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Improvement in Adherence to Ethiopian Hospitals Reform Implementation Guideline nursing standards in Asella Referral Teaching Hospital: A Pre-post Study

Tadesse DM
Demissie HF and
Segni MF

1 College of Health sciences, Department of Public Health, Arsi University, Asella, Ethiopia

Corresponding author:

Dagne Mulu Tadesse

 dagnemulutadesse@yahoo.com

PostNet Suite 427, Private Bag X37,
Lynwoodridge, 0018, South Africa.

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Abstract

Background: Nursing standards help to ensure that patients are receiving high quality care. The standards support implementation of the basics of nurses' profession. Despite the importance of nursing care standards, implementation of the standards is lacking in most of the developing countries, including Ethiopia. The objective of this study was to see Improvement in Adherence to Ethiopian Hospitals Reform Implementation Guideline nursing standards in Asella Referral Teaching Hospital.

Methods: A pre-post intervention measure of nursing care was conducted from January to August, 2013. A nationally tested and accepted instrument, the Ethiopian Hospitals Reform Implementation Guideline tool, was used to measure the performance on nursing standards and patient satisfaction towards care provided by nurses. The sampled patients were allocated proportionally for all wards in the hospital. Data related to patient satisfaction was collected consecutively through exit interview and nursing standards through observational methods. Data quality was controlled through supervision, translation, and training of data collectors. Completed data were coded and entered in to Epi-Data and exported to SPSS version 16. Odds Ratio with 95% CI and multiple logistic regression model were used and p-values with <0.05 were declared significant.

Results: A total of 768 adult patients and five head nurses were participated. The overall patient satisfaction score (pooled estimate) improved significantly from 0.147 to 0.615 pre and post intervention respectively. There was a statistically significant association between overall patient satisfaction level and improved adherence to nursing standards. Education and sex are important predictors of patient satisfaction.

Conclusion and Recommendation: Nursing service without Ethiopian Hospitals Reform Implementation Guideline nursing standards was low in Asella referral hospital. Applying problem solving and quality improvement techniques in nursing can be effective in enhancing patient satisfaction. Longer follow-up is required to assess the sustainability of the improvements accomplished.

Keywords: Ethiopian Hospital Reform; Implementation Guideline nursing standards; Patient satisfaction; Nursing care; Quality; Assela referral hospital

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Introduction

Avedis Donabedian defines the term standards as professionally developed expressions of the range of acceptable variations

from norm or criterion [1,2]. In nursing care, all standards of practice provide a guide to the knowledge, skills, judgment and attitudes that are needed to practice safely. They reflect

desired and achievable level of performance against which actual performance can be compared [3].

The establishment of nursing practice standards is essential for a self-regulating profession. The health professional act around the globe requires that standards of practice and code of ethics be adopted by a profession. American Nurses Association standard for practice [4,5], Canadian nursing practice standards [6] and Ethiopia Hospitals Reform Implementation Guidelines nursing standard [7] are some of the common examples of standard nursing practices adopted in response to the health professionals' act of respective countries.

Patient satisfaction is considered to be one of the direct outcomes of standard nursing care. There has been increasing interest in patients' satisfaction with nursing care in the past few Decades [8]. Patient satisfaction with nursing care is considered an important factor explaining patients' perceptions of service quality. Satisfaction is the psychological state that results from confirmation or disconfirmation of expectations with reality [9]. Consequently, a dissatisfied patient is not considered psychologically or socially well and thus the goal of nursing has been not attained [10]. It is important for nurses let patients to express their views of care and incorporate these views in to the provided care.

There is scarcity of data examining patients' satisfaction in relation to nursing care in developing countries. In Ethiopia, nursing care in relation to patients' satisfaction is one of the least researched areas. In this study, patient's satisfaction with nursing care is defined as the patient's opinion of the care received from nursing staff and is acknowledged as an outcome indicator of the quality of nursing care [5].

