

Nurses–patients interaction model and outpatients’ satisfaction on nursing care

Abstract

Background: The interaction between nurses and patients is one of the most important factors influencing patient’s satisfaction as an indicator of nursing care quality. There were still a number of unsatisfactory on nursing care and on health information according to outpatients’ responses.

Objectives: To analyze the nurses and patients interaction using “Cox’s Interaction Model of Client Health Behavior” related to outpatient’ satisfaction on nursing care.

Methods: This research used cross-sectional design. Two hundred and ninety-five (295) outpatients participated in this study. This study was conducted at two outpatient departments with the highest average visit per year which are medical and surgical outpatient departments. The modified PSNCS (Patient Satisfaction with Nursing Care Scale) is the instrument used to gain interaction model and NSNS (Newcastle Satisfaction to Nursing Scale) is used to find outpatient’s satisfaction. Pearson correlation is used for data analysis.

Results: Patient’ Satisfaction is at moderate level (mean = 33 in range 12-60). Nurses-patient’s interactions were also rated in moderate level (M=49.5 in range 20–80). The results consist of four elements that are affective support (Mean= 12.81), decision control (Mean= 12.64), professional-technical competencies (Mean= 12.39), and health information (Mean= 11.66). This study shows a significant relationship between nurses and patients interaction through patient’s satisfaction on nursing care of outpatient (p=0.0001).

Conclusion: This study concludes that the higher interaction during nursing care between nurses and patient, the higher outpatient’s satisfaction will be. As the implication, nurses are expected to have more interactions during the nursing care to increase patient’s satisfaction.

Implications for nursing and health policy: Improving the interaction between nurses and patients may achieve patient satisfaction and excellent service in the hospital especially in nursing care. Focusing on interaction can improve healthcare system overall and lead patient’s satisfaction through the hospital services.

Keywords: Cox’s interaction model of client health behavior, outpatient’s satisfaction, nursing care

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Background

Nursing services are one of basic services in the hospital. Nurses are medical staffs who take an important role as a frontliner to serve the patients, as well as spending the most time with the patient.¹ According to Alligood & Tomey² nursing care is given in line with the effective interaction between nurses and patients, in order to achieve the improving of health status or the condition of a patient. In the role of nursing care, nurses help patients regain their health through the healing process. Nurses focus on the patient’s health care need as a whole, including the efforts to restore the health of the emotional, spiritual and social.³ In addition, in its role as nursing care, nurses have to pay attention to the basic needs of human needs through the nursing process that includes: doing an assessment, making a nursing diagnose, making a nursing care plan, doing the implementation and recording an evaluation.⁴ Nursing is a reflection of health services that affects the health system globally that needs to provide the high-quality care to the patient.⁵ Nursing care is included in inpatient

and outpatient care that have been studied related to the patient’s satisfaction.⁶

Outpatient department is a part of the hospital services that acts an important role in hospital imaging. According to Naidu⁷ there were various aspects which affect patient’s satisfaction in health care quality, including in outpatient department as one of the hospital healthcare system. Quality of health services in Outpatient Departments, especially nursing care, has a Minimum Standard of Services according to Indonesian Ministry of Health. It was mentioned that patient’s satisfaction should be greater than 90% (Ministry of Health in Indonesia). Nursing services are performed by nurses in a hospital, both in inpatient and outpatient department. Therefore, study between patient satisfaction at inpatients and outpatients should be balanced. In fact, outpatient is also needed to assess including patient’s satisfaction of nursing services received. A study by Lopes et al.⁸ mentioned that outpatient’s satisfaction depends on how their expectations and needs through the nursing care given by

nurses. Another study of Chahal & Mehta⁹ shows that the dimensions of nursing care such as the availability of nurses in times of need, physical and psychological support, caring attitude, and the provision of health information greatly affect patient's satisfaction.

