

# Determinants of patient satisfaction towards inpatient nursing services and its associated factors in, Gamo Gofa Zone, SNNPR, Ethiopia, April 2017

## Abstract

**Background:** Patient satisfaction is the perception of care received compared with the care expected and patients thereby evaluate the health-care services as well as the providers from their own subjective point of view. Patient satisfaction with nursing care is considered an important factor in explaining patients' perceptions of service quality.

**Objective:** To assess the level of Patient satisfaction towards inpatient nursing services and its determinants in Arba Minch general hospital Gamo Gofa zone, SNNPR, Ethiopia, April 2017.

**Methods:** A Cross-Sectional Survey was conducted among adult patients admitted to medical, surgical and gynecological wards of Arba Minch General Hospitals on April 2017. Data was collected in accordance with a modified 'Newcastle Satisfaction with Nursing Scale' (NSNS). Data was analyzed by using statistical package for social sciences/SPSS version 20.

**Results:** There were 323 study participants involved in this study. Majority of them 208(64.4%) were females followed by 115(35.6%) males. More than one third 127(39.3%) of study participants were in Age range of 25-34years with Mean age of 33.65(SD =10.48)years. Majority of participants 198(61.3%) were admitted for 1-5days followed by 58(18.0%) were admitted for 11-15days and mean duration of hospitalization of study participants was 6.68(SD=5.65) days. Overall patient satisfaction about inpatient nursing service in the hospital was 132(40.9%). Age category 35-44years, Respondents attended college and University, Rural residents, Patients admitted to Medical ward, Patients admitted several times and patients admitted second time, Patients with history of surgical operation and Duration of hospitalization more than 15days were factors associated patient satisfaction.

**Conclusion:** Based on this study we conclude that the level of overall adult Patient satisfaction about inpatient nursing service in the hospital was very low. The amount and type of information provided for patients was poor, nurses' awareness about patient needs and keeping privacy of patients in all wards was also low. This requires imperative attention by responsible bodies to enhance patient satisfaction.

**Keywords:** patient satisfaction, nursing care, inpatient, Arba minch, Ethiopia

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## Introduction

### Background

Patient satisfaction is the perception of care received compared with the care expected and patients thereby evaluate the health-care services as well as the providers from their own subjective point of view. Patients provide the best source of accurate information regarding clarity of explanations, helpfulness of information patients are receiving, barriers to obtaining care or the professional's interpersonal behavior.<sup>1</sup>

It is important to make the organization and delivery of health care responsive to consumer opinion, because consumer satisfaction is being adopted as a standard component of evaluative research and assessments of quality as to the design and management of health care systems.<sup>2,3</sup> Patient satisfaction with nursing care is considered an important factor in explaining patients' perceptions of service quality.<sup>4,5</sup>

Growing demand for health care, rising costs, constrained resources, and evidence of variations in clinical practice have increased interest in measuring and improving the quality of health care in many countries of the world.<sup>6</sup>

Nursing services are the backbone of the health care system in almost all countries in the world since they represent between 60-70% of the health care personnel.<sup>7</sup> Therefore, the level of patients' satisfaction is one among the mechanisms used in assessing the quality of health care services and addressing patients' expectations was found to be associated with high client satisfaction and better health outcomes.<sup>8</sup> Evidence demonstrates increasing nursing staff could reduce costs and improve patient care by reducing unnecessary deaths and reducing days in the hospital. A 10% increase in the number of patients assigned to a nurse leads to a 28% increase in adverse events such as infections, medication errors, and other injuries. Understaffing of registered nurses in hospital intensive care units increases the risk of serious infections for patients.<sup>9</sup>

## Patient satisfaction as a measure of quality of care

Patients have explicit desire or needs for care when they visit hospitals. However, inadequate response to their needs or expectations could result in patient dissatisfaction. There is growing consensus that assessment of the quality of hospital services should be based in part, on patients' perceptions of overall care and satisfaction.<sup>9</sup> Patient satisfaction influences their compliance with treatment, seeking of medical advice and maintains a continuing relationship with practitioners. Measurement of patient satisfaction has become an integral part of hospital management strategies worldwide. Provision of health care is expected to respond directly to patients' preferences and demands and the efficacy of medical treatment is enhanced by greater patient satisfaction.<sup>10</sup> According to WHO, the health and well-being of people depend on the performance of the health system and assessment of patients' satisfaction level, as part of health system responsiveness, is one of the five indicators for measuring performance of health system.<sup>11</sup>

In Ethiopia, health sector development plan three/HSDP III (2005-2010) of the FMOH had focused to strengthening the management capacity of health facilities in addition to the construction and expansion of health facilities, one of the strategic objectives of the currently operational HSDP IV (2010-2015) is to improve quality of health services in order to satisfy the community's health care needs through the delivery of relevant, safe and optimum quality health services.<sup>12</sup>

