Changes in in-patient satisfaction with nursing care and communication at Debre Markos Hospital, Amhara region, Ethiopia

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Abstract: Background: Improving communication and collaboration between admitted patients and nurses can improve patient satisfaction and quality of care. Objective: To assess changes in in- patient satisfaction with nursing care and nurse's communication. Methods: The study was conducted at Debre Markos hospital from October 15 to December 17, 2009 using a quantitative pre and post cross-sectional study design. A total of 392 study subjects were included. Data were entered and analyzed using SPSS version 16.0 window. Multivariate logistic analysis was used to identify factors associated with patient satisfaction. Results: The results showed that overall 223(56.0%), 44(25.1%) in pre-intervention and 179(82.5%) in post- intervention were satisfied with in-patient service. There was significant difference in in-patient satisfaction before and after intervention. A total of 170(43.4%) patients, 56(32.0%) before intervention and 114(52.5%) after intervention, claimed that they had good communication with nurses and there was significant difference before and after intervention. Level of intervention, ward, nurses' communication, nurses' age and patient's age were determinants of patient satisfaction. Conclusion: The overall level of patient satisfaction was low and training was found to increase the communication of nurses with their patients. Therefore, in-service trainings on communication should be arranged for nurses by hospitals and the stake holders provide attention to trainings on interpersonal communication in order to increase nurses' communication capacity.

Keywords: *Satisfaction*, Communication, Intervention

1. Introduction

Patient satisfaction or dissatisfaction has been shown to be influenced by patient's expectations, their medical condition and health status, psychosocial variables, and characteristics of the treatment [1] [2]. Patient satisfaction has been associated with improved collaboration with health services and adherence with medical recommendations as well as with improved clinical outcomes and health status [3].

The quality of the interpersonal skill of physicians influenced patient satisfaction and recall more than the quantity of information and instructions that were provided. Treatment out comes are more favorable when patients feel they are active participants in care and that their problem has been discussed fully, when they feel encouraged to ask questions, when they feel emotionally supported and when they share their ideas or feelings in the treatment planning process [4].

There is also a great need for more information about the influence of the interpersonal skill of the nursing staff up on treatment, satisfaction and the result of treatment. In general studies have shown significance relationships between decreased nurse practice environment, nurse staffing levels, nurses' skill and increased number of adverse events or outcomes such as medication error, falls, and hospital acquired infections, pressure sores and mortality rates [5].

Other studies also shows that nursing care is an important newly identified organizational variable reflecting process in acute nursing care and appears to be directly linked to patient outcomes both negatively and positively [6] [7]. A

study done in Black Lion, St. Paulose, Zeweditu Memorial hospitals and a pilot survey in four hospital (Felegehiwot, Amanuel, Finoteselam and DebreMarkos) revealed that nurse communication and nurse's care were given lowest satisfaction rate [8], [9]. Patient satisfaction surveys measure the patients or the care givers opinion of the care received from nurses. Dimensions of nursing care commonly assessed in patient survey instruments include technical-professional capability, trust relationship &educational relationship [10], [11]. Patient satisfaction in hospital settings is also affected by several factors such as nursing care, medical care, health professional& patient communication, ward management& ward environment, patient socio-demographic, nurse's age [12]-[18]. Evidence of related literature revealed that communications are linkage between provider and patients and contribute to patients satisfaction[19] - [21], effective communication increased clinical competence [22]- [26], and helps patients' to develop confidence and successful self-care[27]-[31]. Patients satisfaction measurement tool should consider the Newcastle satisfaction with nursing scale (NSNS) covers most of the dimensions of patient satisfaction suggested quality of care and patients' view of the care [32], [33].

The objective of the study was to assess changes in in-patient satisfaction with nursing care and nurses' communication before and after intervention at Debre Markos Hospital.

2. Methodology

2.1. Study Area

The study was conducted in Debre Markos Zonal Hospital which is located in the North-West of Ethiopia, 300km and 265 km away from Addis Ababa. Debre Markos Zonal Hospital has a catchment's population more than 3.5 million people. There were 165 technical and 131administrative staffs. Out of 165 staffs, 60 of them were nurses. There are 5 In-patient wards (gynecological &obstetric, surgical, medical, pediatric and eye unit) with 127 hospital beds.

2.2. Study Design

A cross-sectional patient satisfaction survey before and after training of nurses was employed.

2.3. Study Period

The study was conducted from October 15 to December 17, 2009.

