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Measuring Patients' Perceived Empathy of Clinical Nurses

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Abstract

Background: Empathy is the perception of patients' feelings and experiences; in other words, nurses can understand their patients' feelings by considering themselves in their position. Empathic relationship in patient care can lead to considerable interpersonal communication and as a result, better outcomes for patient health. Thus, the purpose of this study was to assess patients' perceived empathy of clinical nurses.

Methods: This cross-sectional study was carried out at teaching hospitals of Zanjan city in 2018 -2019. A sample including 285 inpatients of teaching hospitals in Zanjan city were selected by systematic sampling. To collect data, the Scale of Patient-Perceived Empathy from Nurses (SPPEN) was used. Descriptive statistics (Mean and frequency) and multivariate analyses were applied to describe empathy relationships with personal characteristics.

Results: The factor analysis on 15 items of SPPEN led to three factors with eigenvalue>1 that totally explained 74.5 percent of the variance. Three dimensions of nurses' expression, patients' feedbacks and patients' expectations were identified as effective factors on patients' perceived empathy. The mean score of overall SPPEN was at upper intermediate level (m=4.98). The mean score of overall SPPEN and its dimensions in young patients were higher than patients aged 45 years and over. Differences in mean scores of overall SPPEN and its dimensions (Except nurses' expression) were statistically significant on the base of age characteristics ($p<0.05$). Furthermore, there were significant differences at mean scores of patients' feedback and patients' expectations dimensions on the base of inpatients ward variable ($p<0.05$). The highest mean score of patients' feedbacks (5.34 ± 1.05) and patients' expectations (6.05 ± 1.1) were related to gynecology and surgery wards, respectively.

Conclusion: The findings of the present study indicate that inpatients' perception score of nurses' empathy was at upper intermediate level. According to the findings, nurses' empathy and communicative skills must be promoted by establishing training workshops for empathy development.

Keywords: Empathy, Inpatients, Nurse-patient relations

Introduction

Empathy has various definitions at the field of medical care. As a general concept, it has been defined as" natural willingness to pay attention to other people". It may include cognitive, emotional, behavioral, interpretive, and moral aspects (1). Empathy is the perception of patients' feelings and experiences, namely, nurses can understand their patients' feelings by considering themselves in their position. It has both affective and cognitive components (2). Affective Empathy (AE) is the ability to understand emotional experience of others, *i.e.*, an appropriate reaction to their affective states while Cognitive Empathy (CE) indicates the ability to understand the precise mental perspective of others, letting one to express their mental or emotional states openly (3).

Empathic relationship in patient care can lead to significant interpersonal communication and as a result, it would have brought out better outcomes for patient health (4). Moreover, empathy is one of the important components of care providers –patient relationship that has been linked to a number of benefits in health care encounters including patient satisfaction, patient compliance, and better health outcomes (5).

In nursing profession, evaluating empathic communication with patients through nurse–patient relationship is necessary and vital (6). In last years, enough documents have been found that using the concept of empathy in nursing cares can have useful effects on patients' recovery. For example, the study about effect of nurses' empathy on reduction of patients' anxiety and satisfaction brought positive results. Expression of high empathy toward patients from nurses had significant effect on making patients feel calm (7).

Morse has expressed four components for nurse empathy toward patients as follows (8): (a) emotional component as the mental ability to experience and share other people's feelings and spiritual status, (b) moral component as the internal force motivating the action, (c) cognitive component as mental capability for Identification and understanding other people feelings and perspectives from objective point of view, and (d) behavioral component as the communicative response to transfer our perceptions to others.

In a study by Tsai *et al* about patient empathy perceptions in Taiwan, a scale of patient empathy perception from nurses emerged with three factors (dimensions) entitled "nurses' expressions", "patients' feedbacks", and "patients' expectations" that explained 63.7 % of total variance (9). Nurses' expression is to show attention to patients and their opinions. Patients' feedback is patients' willingness to telling their feelings to nurses. Patients' expectations are the hopes to be understood by nurses (9).

