision of the inpatients in recommending physician to friends and relatives.

Methods: This cross-sectional study was carried out at teaching hospitals of Zanjan city in 2018. The participants included 285 inpatients. The Jefferson Scale of Patient's Perceptions of Physician Empathy (JSPPPE) was used for the data collection. Data analysis was performed using descriptive statistics and multivariate analyses to describe empathy relations with personal characteristics. Pearson correlation coefficient was used to examine the relationship between inpatients' satisfaction and perception of empathy with the decision of recommending physician to their relatives.

Results: The factor analysis on five items of JSPPPE led to one prominent factor. Items-total empathy score correlations ranged from 0.7 to 0.81. Correlation coefficient between JSPPPE scores with inpatients' satisfaction was statistically significant ($r=0.69$, $p<0.001$). Overall score of the JSPPPE was strongly correlated with recommendation of physician to relatives and friends ($r=0.56$, $p<0.001$). More than half of inpatients (57.1%) were satisfied with medical care and consultations. Only a quarter of inpatients said that they knew their physicians well beforehand. Observed difference in mean scores of the overall satisfaction and personal trust to physician and recommending physician to relatives was statistically significant on the base of age characteristic ($p<0.5$).

Conclusion: The results of the study showed that there is significant positive association between perceptions of physician empathy with patient's satisfaction and recommending physician to relatives and friends.

Keywords: Empathy, Inpatients, Personal satisfaction, Physicians

Introduction

Physician empathy toward patient is an important factor and humanistic aspect of patient -centered cares and effective therapeutic consultation (1). Also, empathy can reinforce patient - physician relation and improve patient satisfaction with care (2).

Empathy in the context of patient care is defined as "the cognitive characteristic that consists of understanding patient concerns, experiences and perceptions, combined with capability to communicate this understanding and intent for help". The pivotal idea in this definition is the communication of understanding to patient so that he or she can perceive physician empathy and get benefits for better outcomes (3).

Empathy is considered an essential element of competency for medical decisions due to its association with patient health and quality of care. Education and application of empathetic communication can improve patient- physician relationship and help the success of cure purposes (4). Also, patient-centered care is linked with better understanding of medical issues (5). It facilitates accurate and rational clinical decision –making (6).

Patient satisfaction is a subjective feeling based on the comparison of patients expectations with their experiences from care process. It measures patient experiences from aspects of health care.

Patient satisfaction is an important factor in hospital care and it can provide the valuable information to show the ability of care –provider to meet patient needs and expectations (7). The satisfaction indicator in assessment of health care is increasingly applied because of its importance in reflection of patient perspective and quality of health services. Its advantages for patients include loyalty of patient to treatment, continuity of cure and acceptation of physician advices, lower medical malpractice, higher satisfaction for physicians, and identification of areas that need improvement for health-policy makers (8).

The previous studies have found that empathy has been related to several benefits in clinical care like patient satisfaction, patient enablement and better health outcomes (9). Moreover, patient feedback toward physicians' communicative skills has been taken into account in evaluation and accreditation of hospitals (10). The empathy, as a human dimension of medical care, is considered an important priority of health care from patients' point of view. That is why measuring physician empathy is a key attribute in quality of medical care and it gives an appropriate feedback to physicians for self-assessment of their practices (11). In the study by Hojat *et al*, on perception of physicians' empathy and patients' satisfaction in UK, mean score of perceptions of physicians' empathy was 29.6±7.8. They reported a positive and significant statistical association between the items of JSPPPE and patient's satisfaction (3). Also, a study by Uddin *et al* on patient satisfaction with medical care in Bangladesh indicated that mean score of overall satisfaction was 3.2 (5 point Likert scale) (12). However, there were no previous studies evaluating the inpatients' opinions about physician empathy in research-based context. Furthermore, the main purpose of this research was obtaining a clear and evident image of perceived empathy level from inpatients' point of view and thereby providing the valuable information for health policy-makers. After evaluating inpatients' perceptions of physician empathy and determining the satisfaction of inpatients about medical care, an attempt was made to find the association of perceived satisfaction and inpatients' decision in recommending physicians to friends and relatives.