According to Potter et al.⁴ outpatient's nurses take a role in providing nursing care with direct contact to the patient including: anamnesis of medical history, physical examination, preparation and assistance when action procedures appropriate diagnosis of the disease, in collaboration with other healthcare workers, recording and reporting (documentation), as well as counseling (health education) and the provision of adequate information. Nurses give the intervention to the patient and lead the perception of the patient about the nursing care quality.¹⁰ Patient's satisfaction depends on how the provision of information about the illness and how nursing care provided by the nurse.¹¹ Additionally, the attitudes and interactions of nurses in providing nursing care to the patient will determine the level of patient's satisfaction on the quality of services.¹² Senarath et al.¹³ in their research on patient satisfaction with nursing care which were carried out in one of the government hospitals in Sri Lanka revealed that 81.8% of patient's satisfaction predominant look is when the interaction is called "interpersonal care" by nurses to the patient. In addition, it revealed that 89.7% of patient satisfaction is influenced by the ability of nurses in nursing care.

There are many factors related to the patient's satisfaction.¹⁴ Some studies have also been associated with patient's satisfaction with the quality of hospital services, particularly nursing services. A study by Brooks-Carthon et al.¹⁵ states that in addition to the characteristics of the hospital itself, patient satisfaction will include in improving the quality services. Aiken et al.⁵ said that the consideration of nursing is very important to improve the quality of care and patient's satisfaction in hospitals. Sareong & Yusran¹⁶ revealed that the procedures of services provided by health workers in outpatient clinics, including nurses, are related to the level of patient's satisfaction with nursing care. Based on a preliminary survey conducted in at Outpatient Departments of Government Hospital Dr. Achmad Mochtar Bukittinggi through the results of observations and questionnaires by 66 patients in some outpatient departments about patient satisfaction to nursing service as a whole, it was obtained that there were still a high number of patient's dissatisfaction. There were 29% of patients stated less satisfied in terms of a physical examination conducted by the nurse. In addition, there were still a number of fewer satisfactions of patients about the nursing care given. Complaints are also expressed by 23% of the patients.

It corresponds to the element of interaction in the model "Interaction Model of Client Health Behavior" developed by Cox,¹ namely the affective support, nurses competency, provision of health information and control of decisions as an important element for the achievement of patient's satisfaction. Tang et al.¹ used the interaction of elements in this model to measure patient's satisfaction.

Cox's Model can be inferred as;

i. Affective support: means that the attitude or support of the nurse to the patient's emotional condition. It is shown by the nurse's communication, caring, respecting and nurse's attention to the patient in providing professional nursing care. The nurses should be very attentive to the patient, use therapeutic communication, smile while doing the assessment, and give a touch to strengthen and motivate the

patient so that patients feel safe when receiving treatment.

ii. Nurse's competency: Is the ability to perform tasks seen from the patient's perception as they demonstrate their performance. Nurses have to be able to implement comprehensive and accurate nursing assessment of individuals and groups in various settings. It was mentioned by Taylor, that the success of health services is influenced by the role of nurses in providing quality nursing care to patients.

iii. Provision of health information: providing information on the health and diseases, including the health condition of the patient and the way of care and prevention. Provision of adequate information to patients about the condition of the disease clearly will determine whether the patient is satisfied with the services provided by the nurse.¹¹

iv. Decision control: this means that the patients are involved in the decision to be taken about the action required for their condition. Nurses help patients, either individuals or groups in making decisions based on the information they have to achieve their health improvement Mathews et al.¹⁸ This decision control element is an important part of patient's satisfaction.

Based on the explanation above, affective support by nurses, nurses competency, providing health information and facilitate the decision control to the patient are directly related to the process of nursing care. Nursing care is also valuable as the nurse-patient interaction. Nursing care as a nursing performance will lead the patient satisfaction.¹⁸ In their research also confirmed that nurses are the key points in the creation of patient's satisfaction. It can be inferred that patient's satisfaction depends on how nurse reacts to patient's illness, through how nurse does the intervention, and how nurse provides information about patient's health. "Interaction Model of client health behavior" by Cox¹ will describe how nurse-patient interaction in order to gain the satisfaction of care as an element of health outcome. In addition, improving working environment of nurses will increase patient's satisfaction on nursing care at the hospital, especially in outpatient departments.¹⁹

Methods

Research design

This study was conducted as a descriptive correlation with the cross sectional survey. Questionnaires were used to collect data.