The main goal of national health systems is the effective improvement and promotion of community health. Nurse staff is considered as one of the pivotal members of the health team. On the other hand, empathy has played the essential role in better health outcome and patient satisfaction. Most studies performed in this area were related to western countries including UK and North America (10). Also, most studies done in Iran were concentrated on empathy from nurses' viewpoints toward patients, including the researches of Ghaedi *et al* (11) and Kesbakhi *et al* (12). Therefore, there was limited knowledge regarding empathy perceived by inpatients from nurses in Iran hospitals. Thus, the purpose of this study was to assess patients' perceived empathy of clinical nurses.

Materials and Methods

Design

This cross-sectional study was done in teaching hospitals of Zanjan city. For this purpose, 285 inpatients of teaching hospitals in Zanjan city, located in the north-west of Iran, were selected by systematic sampling. All patients referred to hospital clinics and met the inclusion criteria were entered during a single day which was selected randomly. Inclusion criteria were age above 18 and below 70 at the time of hospitalization (13,14) and at least two or more days of stay in one of the mentioned hospitals. Exclusion criteria included the inability to fill the questionnaire and unwillingness to participate in the study.

Data collection instrument

In this study, the Scale of Patient-Perceived Empathy from Nurses (SPPEN) was used for data collection. This scale was developed and validated by Tsai *et al* to measure inpatients' perceived empathy of nurses in acute care clinics

in Taiwan (9). This scale has been used for patients hospitalized at Intensive Care Units (ICU), surgery (General, gynecological, neurology), and internal medicine wards (15). This scale contained two sections; the first section was related to demographic and personal information of the participants (Gender, age, occupation) and the second part included 15 items related to patients' perceived empathy from nurses that consists of three domains or subscales as follows:

1. Nurses' expression (7 items)
2. Patients' feedback (5 items)
3. Patients' expectations (3 items)

The participants were asked about their perceptions from nurses' empathy. In order to answer this, they were asked to select one response for each item on the basis of degree of agreement [(Strongly disagree (1) to strongly agree (7) in terms of level of empathy)].

Procedure

The original English questionnaire was translated into Persian by a professional translator in English language. Then, the Persian text of the questionnaire was 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 translator at medical sciences. After the study was approved by the ethics committee of Zanjan University of Medical Sciences, pilot study using Persian version of questionnaire was done with 20 patients. The final questionnaire was administered by two questioners who had been trained to communicate with patients. Furthermore, patients were explained that the data of this research would be used for academic purposes and overall analysis of perceived empathy of nurses during care process; so the participants were assured that their personal information would never be disclosed at anywhere that might have affected patients' care. To protect their privacy, the questionnaires were completed while nurses were not present beside inpatients.

Statistical analysis

For analysis of the data, the SPSS software (Version 16) was used. Cronbach's alpha was used to determine the internal consistency of the scale. Factor analysis was performed to examine underlying constructs of the SPPEN scale in Iran community (16,17). Descriptive statistics (Mean and frequency) and multivariate analyses to describe empathy relations with personal characteristics were applied. 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

Inpatient characteristics

According to analysis of 285 completed questionnaires, 166 participants were female (58.3%). In terms of age characteristics, most participants were above 41 years (51.3%). The mean of inpatient age was 45.63. Considering their occupation, the majority of study participants were housewives (45.4%) and 100 participants had primary and secondary school education (35%) and 29 participants were individuals with a degree in higher education (10%).

Validity and reliability of the questionnaire

Reliability of the scale was evaluated by Cronbach's alpha coefficient, an indicator which shows the internal consistency of the instrument. The reliability coefficient of Scale of Patient-Perceived Empathy from Nurses (SPPEN) was 0.88 that implies high internal consistency of the instrument.