Materials and Methods

Design

This study was carried out as a cross-sectional survey in teaching hospitals of Zanjan city in 2018. The participants included 285 inpatients in the wards of teaching hospitals in Zanjan city, located in the north-west of Iran. The inpatients were selected by systematic sampling (one day at week exception holidays) besides including the following criteria: 1. age above 18 at the time of hospitalization (3,13). At least two or more days of stay in one of the hospital wards.

Data collection instrument

To collect study data, the following instruments were used:

The Jefferson Scale of Patient's Perceptions of Physician Empathy (JSPPPE): This scale was originally developed by Hojat *et al* to measure patients' perceptions of physician empathy in hospitals and clinics at Jefferson

University (3). JSPPPE is a brief questionnaire with five items that measure physician emotional engagement from patients' viewpoint on the base of their experiences during medical care. Evidence that supports the validity of this instrument has been confirmed in several studies including Berg K *et al* (14), Kane *et al* (15) and Glaser *et al*'s (16) research. The participants were asked about their perceptions about physicians' empathy. In order to answer this, they were asked to select one response for each item on the basis of degree of agreement, from strongly disagree (1) to strongly agree (7), in terms of level of empathy.

In addition, to collect data in the context of patient satisfaction, 10-item Patient Satisfaction Scale developed by Hojat *et al* was used (17). This scale was developed to measure patient's overall satisfaction of medical care and consultation process for adult patients. There are strong pieces of evidence on the validity and reliability of this scale. Each item was scored on a 7- point Likert scale (7=strongly agree, 1=strongly disagree) according with original instrument (17). Score of overall satisfaction was calculated on the base of the sum of 10 items' scores. The possible range of score was 10-70. The higher score means higher satisfaction and vice versa (18). Furthermore, two questions were added to the questionnaire; a question was asked about patient trust toward physician (I would recommend this physician to my relatives and friends) and other question was on the previous knowledge about physician (How did you become familiar with your physician?).

Procedure

The original English questionnaires were translated into Persian by an expert translator in English language. Then, the Persian text of the questionnaires were back-translated by a person who had experience at translation of medical texts. The accuracy and agreement of original text with translated questionnaire was checked by a skillful and specialist translator at medical sciences. After approval of project by the ethics committee of Zanjan University of Medical Sciences, pilot study with use of the Persian version of questionnaire was done on 20 patients. The final questionnaire was administered by two interviewers who had been trained to communicate with patients. Also, it was explained that the data of research would be used for overall analysis of perceived empathy in the care process, and the participants were assured that their personal information would be never disclosed and the study findings would be used for academic research only. To protect their privacy, the questionnaires were completed while physicians and nurses were not present beside inpatients. The participants completed the questionnaires anonymously.

Statistical analysis

The SPSS software (Version 16) was used to analyze the data. Incomplete questionnaires (Without demographic data) were not entered in analysis (19). At first, sample adequacy and requirements for Exploratory Factor Analysis (EFA) were tested by Bartlett's Test and Kaiser-Meyer-Olkin. These criteria show that whether data of research are suitable for doing EFA or not (9). Then, EFA was done on scores of 5 items of the JSSSPE. To get appropriate solution, the eigenvalues more than 1.5 and factor coefficients >0.45 were considered for interpretation of the solution (20). Reliability and internal consistency of the scale was determined by Cronbach's alpha with the least acceptable value for applied purpose as 0.7 (21). Internal homogeneity of the scale was surveyed with use of correlations of item- total scores (22). Descriptive statistics (mean and frequency) and multivariate analyses to describe empathy relation with personal characteristics were used. Pearson correlation coefficient was calculated to examine relationship between inpatients' satisfaction and perception of empathy and recommending physician to relatives. To compare significance of means in groups, independent samples t-test and analysis of variance (ANOVA) were utilized. $p<0.05$ was considered statistically significant.