Sample and setting

The numbers of samples were 295 outpatients who are recurrent patient or seeking treatment prolonged to the Hospital Dr. Achmad Mochtar Bukittinggi as the biggest government hospital in West Sumatera. Purposive sampling was used to take all the outpatient. Data were collected in two outpatient departments, which were Medical Outpatient Department (152 respondents who meet the inclusion criteria) and Surgical Outpatient Department (143 respondents who meet the inclusion criteria) during the period of May to June 2015. In addition, both of the outpatient departments have more interaction between nurses and patients, in terms of physical examination and treatment procedures. Patients who visited the hospital for the first time were not included in the criteria because they have never interacted with the nurse overall.

Instrumentations

The modified PSNCS (“Patient Satisfaction with Nursing Care Scale”) is the instrument to gain interaction model and NSNS (Newcastle Satisfaction to Nursing Scale) is used to find outpatient satisfaction.

Patient satisfaction questionnaire

This instrument contains an overview level of patient satisfaction with nursing care provided by nurses in an outpatient based instrument of “Newcastle Satisfaction to Nursing Scale (NSNS)”. The NSNS is used to differentiate care unit and patient group's inexperience on patient satisfaction with nursing care.²⁰ This instrument has been used in the baseline survey of the development of Career Nursing in collaboration with the Ministry of Health and JICA of Japan based on Hariyati²¹ This instrument has been previously tested for validity and reliability with a value of 0.52 to 0.794 of validity and reliability with $r=0.956$. In this study, reliability test showed cronbach alpha in range 0.363 to 0.710. Ratings for each statement in the form was ranging from “1” (Completely Dissatisfied), “2” (Almost Not Satisfied), “3” (Quite Satisfied), “4” (Very Satisfied), “5” (Totally Satisfied).

“Cox's interaction model of client health behavior” questionnaire

Tang et al.¹ has developed an instrument based on an “Interaction Model of Client Health Behavior” in one of the government hospitals in Kuala Lumpur Malaysia. Validity and reliability of this instrument have been made at the Alpha's Cronbach 0.85 greater than the alpha coefficient of 0.70, so the questionnaire was declared reliable. In this study, cronbach alpha range in 0.945 to 0.946 also greater than the alpha coefficient of 0.70. This instrument consists of factors related to the patient's satisfaction through communication, the competence of nurses, and the provision of adequate information. The instrument consists of 20 statements about the interaction element. This instrument is called the “Patient Satisfaction with Nursing Care Scale” (PSNCS) which were assessed in 4 point used Likert Scale defined as “1” (Strongly Disagree), “2” (Disagree), “3” (Agree), “4” (Strongly Agree). Statements for Affective Support by nurses in question number (1,2,3,4,5), the competence of nurses in (6,7,8,9,10), providing information on the number (11,12,13,14,15) and control decisions on (16,17,18,19,20).

Ethical considerations

The study obtained an approval in Andalas University Research Division as sign in a letter No. 819/UN.16.S2/PL/2015. Furthermore, the study has approval letter that used by researchers as an attachment in a permit application to the Director of Hospital Dr. Achmad Mochtar Bukittinggi. This research was conducted by observing the principles of ethical consideration. In collecting data, all respondents gave informed consent to keep the legal rights for confidentiality and anonymity. Then, the respondents who fit the inclusion criteria were given an explanation on how to answer the questionnaire and were coded without identifying persons who completed it.

Data collection and analysis

The questionnaires from all respondents were collected and subsequently analyzed. Data were entered into the software “Statistical Package for Social Sciences” (SPSS) version 16.0 to be analyzed.

Data were analyzed using descriptive statistic for respondent's characteristic, spearman correlation for relationship analysis on each variable and linear regression for knowing the most influencing variable over all.

Results

Patient's demographic characteristics are shown in Table 1. Almost half of the respondents (48.1%) were in an average age of 46 years old; more than half of respondents (57.3%) were female and had high school education (48.1%).