The Ministry of Health of Ethiopia has introduced the Hospitals Reform Implementation Guide line [7] as a strategy to improve quality of service provision. The strategy has been implemented as part of hospitals' reform in all public hospitals. This study was designed to assess adherence to the Ethiopian hospitals Reform Implementation Guideline nursing standards in Asella referral teaching hospital.

The baseline assessment of the implementation revealed that almost all of Ethiopian Hospitals Reform Implementation Guideline nursing standards key performance indicators were unmet; a system for coordinating and managing nursing staff was partially completed. This means out of the 8 performance indicators for nursing care standard, only one has been partially completed, resulting in an overall compliance rate of 12.5%. Correspondingly, the level of patient satisfaction that measured at the baseline survey (conducted in May 2013) was very low (14.7%).

Three years have been elapsed since the Ethiopian Hospitals Reform Implementation Guideline nursing care standards were developed in Ethiopia. Since then its impact on quality patient care was not assessed adequately. Therefore this study would serve as baseline on this direction and hence would be helpful for improving quality nursing care in the study setting and beyond.

Methods

Study setting: Asella Referral hospital is located in Oromia Regional state, Asella town 175km south east of Addis Ababa, capital city and established in 1971. The hospital is providing service for about 3.5 million people. It has 262 bed capacity distributed among major clinical department of Internal medicine, Surgery, Gynecology, Obstetrics and Pediatrics.

A pre-post intervention survey was conducted among 768 adult patients and five head nurses in Asella referral hospital. According to 2013 annual report 11,649 in patient discharges were recorded in this hospital.

Sampling: Two types of samples were determined for the purpose of this study.

For patient satisfaction, the sample size was determined using single population proportion formula, assuming the proportion of 50% for the level of satisfaction, with 5% marginal error and 95% confidence interval. Based on this calculation the total sample size was then, the total sample size was allocated proportionally to the all four wards departments according to the total number of beds in the wards of obstetrics & gynecology, internal medicine, pediatrics and surgery.

Data collection: Data were collected using structured questionnaires. The questionnaire was prepared in English and translated in to Amharic. Four voluntary staff members who were not involved in patient care were trained and involved in data collection.

Patients' satisfaction with nursing care was assessed using items on the Ethiopian national patient satisfaction survey that are relevant to nursing care and from review of literature. The resulting survey instruments were made to include the following eight items : (1) the frequency of nurses treat the patient with courtesy and respect, (2) the frequency of nurses listen to the patient carefully, (3) the frequency of nurses explain things to the level of patient understanding, (4) the frequency of nurses respond to the patient's call as urgently as possible (5) the frequency of keeping clean beds and bed sides (6) the frequency of time spent by nurses in bed side (7) the frequency of nurses explain to the patient about medication side effect before giving the new drugs and (8) the frequency of identifying nurses from other health professionals.

An exit-interview was conducted consecutively based on voluntary bases from the relevant wards for a period of three weeks in May 2013 and the same exit- interview was repeated in August, 2013 to evaluate post-intervention results.

In order to measure the overall satisfaction level, those study participants who responded to six out of nine items, that is over 60% were categorized as satisfied while those study participants who scored average and below 60% were categorized as unsatisfied (**Figure 1**).

Data collection tools: a questionnaire was developed from the Ethiopian Hospital Reform Implementation Guideline key performance indicators which were used as baseline measures of adherence to nursing standards and the same instrument was