Results

Validity and reliability of the questionnaire

For face validity, the questionnaire was given to 5 experts at the related topics and their opinions were included in the final scale. The findings by EFA are presented in table 1. To check the fitness and sample adequacy for using EFA, the Kaiser-Meyer-Olkin was done. The statistical criteria of KMO (0.81) and the Bartlett's Test (801.83, $p<0.001$) indicated the suitableness of the sample data to do the EFA. The factor analysis on five items of JSPPPE led to one prominent factor with an eigenvalue of 3.55 that explained 71.13% of the

variance. The eigenvalue of other factors were below 0.7. Factor loading coefficients are presented in table1. Range of factor coefficients was from 0.81 to 0.86 that implies a one-dimensional scale with only one understanding factor. Also, correlation coefficients of JSPPPE items with total score were high and in range of 0.7 to 0.81 that indicate higher internal consistency of the scale.

The findings of study showed that there were statistically positive and significant associations between JSPPPE items scores with inpatients' satisfaction and recommending physician to their relatives and friends (Table 1).

Reliability of scale was evaluated by Cronbach's alpha coefficient, an indicator which shows the internal consistency of the instrument. The reliability coefficients of overall JSPPPE and inpatients' total satisfaction were 0.89 and 0.93, respectively. The mean, standard deviation (SD) and range of overall JSPPPE score on the base of gender, age characteristics and total sample are reported in table 2.

Inpatient characteristics

The mean of inpatient age was 45.63. The majority of study participants (45.4%) were housewives. In this study, 58.3% of the participants were female. Forty two percent of the participants had primary education and 10% had higher education. The majority of participants in study (58.8%) were inpatients at the major wards [surgery (21.6%), internal medicine (21.4%), and gynecology (15.8%)] and 41.2% from minor wards (ophthalmology, neurology, infectious …..).

More than half of inpatients (57.1%) were satisfied with medical care and consultations. Only a quarter of inpatients said that they knew their physicians well beforehand. Also, most inpatients (62.1%) thought they had willingness to recommend their physicians to relatives and friends (Table 3). Analysis of t test for independent samples showed no significant difference in the overall satisfaction, familiarity with physician and recommending physician to relatives between male and female inpatients. But, observed difference in mean scores of both the overall satisfaction and recommending physician to relatives was statistically significant on the base of age characteristic ($p<0.05$) (Table 4).

Details of inpatient perceptions of physician empathy

The highest and lowest mean scores of JSPPPE items were related to item" my physician is an understanding physician" (5.97±2.2) and item" my physician asks about what is happening in my daily life" (4.6±1.5), respectively. The mean score of overall JSPPPE was 26.09±0.9 in terms of sum of scores with range between 5 and 35. The means, standard deviations, and ranges of scores of the JSPPPE scale on the base of gender, age and the total sample are presented in table 2. Analysis of t test for independent samples showed no significant difference between male

Table 1. Factor coefficients of the Jefferson Scale of Patient's Perceptions of Physician Empathy, total empathy score correlations, and correlations of each item with scores of patient satisfaction and physicians recommendation (n=285)

Items	Factor coefficients	Item-total empathy score†	Patient satisfaction‡	Recommending physicians•
My physician understands my emotions, feelings, and concerns	0.81	0.70	0.64	0.60
My physician is an understanding doctor	0.82	0.71	0.63	0.59
My physician seems concerned about me and my family	0.88	0.81	0.49	0.52
My physician asks about what is happening in my daily life	0.84	0.74	0.44	0.44
My physician can view things from my point of view (See things as I see them)	0.86	0.78	0.58	0.53

† Correlation between scores of the item and the rest of the scale.

‡ Correlation between scores of the item and scores on the Jefferson Scale of Patient Satisfaction.

• Correlation between scores of the item and responses to item: "I would recommend my physician to my family and friends.