The findings of Exploratory Factor Analysis (EFA) have been presented in table 1. KMO (0.93) and the Bartlett Test of Sphericity (value=3947.6, $p<0.001$) indicated the suitableness of the sample data to do the EFA. The factor analysis on 15 items of SPPEN led to three factors with eigenvalue>1 that totally explained 74.5 percent of the variance. The eigenvalue of the factors, theirs names, and factor loading coefficients are presented in table 1. Nurse expression dimension as the first factor contained 7 items that explained 42.19 percent of the variance. The second factor (Patients' feedback) with five items and the third factor (Patients' expectations) with three items explained 19.79 and 12.53 percent of the variance, respectively (Table 1). Cronbach's alpha coefficients and mean scores of factors are presented in table 2.

Table 1. Factor analysis on the scale of patient-perceived empathy from nurses (n=285)

Factors	Items	Component 1	Component 2	Component 3	Mean
Nurses' expressions	I think that the nurses care about me.	0.752	0.469	-0.126	4.90
	The nurses listen to my opinions.	0.789	0.413	-0.062	4.79
	The nurses are friendly.	0.776	0.380	-0.102	4.91
	The nurses aggressively solve my problems.	0.993	0.145	0.099	3.89
	The nurses can see things from my perspective.	0.803	0.162	0.234	4.38
	The nurses care about my daily life.	0.845	0.163	0.164	4.08
	The nurses can understand my feelings.	0.770	0.392	0.059	4.68
Patients' feedbacks	When I am in a bad mood, I will actively tell the nurses.	0.544	0.684	0.035	4.99
	I will actively tell the nurses about my condition.	0.534	0.697	0.059	5.36
	I am willing to tell the nurses my feelings.	0.258	0.663	0.284	4.61
	The nurses' assistance improves my depressive symptoms.	0.618	0.619	0.079	5.11
	I can be encouraged by the nurses taking care of me.	0.596	0. 631	0.112	5.00
Patients' expectations	I hope that the nurses taking care of me can patiently listen to me.	0.268	0.160	0.738	5.41
	I hope that the nurses taking care of me can understand me.	0.229	0.111	0.753	5.35
	when I am in a bad mood, I hope I can obtain assistance from nurses.	0.325	0.064	0.746	5.49

Table 2. Summary of analysis on the scale of inpatient-perceived empathy from nurses (n=285)

Factors	Number of items	Mean score	Eigenvalue	Variance explained	Total variance explained	Cronbach's alpha
Nurses' expressions	7	4.52	6.335	42.191	42.19	0.82
Patients' feedbacks	5	5.02	2.972	19.793	61.98	0.89
Patients' expectations	3	5.42	1.88	12.53	74.51	0.93

Details of inpatient perceptions of nurses' empathy

Table 3 shows relationship between inpatients demographic variables and SPPEN. The mean score of overall SPPEN was at the upper intermediate level (m=4.98) (7 point Likert scale). The mean score of overall SPPEN and its dimensions in female patients were higher than male patients. However, analysis of t-test for independent samples showed no significant difference between male and female inpatients. The mean score of overall SPPEN and its dimensions in young patients (Below 45 years) were higher than patients aged 45 years and over. On the other word, young patients both expected more from nurses and were willing to tell their feelings to nurses, and had tendency to ask for help from them. Analysis of t-test for independent samples showed significant difference in mean score of overall SPPEN and its dimensions (except nurse expression) on the base of age characteristics.

The highest and lowest mean scores of SPPEN and its dimensions were related to patients with higher education and illiterate patients, respectively. Analysis of one–way ANOVA showed significant difference on the base of education characteristics ($p< 0.001$).

The highest and lowest mean scores of overall SPPEN were related to surgery ward (5.27±1.2) and internal medicine ward (4.51±1.4), respectively. Analysis of one –way ANOVA showed no significant difference in this case. However, there were significant differences

at mean scores of patients' feedback and patients' expectations dimensions on the base of inpatients ward variable ($p<0.05$). Furthermore, the highest mean score of patients' feedbacks (5.34±1.05) and patients' expectations (6.05±1.1) were related to gynecology and surgery ward, respectively (Table 4).

Discussion

Empathy is an ability of understanding patients' feelings, concerns, perspective and experiences, in combination with communicating this understanding to them. Empathy is an important element in nurse-patient relationship (18). Respect to patients' expectation and needs during care process is the inseparable section of every health policy-making (19).