Table 1 Demographic characteristics (n=295)

	n	(%)
Age, Mean (SD), year	34	(2.7)
(17-25)	33	(11.2)
(26-35)	53	(18)
(36-45)	67	(22.7)
(46-60)	142	(48.1)
Gender		
Male	126	(42.7)
Female	169	(57.3)
Education Level		
Elementary	31	(10.5)
Junior High School	48	(16.3)
Senior High School	142	(48.1)
Bachelor's degree	74	(25.1)
Job		
Civil Servant	52	(17.6)
Entrepreneur	91	(30.8)
Farmers	25	(8.5)
Housewife	88	(29.8)
Student	12	(4.1)
Private Job	27	(9.2)

Table 2 showed the results of research about four element on Cox's Model gathered from the respondents and how their stated the satisfaction level. The average value of a composite element of the nurse-patient interaction model is 49.5 (95% CI 48.63 to 50.35), with the lowest mean scores were obtained by item providing health information (11.66) and the highest mean scores at (12.81) refers to affective support. It also can be seen from the lowest mean scores for each element obtained by item 13 ‘I receive very useful information about my illness’ which was related to the ‘Provision of Health Information’ element. The result for patient's satisfaction showed the mean of 33 which indicates that 68.5% of outpatients express satisfaction with the nursing services are at a moderate level (quite satisfied).

Table 2 Subscale scores for PSNCS for nurse-patients interaction model and NSNS for patient satisfaction

Variable	a	b	F(%)	Mean (SD)	Range (95%CI)
Interaction Model of the nurse-patient (PSNCS)-Cox's Model				49.50 (5.61)	48.63 – 50.35
Element 1: Affective Support	1			12.81 (1.88)	12.59 – 13.03
1. Nurse is very concern to me		1		2.90 (0.314)	
2. The nurse appreciates me when doing assessment		9		2.52 (0.507)	
3. The nurse smiled while doing assessment		10		2.47 (0.520)	
4. Nurses give a touch to strengthen and motivate me		13		2.40 (0.498)	
5. I feel safe during nursing care		8		2.53 (0.507)	
Element 2: Nursing competency	2			12.39 (1.86)	12.17 – 12.60
6. Nurses have expertise in doing examinations		4		2.74 (0.446)	
7. Nurse looks very expert in doing assessment and intervention		16		2.30 (0.466)	
8. Nurses are not late in providing nursing services		15		2.37 (0.504)	
9. The nurse asks for my consent before performing the treatment procedure		7		2.55 (0.518)	
10. Nurses are very professional in performing nursing procedures		11		2.42 (0.502)	
Element 3: Provision of health Information	4			11.66 (1.81)	11.45 – 11.87
11. Nurse answers my question with the correct explanation		5		2.70 (0.467)	
12. Nurses provide information related to my illness		18		2.27 (0.477)	
13. I received very useful information about my illness		20		2.20 (0.423)	
14. I receive useful information about my home care		19		2.21 (0.435)	
15. The nurse explains the care procedure first		17		2.27 (0.477)	
Element 4: Decision of Control	3			12.64 (1.89)	12.42 – 12.85
16. Nurses involve me in the nursing care provided		3		2.81 (0.307)	
17. Nurses involve my family in nursing care		12		2.41 (0.507)	
18. Nurse gives me support and motivation		6		2.59 (0.520)	
19. I can make the best decisions for my health		14		2.39 (0.489)	
20. The nurse gives me privacy		2		2.89 (0.377)	
Patient satisfaction (NSNS)				33 (3.77)	32.57 – 33.44
Dissatisfied			78 (26.4)		0-31
Quite Satisfied			202 (68.5)		32-36
Satisfied			15 (5.1)		≥37

a=Element ranking, b=item ranking

Table 3 Linear regression results of nurse-patient interaction model (independent variable) and patient satisfaction (dependent variable)

Nurse-patients interaction model	R	R ²	SE	Coefficient β	95% CI	p value
Affective Support	0.543	+0.294	0.132	0.418	+12.59 to +13.03	0.0001*
Nursing Competency	0.500	+0.250	0.152	0.420	+12.17 to +12.60	0.0001*
Provision of Health Information	0.365	+0.133	0.121	0.160	+11.45 to +11.87	0.0001*
Decision Control	0.304	+0.092	0.106	0.105	+12.42 to +12.85	0.0001*