Table 2. Descriptive statistics for the Jefferson Scale of Patient's Perceptions of Physician Empathy based on patients' gender and age (n=285)

Items	Mean	SD	Range
Gender *			
Male (n=119)	26.15	8.5	5-35
Female (n=166)	26.04	7.4	5-35
Age †			
<45 (n=139)	25.65	8	5-35
≥ 45 (n=146)	26.5	7.8	5-35
Total	26.09	7.9	5-35

* t (285)=0.23, p=0.8 (Not significant)

† t (285)=0.56, p=0.57 (Not significant)

Table 3. Patients' responses about consultation characteristics

Consultation characteristics	Status	n (%)
How satisfied was the patient with the consultation of the physician		
	Completely satisfied & satisfied	163 (57.1)
	Uncertain	65 (22.9)
	Completely unsatisfied & unsatisfied	57 (20)
How well the patient knew the physician		
	Not at all (1)	152 (53.3)
	2	29 (10.2)
	3	33 (11.7)
	4	39 (13.6)
	Know very well (5)	32 (11.2)
Would you recommend the doctor to your family or friend		
	Definitely not (1)	41 (14.2)
	Probably not (2)	15 (5.4)
	Not sure (3)	52 (18.3)
	Probably yes (4)	70 (24.6)
	Definitely yes (5)	107 (37.5)

and female inpatients as well as on the base of age characteristic.

Findings of the present study in the context of perceived empathy level are reported in table 5. Majority of the inpatients (70.5%) agreed with item" my physician is an understanding physician". In contrast, less than half of the inpatients (40.95%) agreed with item" my physician asks about what is happening in my daily life". In simple words, inpatients felt that their physicians asked less about issues happened in patients' daily life.

Discussion

Physician empathy toward patients is an essential element in medical care process and it can reinforce health outcomes and patient – physician relationship (22). This skill not only might have caused reception of adequate information and accurate diagnosis by care provider, but also it results in an increase in patient's trust, patients' satisfaction and less medical errors (23).

Findings of the present study based on Jefferson Scale of Patient's Perceptions of Physician Empathy (JSPPPE) showed that this scale is a uni-dimensional instrument with five items that in terms of constructing factors is in accordance with Hojat *et al*'s original scale (3). In a study by Hojat *et al* on perception of physicians' empathy and patients' satisfaction, factor analysis indicated a one- dimensional scale that justified 84% of the variance. Range of the factors coefficients were 0.84 to 0.93 (3). In this study, results of factor analysis got one factor with 71.13% of the variance in factor coefficients range of 0.81 to 0.86.

These two studies share several similarities. Findings of the present study in the context of inpatient's perceived empathy from physician showed upper intermediate to high level values (m=26.09). This finding is close to the results of studies of Hojat *et al* (3). In a study entitled "perception of physicians' empathy

Table 4. Mean, standard deviation of overall satisfaction, familiarity and recommendation of physician based on patients' gender and age (n=285)

Items	Mean (SD)	Mean (SD)		p-value	Mean (SD)		p-value
	Total	Female	Male		<45	≥ 45	
Overall satisfaction	3.54 (1.3)	3.49 (1.4)	3.7 (1.3)	0.22	3.41 (1.4)	3.73 (1.3)	0.05
Familiarity	2.19 (1.4)	2.08 (1.4)	2.34 (1.6)	0.17	2.03 (1.3)	2.35 (1.5)	0.08
Recommendation	3.68 (1.4)	3.6 (1.4)	3.7 (1.3)	0.8	3.48 (1.3)	3.87 (1.4)	0.03

Table 5. Frequency distributions of Jefferson Scale of Patient's Perceptions of Physician Empathy items (n=285)

Items	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
My physician understands my emotions, feelings, and concerns	20 (7.1)	8 (2.9)	88 (30.8)	94(32.9)	75 (26.2)
My physician is an understanding doctor	11 (3.8)	3 (1.2)	70 (24.6)	105 (36.7)	96 (33.8)
My physician seems concerned about me and my family	24(8.3)	28 (10)	106 (37.1)	62 (21.7)	65 (22.9)
My physician asks about what is happening in my daily life	41 (14.6)	38 (13.3)	89 (31.2)	49 (17.1)	68 (23.8)
My physician can view things from my point of view (See things as I see them)	19(6.7)	35 (12.5)	106 (37.1)	62 (21.7)	63 (22.1)

and patients' satisfaction in UK" by Hojat *et al*, mean score of perception of physicians' empathy was 29.6±7.8 in which empathy level was a little more than the present study.