The findings of this study are based on patients' perceived empathy from nurses using SPPEN which showed a three-factor scale with fifteen items similar to Tsai *et al*'s original scale in terms of

Table 3. Correlation between inpatients demographic variables and the scale of patient-perceived empathy from nurses (n=285)

Empathy / Variable	Nurses' expressions Mean (SD)	Patients' feedbacks Mean (SD)	Patients' expectations Mean (SD)	Overall empathy Mean (SD)
Gender				
Male (n=119)	4.35 (1.4)	4.88 (1.4)	5.23 (1.5)	4.82 (1.3)
Female (n=166)	4.65 (1.2)	5.1 (1.3)	5.55 (1.1)	5.1 (1)
T value	1.68	1.25	1.85	1.78
p-value	0.09	0.21	0.06	0.07
Age				
<45 (n=139)	4.68 (1.3)	5.22 (1.4)	5.65 (1.3)	5.19 (1.2)
≥ 45 (n=146)	4.36 (1.2)	4.82 (1.1)	5.19 (1.2)	4.79 (1.1)
T value	1.94	2.56	2.77	2.61
p-value	0.053	0.025	0.006	0.01
Education				
Illiterate (n=72)	3.99 (0.8)	4.33 (0.7)	4.6 (0.4)	4.31 (0.5)
Basic (n=101)	4.7 (1.2)	5.21 (1.4)	5.42 (1.4)	5.1 (1.2)
Middle (n=65)	4.72 (1.3)	5.4 (1.3)	6.16 (1.6)	5.48 (1.7)
Higher education (n=47)	4.95 (1.9)	5.57 (1.9)	6.33 (0.8)	5.56 (0.9)
F value	6.59	10.4	24.52	15.41
p-value	p<0.001	p<0.001	p<0.001	p<0.001
Total	4.52 (1.29)	5.02 (1.35)	5.42 (1.3)	4.98 (1.18)

Table 4. Mean and standard deviation of inpatients 'perceived empathy from nurses based on ward (n=285)

Items	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	p-value
Inpatient ward	internal	surgery	gynecology	pediatrics	others	
Nurses' expressions	4.07 (1.4)	4.54 (1.5)	4.81 (0.8)	4.71 (1.3)	4.52 (1.2)	0.12
Patients' feedbacks	4.46 (1.7)	5.22 (1.6)	5.34 (1.05)	5 (1.3)	5.09 (1.1)	0.05
Patients' expectations	5.02 (1.6)	6.05 (1.1)	5.43 (1.2)	5.29 (1.4)	5.43 (1.1)	0.02
Overall empathy	4.51 (1.4)	5.27 (1.2)	5.2 (0.9)	5 (1.3)	5.02 (1)	0.059

Table 5. The frequency distributions of the scale of patient-perceived empathy from nurses (n=285)

Items	Poor	Average	Good
Nurses' expressions	44 (15.4)	130 (45.8)	111 (38.8)
Patients' feedbacks	18 (6.2)	144 (50.4)	123 (43.3)
Patients' expectations	12(4.6)	118 (41.2)	155 (54.2)
Overall empathy	12 (4.6)	135 (47.1)	138 (48.3)

constructs (9). A study by Tsai *et al* on patients' perceived empathy of nurses indicated a three-dimensional scale including factors of nurses' expression (F1), patients' feedback (F2), and patients' expectations (F3) that justified 63.7 percent of the variance (9). In this study, also, factors were labeled similar to the original study conducted by Tsai *et al*.

According to findings of the present study, the mean of patient perceived empathy from nurses was at upper intermediate level (m=4.98) (7 point Likert scale). This finding is close to the results of Tsai *et al*'s studies (9) who reported the mean score of SPPEN to be 4.4 (5 point Likert scale); in their scale, empathy level was slightly more than the present study.