*p < 0.05

The perceptions of nurse-patients interaction model (four elements) and patient satisfaction were compared. The regression model shows the positive correlations between patient's satisfaction and affective support ($R^2=+0.294$, $p=0.0001$), nursing competency ($R^2=+0.250$, $p=0.0001$), provision of health information ($R^2=+0.133$, $p=0.0001$), and decision control ($R^2=+0.092$, $p=0.0001$). In addition, the value of $r=0.543$ as the highest value refers to affective support, which means that the relationship of the affective support as a nurse-

patient interaction model with outpatient satisfaction shows a strong relationship (range 0.51-0.75=strong relationship). The value of the determinant coefficient (R^2) was 0.294 which means that the affective support could explain the patient's satisfaction of 29.4%. This means that the better of affective support shown by a nurse, the higher of patient's satisfaction is. It can be inferred that affective support becomes the most dominant factor affecting patient satisfaction among others.

Discussion

Interaction model based on “Interaction model of client health behavior” according to Cox was composed of several elements related to patient satisfaction as a result of interaction with a nurse as a nursing caregiver. This element consists of nurse affective support, nurse competence, information giving, and control over decisions. If these four elements show a significant relationship, then this interaction model will also show a significant relationship with patient's satisfaction. Kutney-Lee et al.¹⁸ said nurses' working environments have been improved, also nurse staffing, so that can it lead to patient's experience and quality of health services including a perception of satisfaction by patients them self. Mortazavi et al.²² revealed that the better understanding of patient behavior and their medical needs, in general, would satisfy patients on services which are already provided. The result showed that the average patient's satisfaction score was 33. This value stated that the average of patient's satisfaction score showed that patient's satisfaction was only 68,5% to nursing care in outpatient department. Minimum Service Standard according to MOH in Indonesia (2008) revealed that patient's satisfaction in outpatients department should be more than 90%. Based on the results of research, it can be seen that patient's satisfaction on nursing service in outpatient department is still less than 21,5% from hospital minimum service standard.

Statement of respondents who are on the moderate level of satisfaction illustrated that patients in outpatient departments at Government Hospital Dr. Achmad Mochtar Bukittinggi have not been fully satisfied with the provided nursing care. A study by Tateke et al.²³ showed that there were significant differences in the public and private hospitals about outpatient's satisfaction. Only about 18% of patients in public hospitals are very satisfied with the services provided. While 47.9% of patients were only satisfied with a slightly higher proportion than in private hospitals. The determinants of satisfaction are in the expectation of the service, the adequate information provided, as well as the technical competence of the nurse.²⁴ The better of interaction by nurses and patients during the nursing process, the higher of satisfaction is. According to the research, the satisfaction felt by patients treated the way was minimized due to the interaction of nurses who have not been effective during nursing care. Another research by Sharma & Kamra²⁵ said that measure satisfaction can be achieved on such three dimensions of nursing care as caring for the patients (interpersonal), nursing technical skills, and education to the patients.

Mathews et al.¹⁷ implied in the nursing care that the interaction based on the model can improve patient's health status. In addition, this will increase patient's satisfaction with the services provided by the nurse. Various studies were conducted to see how the interaction model based on the interaction of client health behavior affects patient's satisfaction. Nurse-patient interaction is an important part of an optimal nursing process. Wagner et al.²⁶ support Cox's statement on this patient-nurse interaction model. He said that nurses interacted with patients by supporting and involving patients in treatment will motivate patients to participate in the learning process and achieve greater satisfaction with their care. Good interaction will affect the level of patient's satisfaction in nursing services provided by nurses.