2.4. Sample size and Sampling Technique

The study period was determined by reviewing the previous six months in patient's morbidity hospital data showed that 5 to 12 patients were admitted and discharged in daily bases. The study population was all adult Patients who

were admitted to surgical, medical, and gynecological/ obstetrics wards and eye unit included in the study. The sample included for pre-intervention patients who were discharged from October 15 to November 15 and for post-intervention from November 17 to December 17, 2009, 177 & 217 study subjects were obtained respectively and this making the total sample size was 394.During study period a total of 5, 3 and 2 patients before and after intervention were excluded due to their serious illness and a total of 213 pregnant women ,114 and 99 clients who had spontaneous vertex delivery before and after intervention excluded in the study.**.** Patients who are critically ill, unable to respond and hospital stay less than 48 hours were excluded from the study because they may not give appropriate response for the questionnaire. The intervention addressed nurses' interpersonal communication skills and nursing care and the training was given to all nurses in four wards by communication experts.

2.5. Data Collection Tools and Quality Assurance

Data were collected using structured questionnaire, address the objective of the study, and was adopted from in the literature of Newcastle Satisfaction with nursing scale (NSNS).All items are scored on five point likert scale. The questionnaire was prepared in English first and translated to the local language, Amharic and again back to translation to English was made to ensure that the consistency of the question. Pretest was done on 5% of the sample size in the area different from the study area before actual data collection.

2.6. Data Analysis

Questions were coded and then data were entered and analyzing using SPSS Version 16. Frequency, cross tabulation and sort were checked for data quality management. Descriptive statistics was used to summarize data, tables and figures for display results .Bivariate and multivariate analysis was used to identify associated factors of patient satisfaction and the strength of association measured by 95% Confidence interval and P- value of 0.05 was used as a cut of point.

2.7. Ethical Consideration

Ethical clearance and approval was obtained from the Ethical review Committee of the College of Public Health and Medical Sciences, Jimma University. Permission was obtained from Debre Markose Zonal Hospital .Informed verbal consent was obtained from study participants. Confidentiality and anonymity were ensured.

3. Results

3.1. Socio-Demographic Characteristics of Respondents

From the total 394 study participants, 392 (175 pre-intervention and 217 post-intervention) were

participated making the response rate of 99.4%, whereas the remaining two(0.6%) excluded from the study due to data incompleteness during analysis. Socio-demographic characteristic of participants is presented in table 1.

Table 1. *Socio-demographic characteristics of participants at Debre Markos Hospital, Amhara region, Ethiopia, 2009.*

| Variable	Pre-intervention /n(%)/	Post-intervention/ n(%)/	Total/n(%)/
Age			
18-30	72(41.1)	85(39.2)	157(40.1)
31-40	29(16.6)	45(20.7)	74(18.9)
41-50	13(7.4)	22(10.1)	35(8.9)
51-60	19(10.9)	28(12.9)	47(12.0)
61-70	24(13.7)	26(12)	50(12.8)
>=70	18(10.3)	11(5.1)	29(7.4)
Sex			
Male	84(48.0)	85(39.2)	169(43.1)
Female	91(52.0)	132(60.8)	223(56.9)
Marital status			
Single	55(31.4)	48(22.1)	103(26.3)
Married	83(47.4)	132(60.8)	215(54.8)
Divorced	11(6.3)	10(4.6)	21(5.4)
Separated	26(14.9)	27(12.4)	53(13.5)
Residence			
Urban	66(37.7)	72(33.2)	138(35.2)
Rural	109(62.3)	145(66.8)	254(64.8)
Religion			
Orthodox	171(97.7)	210(96.8)	381(97.2)
Muslim	3(1.7)	3(1.4)	6(1.5)
Protestant	1(0.6)	4(1.8)	5(1.3)
Educational status			
Unable to read & write	95(54.3)	132(60.8)	227(57.9)
Able to read & write	22(12.6)	36(16.6)	58(1.8)
Primary	12(6.9)	9(4.1)	21(5.4)
Secondary	27(15.4)	16(7.4)	43(11.0)
Post-secondary	19(10.9)	24(1.1)	43(11.0)
Farmer	96(54.9)	129(59.4)	225(57.4)
Gov.t employee	23(13.1)	27(12.4)	50(12.8)
NGO employee	7(4.0)	3(1.4)	10(2.6)
Merchant	10(5.7)	17(7.8)	27(6.9)
Non-employed	8(4.6)	6(2.8)	14(3.6)
Others	31(17.7)	35(16.1)	66(16.8)
Ward			
Surgical	50(28.6)	48(22.1)	98(25.0)
Medical	63(36.0)	68(31.3)	131(33.4)
Gyn/Ob	22(12.6)	61(28.1)	83(21.2)
Eye	40(22.9)	40(18.4)	80(20.4)