Results of the present study in the context of dimensions of perceived empathy from nurses showed that inpatients' scores on nurse expression dimension were at intermediate level (m=4.52) and 38.8 percent of patient considered this dimension favorable from viewpoint of perceived empathy. This dimension is related to understanding of patients feeling, willingness to listen to their opinion, and solving their problems. The patients expressed that nurses may show unwillingness and reluctance regarding inpatients' problems. Various factors could have an effect on nurses' empathy. Elayyan *et al*'s study on" Factors affecting empathetic patient care behavior among medical doctors and nurses" revealed that three factors have affected empathic behavior during care process including personal and interpersonal, organizational, and demographic factors (15). In the context of organizational variable, burnout, high workload, and less organizational support have been mentioned as barriers of empathy and training workshops were introduced as facilitators in developing empathy. Inappropriate role modeling and patients' behavior as barrier, and informal experimental learning as facilitator were personal and interpersonal factors affecting empathy (15). Results of Choi's study showed that factors of promoting empathy included respect to patient, contact with patients, and having communicative skills (20).

In work environments of Iran hospitals, emotional exhaustion, and high workload (21), less personal success (22), extended work shifts (23), and low motivation of staff might have influenced nurses' expression of feelings and attention toward patients. Plus, high workloads can negate the effect of training workshops as facilitators in development of empathy and empowerment of nurses' communicative skills (24).

In the present study, the mean score of patients' feedback dimension was at upper intermediate level (m=5.02) and 43.3 percent of patients reported favorable perception of empathy in this case (Table 5). This dimension includes patients' expression of their feelings (Particularly negative emotions) and their feedback on critical situations to nurses. More than three fourths of patients (77.5-78.7 %) informed nurses of their critical situations and emergent conditions. This finding indicates favorable nurse –patient relationship. This finding is in alignment with findings of Tsai *et al* (9). In study of Tsai *et al* in Taiwan, 72.6-73.6 percent of patients were willing to talk about their emergent conditions (9). Different factors may play role on patients' feedback to nurses. The study conducted by Bayne *et al* on comprehensive model of optimizing empathy revealed that lack of managerial support from nurses and high workload decrease empathy toward patients, and reduce energy for showing empathy. In addition, burnout, emotional exhaustion, and lack of proper sleep would have decreased empathic behavior of nurses. On the other hand, experienced nurses manifested better empathy (25).

In the present study, the mean score of patients' expectations dimension was at upper intermediate to high level (m=5.42) and 54.2 percent of patients reported favorable perception of empathy in this case (Table 5). This dimension includes understanding of patients, listening patiently to inpatient questions, and requesting help from nurses. Majority of patients (75 percent) agreed that nurses understood their expectation and needs, and listened to their request.

Also, the findings of the present study in the context of association between empathy and demographic variables of patients indicated that the difference observed at the mean score of overall empathy was statistically significant on the base of age and education characteristics ($p<0.01$), but gender of patients had no effect on their perceived empathy (Table 3). Moreover, inpatient ward variable may have been influential on patients' feedback and patients'

expectations dimensions. There were significant differences in the mean score of empathy in these dimensions so that inpatients in gynecology ward had given better feedback to their nurses (m=5.34) and inpatients in surgery ward had the highest expectations from nurses (m=6.05) (Table 4); this finding indicates female patients' satisfaction with nurses. The findings of the present study in the case of ward variable are close to the results of Tsai *et al*'s studies (9). In the mentioned study, difference of overall empathy mean score was significant in terms of inpatient wards (Surgery, internal medicine, and ICU) (p=0.023) (9). On the other hand, in a study by Ghaedi *et al*, no significant differences were found based on demographic variables (age, gender, and education) (11).

Conclusion

The findings of the present study indicate that the mean score of inpatients' perceptions of nurses' empathy was at upper intermediate level. Moreover, inpatients had high expectation from their nurses during care process though inpatients' perceived empathy from nurses was at intermediate level; in other words, nurses might have spent little time on understanding patients' feelings, listening to their opinions, and solving their problems. According to the findings and the positive effects of empathy on patients' treatment and recovery (26), nurses' empathy and their communicative skills must be promoted and policy-maker should provide training workshops for nurses in the context of empathy development and quality improvement of hospital services.

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