Regarding findings of the present study in the context of patients' satisfaction, inpatients reported upper intermediate satisfaction level from medical care and consultation. This finding is in agreement with findings of Uddin *et al* (12). A study by Uddin *et al* on patient satisfaction with medical care in Bangladesh indicated that most participants of study (58%) were female and mean score of overall satisfaction was 3.2 (5 point Likert scale). On the other hand, the obtained values in the present study about patient satisfaction were less than the ones in Hojat *et al*'s (17) and Sahin *et al*'s (24) studies. In the study conducted by Hojat *et al* on measuring patients overall satisfaction with medical care and consultation in UK, they reported fairly high mean score of patients overall satisfaction and range of mean scores of satisfaction was 5.8 to 6.3. Results indicated high satisfaction of patients about majority of physicians and mean score of patients overall satisfaction was 61.3 (from maximum possible score 70) (17). In addition, in the study of Şahin *et al* on validity and reliability of scale of patient overall satisfaction in Turkey**,** mean score of overall satisfaction was 63.9±9.5 and the findings of the study indicated that mean score of overall satisfaction for male was significantly higher than female patients ($p<0.05$) (24).

Also, the findings of the present study indicate although inpatients believed that their physicians were understanding persons, but they may have spent less time in asking inpatient problems influencing their health.

Patient's satisfaction is one of the important indicators of health care quality and it shows organization ability of physicians at meeting patients' needs and expectations besides the ability of physicians in asking detailed questions from patients about their disease, listening to patients carefully and suitable behavior with patients (12). Moreover, professional and communicative skill of physicians, hospital staff behavior and accessibility to care are involved in patient perceptions of empathic relationship and medical care decision- making (25).

This study showed that there is a positive statistical association between patient perception of physician empathy and patient's satisfaction of medical care. This finding is close to the results of studies of Hojat *et al* (3) and Aomatsu *et al* (22). Hojat *et al*, in the study on perception of physicians' empathy and patients' satisfaction in UK, reported a positive and significant statistical association between the items of JSPPPE and patient's satisfaction (3). In addition, the results of a study by Aomatsu *et al* concerning patients' perception of physicians' empathy in Japan indicated that association between score of physicians' empathy and patient's overall satisfaction was statistically significant ($r=0.74$ $p<0.001$) (22).

Moreover, the findings of the present study showed positive association between perception of physicians' empathy and patient's satisfaction with recommending physician to relatives and friends, but knowing physician beforehand might have influenced this issue to some extent. Approximately a quarter of the inpatients have known their physicians well previously, but most of them had tendency to recommend their physicians to others. This finding is similar with the results of Aomatsu *et al*'s (22) study. Research of Aomatsu *et al* in Japan found that almost one out of four patients (25.95%) thought that they knew their physicians well and more than

75% of patients were satisfied with medical care and consultation. Equally, they had willingness to recommend their physicians to relatives (22).

Conclusion

The findings of the present study indicate that the inpatients' perception of physicians' empathy (Understanding patients' experiences and perspectives alleviating their pain and suffering) and patient's satisfaction were at intermediate and high levels, but events happening in inpatients daily life were less investigated in this study. Furthermore, the results of the study showed that there is significant positive association between perceptions of physician empathy and patient's satisfaction. Both variables encouraged inpatients to recommend their physicians to relatives and friends. With regard to the findings and the positive effects of empathy in cure and health outcomes (26), and improvement of patient satisfaction, an optimal level of physicians' empathy is required as an essential criterion for health enhancement (27).

On the base of the findings of the present study, factors such as respect to patient's idea and words, understanding patients' concerns and their special needs may have affected the high level of patient's satisfaction.

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