As a dominant factor, affective support which related to Quality-Caring Model can be implemented in clinical practice.²⁷ Based on a study conducted by Tussing,²⁸ it revealed that affective behavior of nurses is important in the quality of service. It appears that patients expected a good, polite, and friendly service, patient-sensitive,

communicate effectively and respond to patient complaints. Judging from the strong relationship and positive directional, our findings can be stated that the higher the affective support of the nurse to the patient while interacting with the nursing service, the higher the patients' satisfaction will be. In another hand, an effective nursing intervention program by the nurse to achieve patient's satisfaction can be done in the form of training on respect and be caring for patients in order to show courtesy of care provider.²⁹

Variable of nurse's competencies was also related to patient's satisfaction. These competencies can be performed in patient care procedures, including good assessment techniques, nursing interventions performed in accordance with the disease as well as an understanding of the actions given to the patient.³⁰ Patient's satisfaction will appear along with nurse competencies.³¹ Sareong & Yusran¹⁶ revealed that the service procedures provided by health workers in outpatient department, including nurses, are associated with the level of patient's satisfaction on nursing care. It was an important part that the nurses must be a caring person to the patient even it should be with some training such as communication skill.³² Beside that, a cultural competence will also needed by nurse in improving the patient's satisfaction especially on how nurse understanding the culture communication.³³ Communication is the essential things of nursing care.³⁴ Regarding the relationship, our findings can be stated that the higher of the nurse's competence, the higher the outpatient's satisfaction will be. This shows that the competence of nurses contributes in determining patient's satisfaction in nursing service.

Our findings show that both provision health information and decision control are at the lowest level in resulting relationship through the patient's satisfaction. The ability of nurses to educate patients will greatly affect patient satisfaction. Ham et al.³⁵ revealed that the availability of clear health information by nurses will affect patient's satisfaction with the services of a hospital. Patients who achieve proper health information about their illness are expected to have preventive actions that can be done related to their illness.³⁶ There are many factors influence the provision of health information in a nursing care. Nevertheless, the provision of health information is an important element in the process of nursing outpatient care.³⁷ The patients will tell their satisfaction when the nurse correctly and clearly provides the health information they need in the form of information about their illness and how their care at home.³⁸

Furthermore, more active and clear health information given by nurse will make patient feel comfortable with their chosen treatment. Nurses help patients, either individuals or groups in making decisions based on the information they have to achieve their health status. According to Mathews et al.¹⁷ decision control can be said to be a nurse-patient interaction relationship during hospitalization. Patients who are given the flexibility in choosing the best treatment will improve the coping and positive image during treatment.³⁹ This is related to the further treatment that will be obtained. Nurses involving patients and families for the treatment and treatment process will make patients feel appreciated and comfortable during the treatment. This will certainly increase patient satisfaction. Thus, it can be concluded that decision control in nurse-patient interactions affects patient's satisfaction in nursing care. As nurses, patient-centered care is the process of reconciling the dimensions of caring on achieving patient's satisfaction.⁴⁰

Limitations of the study

The process of this study certainly has its limitations. Researchers,

in this case, is very aware of the limitations of this study is caused by several factors, one of them is the study design. Limitations in quantitative research are especially measuring devices questionnaire. The instruments used with limited statement items were not optimal in quantifying model of nurse-patient interaction. This is because a questionnaire designed a modified PSNCS (“Patient Satisfaction with Nursing Care Scale”) that has been tested for validity and reliability by researchers. However, the use of previous questionnaires with different languages and different research groups may lead to the more optimal adjustment.⁴¹

Conclusion

This is one of the important study that explored the patient's perception about nursing care based on nurse-patient interaction to show their satisfaction. It can be inferred from this study that nurse-patient interaction model was at a moderate level (good enough). In addition, outpatient's satisfaction on nursing care was found to be at a quite satisfactory level. Affective support was a dominant element on Cox's model which was associated with patient's satisfaction. Nurses should be having a smile, a touch, and attitude caring demonstrated during the interaction with the patient, thus it can increase patient's satisfaction. Nevertheless, there are still low scores in the provision of health information elements, which will affect patient satisfaction on nursing care. It can be inferred that the “interaction model of client health behavior” related to patient's satisfaction with nursing care. It shows a strong directly relationship, so that the higher interaction during nursing care between nurses and patient, the higher outpatient satisfaction will be.

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Conflict of interest

The author declares that there is no conflict of interest.

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