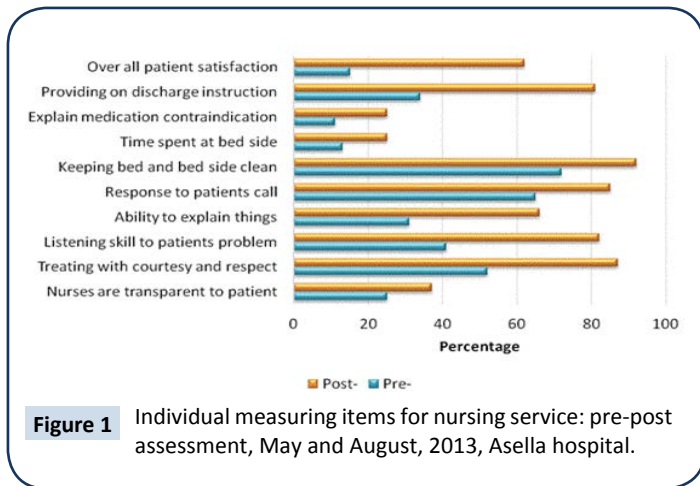


Figure 1 Individual measuring items for nursing service: pre-post assessment, May and August, 2013, Asella hospital.

repeated to see changes after the interventions. Furthermore during data collection in pre and post interventions phases, an observational checklist was used to identify met and unmet nursing standards. The original list of criteria for Ethiopian Hospital Reform Implementation Guideline nursing standards developed prior to the evaluation was used to create indicators for the evaluation study. Accordingly, each ward that was under evaluation was assessed for the presence of (a)Visible organizational structure indicating line of communication within nursing and organization at large (b)job descriptions for nurses and verify that they include responsibilities and reporting relationships (c) copy of nursing staffing plan and confirm this establishes nurse to patient ratios for the given ward (d) written policies that describe the nursing process and verifying: nursing admission assessment and nursing care planning , implementation and evaluation, and (e) inpatient records with complete nursing care plan and written guidelines for nurses’ verbal and written communication about patient care and written procedures for process of medication of administration and verifying the procedure addresses safety, proper administration, and administration authority.

The observation was made by a team composed of the researcher and nursing director. The baseline visit was carried out in January, 2013 and the evaluation visit was made in August, 2013. During the visit which lasted a total of two days, all head nurses from each ward were interviewed and clinical procedures were directly observed with patients. Records were also assessed, for example, in the baseline survey and during post intervention, ten inpatient records from each ward were selected randomly to evaluate whether or not the nursing process was complete. The value of (1) was assigned for met items and (0) for unmet items.

Data analysis: Data were cleaned and entered to the computer using EpiData statistical software and exported to SPSS version 16.0 for analysis. The analysis part consisted of descriptive statistics and multiple logistic regressions to test associations between dependent and independent variables.

Ethical clearance: An ethical clearance for the survey was obtained from ethical review committee of the School of Public Health, College of Health Sciences, and Addis Ababa University and Assela Referral hospital. Verbal informed consent was obtained from the respondents.

Results

Socio-demographic characteristics of the study participants

A total of 768 adults were approached during the pre-post intervention survey. The mean age of participants was 33.5 (SD=13.2) and 33.9 (SD=12.1) at the pre-post intervention assessments, respectively. Concerning gender, 60.2% and 66.7% of them were females in pre and post interventions respectively. On the other hand, among head nurses (n=5) who participated in this research, four of them were females and only one was male pre-post intervention assessment. In addition to these, about 63.6% of the participants had at least an educational level of elementary school and nearly half of the participants (52%) were rural residents (Table 1).

Ethiopian hospitals reform implementation guideline nursing care standards results

The level of Ethiopian Hospital Reform Implementation Guideline nursing care standards increased from One at the pre-intervention to 7 at the post-intervention (Table 2). The key Ethiopian Hospitals Reform Implementation Guideline nursing standard components such as: conducting nursing admission assessments for all new admitted patients and the tendency to perform complete nursing care plan were improved from nil at pre-intervention to 100% at post-intervention.