*Others-students, house wife, house made, bar ladies

3.2. Nurses' Socio Demographic Characteristics

A total of 42 nurses were working in in-patient department of Debre Markos Hospital during the study period. Three fifths of nurses were females 26(61.9%), nearly three fourths 30(71.4%) were diploma in their educational status, and 34(80.0%) were below 35 years of age.
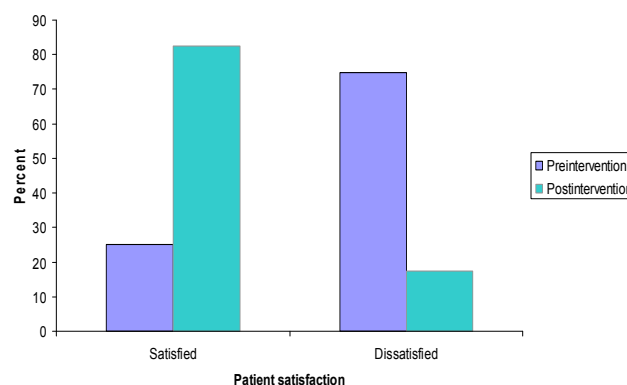
3.3. Nurses' Communication

The effect of training on inter-personal communication revealed that only 56(32.0%) of patients reported good communication before intervention, but the proportion who reported good communication after intervention increased to 114(52.5%). Overall, about two fifths of respondents 170(43.4%) claimed that there was good communication with the ward nurses (Fig.1).
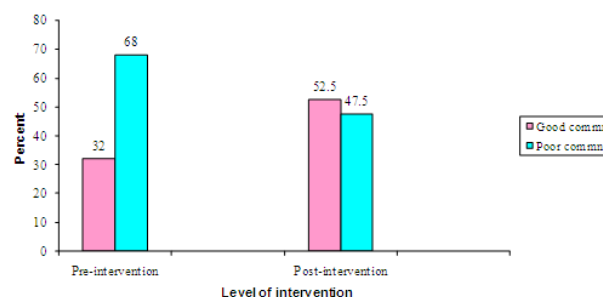
Figure 1. *Status of communication with level of intervention at Debre Markos Hospital, Amhara region, Ethiopia, January, 2009*

3.4. Level of patients' satisfaction

The level of patient satisfaction was changed from 44(25.1%) to 179(82.5%) by the intervention and it had statistically significant difference (Fig.2).

Figure 2. *Level of patient satisfaction in terms of intervention at Debre Markos Hospital, Amhara region, Ethiopia, 2009.*

3.5. Determinants of Patient Satisfaction

As shown in Table 2, intervention, communication, nurses' age, ward and patients' age were determinants of for the overall level of patient satisfaction. But when we have used separate analysis for level of patient satisfaction before and after intervention, different variables were obtained. The determinants for patient satisfaction before intervention were ward (AOR=3.25,95%C.I:1.9,5.7), patients' marital status (AOR= 2.0, 95%C.I:1.2,3.6) and patients' age (AOR=1.4,95%C.I:1.02,2.0). After intervention, the following variables were obtained in multivariate analysis; nurses' communication with patients (AOR=8.5, 95%C.I:3.4,21.2) and nurses' age (AOR=23.7,95%C.I: 3.6, 156.3). Those patients who were admitted and discharged after intervention were twenty one times more likely to be

satisfied with in-patient service than patients who were admitted and discharged before intervention (AOR=20.9;95%C.I: 11.1,39.6). Patients who had good communication with nurses were about four times more likely to be satisfied with in-patient service than patients who had poor communication (AOR=3.5,95%C.I:1.8,6.4). Patients who were served by nurses above 36 years of age were about three times more likely to be satisfied than patients who were served by nurses below the age of 35 years (AOR=3.1, 95%C.I:1.8, 7.6).

Table 2. Determinants of patient satisfaction at Debre Markos Hospital, Amhara region, Ethiopia, 2009.