Table 1 Socio demographic characteristics of study participants Pre-post intervention assessment, Asella referral hospital May and August, 2013

Category	Pre	Post
Age(Years)	n=387	n=387
M(SD)	33.5(13.2)	33.90(12.1)
Gender		
Male	154(39.8)	129(33.3)
Female	233(60.2)	258(66.7)
Educational status		
Illiterate	141(36.4)	121(31.3)
Elementary(1–8)	103(26.6)	129(33.3)
High school(9–10)	65(16.8)	66(17.1)
Preparatory(11–12)	35(9.0)	34(8.8)
Diploma and above	43(11.1)	37(9.6)
Residence		
Urban	186(48.1)	184(47.5)
Rural	201(51.9)	203(52.5)
Ethnicity		
Oromo	262(67.7)	249(64.3)
Amhara	115(29.7)	128(33.1)
Others	10(2.6)	10(2.6)
Religion		
Orthodox	193(49.9)	216(55.8)
Muslim	169(43.7)	162(41.9)
Protestant	21(5.4)	9(2.3)
Others	4(1.0)	-
Total	387(100)	387(100)

Table 2 Observation with a favorable answer (yes) for EHRIG nursing standards during pre and post intervention, Asella referral hospital January and August 2013.

Topic of Questionnaire	Pre intervention	post intervention
The system for coordinating and managing	1	1
Job descriptions	0	1
Nursing work force plan	0	0
Written policy for nursing process	0	1
Nursing admission assessment	0	1
Complete nursing care plan	0	1
Nursing communication guideline	0	1
Medication guideline	0	1

Patient satisfaction results

The overall patient satisfaction score (pooled estimate) improved significantly from 0.147 to 0.615 pre and post intervention respectively. There was statistically significant association between improved Ethiopian Hospital Reform Implementation Guideline nursing standard and patient satisfaction (95% CI=0.456, 0.40, 0.54).

Furthermore, each individual measuring items of patient satisfaction was analyzed. The analysis reveals that there were highly statistically significant associations in most of the measured items. Treating patients as an individual, nursing listening skill to patients' problem, nurses ability to explain things to the level of patients understanding, nurses fast response to patients call, keeping bed and bed side table clean and providing on discharge instruction were among those that revealed statistically significant changes between results of the pre and post intervention evaluation (**Table 3**).

Discussion

The results of this study suggest that a statistically significant relationship exists between adherence in Ethiopian Hospitals Reform Implementation Guideline nursing standard and patient satisfaction before and after the intervention (14.7% pre-intervention and 61.5% post-intervention, $P < 0.001$). Several attempts were made to bring this significant change in nursing service in line of Ethiopian Hospitals Reform Implementation Guideline nursing standard. The interventions activities mentioned in this document were relatively with fewer costs. They require only better organizing and appropriately using the existing resources. During the preparation phase more time was given for discussion at deferent levels with different professionals in the hospital. The key personnel in hospital governing bodies like members of senior management team and key leaders in nursing department and senior nurses from the education area were approached. The objective of the project was discussed to them and their willingness to support the project was obtained. The information was disseminated to the rest of staff members through these people.

In a university hospital like ours, using instructors to support service providers in capacity building were strategically important.

For the success of this project they have contributed a lot. On job training particularly for middle level professionals was given to fill the gap usually seen in applying the nursing process. Nurses used the allocated hospital pooled budget. Due to the absence of separately settled budget for nursing department, the nursing share was not known by the nurses. They were underutilizing the hospital resources. This project enabled them to claim for appropriate resources needed to execute nursing activities.

Therefore, the major activities included in this intervention program were performed by using internal resources. The activities such as: creation of policy documents and conducting training, creating job descriptions, creation of policy and procedure and changing organizational structure, improving supply and enhanced human resource training and supervision were successfully accomplished. They were the causes for the success of this capstone project as evidenced by the improvement of patients' satisfaction.

In this study it was found that a simple set of interventions could be accomplished to significantly improve quality of patient care hence patient satisfaction. This supports the findings of Duffy [11] who reported that the more nurses were considered to be caring the greater was patient satisfaction. Many researchers around the globe like Wolf et al., [12,13,] and Zhang [14] have suggested that hospital organizational forms and operant mechanisms are likely to result in better patient outcomes, implicitly due to better nursing care.

One study [15] concluded that gender seemed to be unimportant in patient satisfaction, however, in this study, there were more female patients were satisfied than male patients. This is consistent with the study done in Addis Ababa at one time [15] but contrary to similar study done in Tehran [11] which reported higher satisfaction among males than females. The reason for female patients satisfied than male patients could be due to the better attention by the concerned governmental higher officials and the efforts made to make changes in the service delivery process particularly for laboring mothers to meet Millennium Development Goal, and this might result in attitudinal change of health workers towards female health care in general and laboring mother in particular. Furthermore laboring mothers are not asked payment for drugs and supplies.

When we look participants' educational status, illiterate patients have higher satisfaction. This is similar with Bekele [15] study in which less educated patients tended to have high satisfaction. One study has also found that those attaining higher educational level where not satisfied with their care [15]. The suggested reason for this difference could be due to higher expectation from the service providers which may not be found in real situation. Other possible reason may be, as people are educated more and more their capacity to evaluate events may increase, and resulted into satisfaction difference.

Concerning to participants age, in this study, no significant association was found between age group and patient satisfaction for nursing care. Different studies indicated that older patients are generally more satisfied than younger patients for nursing service. But contrary to these studies one study done in Addis

Table 3 Pre-post intervention patient satisfaction score of individual measuring items for nursing service, Asella referral hospital May and August 2013.

Measurement Tools	Pre	Post	OR(95%CI)	P-value
	Satisfied	satisfied	AOR	
Nurses are transparent to patients	95(24.5)	143(37)	0.117(0.059,0.175)	<0.001
Treating with courtesy and respect	201(52)	336(87)	0.347(0.279,0.415)	<0.001
Listening skill to the patients problem	157(41)	319(82.4)	0.407(0.339,0.475)	<0.001
Ability to explain things	119(31)	257(66.4)	0.347(0.276,0.418)	<0.001
Response to patients call	249(64.5)	329(85)	0.207(0.146,0.268)	<0.001
Keeping bed and bed side clean	277(72)	354(91.5)	0.660(0.605,0.715)	<0.001
Time spent at bed side	52(13.4)	96(25)	0.117(0.062,0.232)	<0.001
Explain medication contraindication	43(11.1)	98(25.3)	0.137(0.083,0.191)	<0.001
Providing on discharge instruction	130(33.6)	312(81)	0.497(0.427,0.567)	<0.001
Over all patient satisfaction	57(14.7)	238(61.5)	0.468(0.40,0.54)	<0.001

[15] indicated that age group 18 to 30 years old were fully satisfied compared to participants 61 years and above who were fully satisfied.

Consequently, several key lessons were obtained from this study. The implementation required two months of preparation; much of this time involved gaining support from staff who would promote the new ways. Initially, some nursing staff refused to participate, thinking that the new systems of nursing process cannot be implemented. Support from the hospital senior management and involvement of all nursing staff with substantial education were crucial to success.

Despite the difficulties and challenge, the findings of this study support that a well-planned and organized nursing system can improve adherence in nursing standards hence quality patient care. However, the findings of the study should be interpreted in light of its limitations. First, the same observation methods were used in the pre and post-intervention periods with the potential bias and may affect the conclusions. Second, the study was conducted in a single hospital and results may differ in other settings.

In conclusion, nursing service without Ethiopian Hospitals Reform Implementation Guideline nursing standards was low in Asella referral hospital. Applying problem solving and quality improvement techniques in nursing can be effective in enhancing the overall inpatient satisfaction and improve quality of nursing care. The approach was simple and inexpensive. Longer follow-up would be required to assess the sustainability of the nursing quality improvements accomplished.

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Authors Contributions

DMT participated in the conception of the study, Analysis and preparation of the manuscript. MTS and HFD participated in the analysis and preparation of the manuscript and edition of the document.

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