Variable	Patient satisfied	Patient not satisfied	COR	AOR	P value
	N (%)	N (%)	95% C.I	95%C.I	
Intervention					
Pre-intervention	44 (25.1)	131(74.9)	1.0		
Post-intervention	179 (82.5)	38 (17.5)	14.0(8.6, 22.9)	25.7(12.9, 51.4)	*
Communication					
Good	111(65.3)	59 (34.7)	1.9(1.2, 2.8)	3.5(1.8, 6.4)	*
Poor	112 (50.5)	110 (49.5)	1.0		
Nurses' age					
<=35	139 (50.5)	136 (49.5)	1.0		
>=36	84 (71.8)	33(28.2)	0.4(0.25, 0.64)	3.1(1.1, 9.4)	0.048
Ward					
Surgical	45 (45.9)	53(54.1)	1.0		
Medical	54 (44.6)	77 (55.4)	0.83(0.5, 1.4)	0.76(0.34, 1.7)	0.5
Gyn/Ob	52 (62.7)	31(37.3)	1.98(1.1, 3.6)	1.72(0.69, 4.3)	0.23
Eye	72 (90.0)	8(10.0)	10.6(4.6, 24.3)	86.2(24.6, 302)	*
Patient age					
18-30	71(45.2)	86 (54.8)	1.0		
31-40	40(54.1)	34(45.9)	1.4(0.82, 2.5)	1.4(0.62, 3.2)	0.42
41-50	20(57.1)	15(42.9)	1.62(0.8, 3.4)	1.5(0.5, 4.6)	0.47
51-60	32(68.1)	15(31.9)	2.6(1.3, 5.1)	2.9(1.1, 8.1)	0.04
61-70	41(82.0)	9 (18.0)	5.52(2.5, 12.1)	7(2.3, 21)	0.001
>=71	19(65.5)	10(34.5)	2.3(1.5, 3.0)	4.5(1.3, 15.2)	0.02

* P value less than 0.0001

Adjusted for intervention, communication, nurses' age, ward, marital status, residence, patients' educational status, patients 'age and occupation.

4. Discussion

In this study, it was attempted to determine and identify the effect of training on interpersonal communication and patient satisfaction, level of patient satisfaction and determinants of patient satisfaction with in-patient service. Overall, the total number of discharged patients who reported that they were satisfied with the in-patient service was56.9%. The percentage of patients who reported that they were satisfied with in patient service before the intervention was 25.1% and after intervention it significantly increased to 82.5%. This finding is lower than a study conducted in Addis Ababa& Jordan where the overall rate of patient satisfaction was 72.8% and 77% respectively[8] , [14] but it is more or less similar to a study conducted in Scotland where only 50% of patients were satisfied [35]. One possible explanation for the observed difference could be the difference in socio-demographic characteristics of participants in the studies where 57.9% of respondents were unable to read & write in this study but 23% in Addis Ababa study[8]. Those participants who were unable to read & write were about 2 times more likely satisfied than participants who could read and write with in -patient service. The level of patient satisfaction with in-patient service before and after intervention was

significantly different. Patients who were admitted and discharged after intervention were about 26 times more likely to be satisfied than patients who were admitted and discharged before intervention. The effect of the training appeared to have increased the communication of nurses with their patients so that the level of patient satisfaction had increased dramatically. Nurses' communication with their patients was not determinant of patient satisfaction before intervention (P=0.8) but it became one of the determinant for patient satisfaction after intervention (P<0.0001).This difference might be due to the fact that the training enabled nurses to exchange information with their patients thereby allowing patients to ask their worries and this likely increased the level of patient satisfaction. This finding is similar with other studies where communication increases patient satisfaction [28] -[31]. In addition to the intervention, this study found that ward, nurses' age; patients' age and communication were also determinants of patient satisfaction with in- patient service. Admitted patients who were older in age reported more satisfaction with the service they were provided than younger patients. Patients who were older than 60 years of age were seven times more likely to be satisfied than patients who were between 18 & 30.This might be due to fair expectation of patients by understanding the condition of the health facility. This finding is similar to

other studies where patient satisfaction was found to be associated with increased patients' age[34], [36]. Those patients who were admitted to the eye ward were more satisfied than patients admitted to the surgical ward. This difference in satisfaction may be due to the difference in age of patients where 31.6% of surgical patients were above 50 years old but 88.7% of eye patients were above 50 years of age and regaining of their vision.

5. Conclusion

In this study, it was found that the general level of patient satisfaction was low but it has significantly increased after intervention. Training of ward nurses on inter-personal communication has brought significant change in in-patient satisfaction. The level of patient satisfaction has increased from 25.1% to 82.5% In addition to this patient's age, nurses' age, ward and communication were predictor of patient satisfaction. Therefore, hospitals and different stakeholders arrange in service training on interpersonal communication should be given for nurses to improve communication skills with patients and patients can forward the issue to the nurse , this lead to increased patient satisfaction.

Competing of Interest

The authors declare that they have no common competing interest.

Authors' contribution

ShegawA,TsionA,Challi J and Mayur M conceived and designed the study .Yeshiwork A supervised data collectors and data entry. ShegawA analyzed the data and interpretation the result. Shegaw A and Yeshiwork A prepared manuscript and critically reviewed the manuscript

Acknowledgements

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