## Nursing care and patient satisfaction

Nursing care has impact on the provision of care that is safe, effective, patient-centered, timely, efficient, and equitable services. The adequacy of nursing staffing and proportion of registered nurses is inversely related to the death rate of acute medical patients within 30 days of hospital admission. Increasing RN staffing could reduce costs and improve patient care by reducing unnecessary deaths and reducing days in the hospital.<sup>13</sup> A 10% increase in the number of patients assigned to a nurse leads to a 28% increase in adverse events such as infections, medication errors, and other injuries. Understaffing of registered nurses in hospital intensive care units increases the risk of serious infections for patients; specifically pneumonia.<sup>14,15</sup>

Cross sectional study conducted in Turkey to assess patient satisfaction showed that the type of ward, sex, income, and education were factors independently affected the satisfaction with Nursing Care. Patient who underwent surgical procedures, male patients, the 40-59 year old age group those who had low levels of education or income, and patients who were hospitalized for longer periods were most satisfied. Patients age, sex, income, ward type were important factors that affected their satisfaction with nursing care.<sup>6</sup> Literature review conducted of Cumulative Index of Nursing and Allied Health Literature and MEDLINE databases and the ABI/INFORM global business database on patient satisfaction with nursing care using a nursing model by using 44 papers published in English, between 1998 and 2007 showed that Antecedents embodied the uniqueness of the patient in terms of demographic data, social influence, previous healthcare experiences, environmental resources, intrinsic motivation, cognitive appraisal and affective response.<sup>16-20</sup>

A study in Pakistan on patient level of satisfaction with various aspects of care provided by doctors in surgical ward indicated that care givers' politeness, consultation and respect for privacy being

key determinants of users' perception of satisfaction. Aspects of care such as seeking patients' participation in discussion of their illness, explaining them prescription drugs and lab investigations are areas required attention, especially with regard socio demographic factors like age and education.<sup>21</sup>

Studies around the world have also noted that patient satisfaction is associated with increased compliance with the prescribed treatment and discharge instructions, reduction of complaints against the institution and improvement of morale and job satisfaction among health-care providers, which in turn can be of benefit to both patients' health outcomes and relationships with health-care professionals.<sup>22</sup>

Studies indicated that patient satisfaction condition associated with patient characteristics, such as age, sex, educational level, work status and health status. A study indicated that varying importance of some socio-demographic variables, length of stay and previous admission. Older respondents generally record higher satisfaction and satisfaction linked to prior satisfaction with health care and granting patient desires.<sup>23</sup>

A study in Hong Kong indicated that communication, respect and patient engagement I provider-patient relationship and patient socio-demographic characteristics including age gender, race, educational level, health status and previous admissions and the length of the current admission affect patient satisfaction level.<sup>24</sup>

A study done in Bangladesh indicated that the most powerful predictor for client satisfaction with the government services was provider behavior, especially respect and politeness. The second most powerful predictor for being satisfied was the respect for privacy, followed by short waiting times.<sup>25</sup>

Treatment outcomes 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.<sup>26</sup>

The study in Jimma specialized hospital indicated, satisfaction with the health care was found to have a significant association with the age of the respondents ( $p=0.034$ ) and educational level of the respondents ( $p=0.003$ ).<sup>12</sup>

Study conducted on Adult Patients' Satisfaction with Inpatient Nursing Care in northeast Ethiopia showed that Female patients were more likely to be satisfied with the nursing care as compared to male patients. Patients within the age group of 18-30 years were more likely to be satisfied with the nursing care as compared to patients above the age of 61. Patients who were admitted in ophthalmology ward were more likely to be satisfied as compared to patients admitted in medical ward. In addition, patients who perceive their current health is in good condition were more likely to be satisfied as compared to those who perceive their current health status is in poor condition.<sup>27</sup>

A study in Tikur Anbassa indicated overall participants' satisfaction 90% with nursing care. Female and age (18-30 yrs) had higher satisfaction than males and older participants'. Number of nights spent in the ward had also an association with satisfaction. Those who stayed 11-21 nights had lesser satisfaction than those who stayed less than 10 days. It was indicated that, the cause of dissatisfaction is not due to nursing care but other hospital services such as pharmacy, laboratory, catering and other services.<sup>27</sup>

Nurses are frontline health care providers having 24hour contact with patients as well as being near to them. They should fulfil what patients expect more from them with competence and a compassionate approach. Nursing services are not organized well in Ethiopia and the government developed companionate respectful and caring/ CRC to improve quality of health care. Besides the limited studies undertaken on Patient satisfaction and associated factors in Ethiopia, there is no research based evidence in our study area of interest so far. The study might significantly help in planning and implementing the future strategies for improving health care delivery and provide pathways and information for other researchers who want to conduct further study on similar issue.

## Materials and methods

### Study area and period

This study was conducted from April 30-May 20/2017 at Arba Minch general hospital. Arba Minch General Hospital was established in 1961 E.C and located in Arba Minch town, the capital city of Gamo Gofa zone, southern Ethiopia. Gamo Gofa zone is one of the zones that are found in Southern, Nations, Nationality and People Regional state (SNNPR), which is 505km from Addis Ababa (capital city of Ethiopia) and about 280 Km from Hawassa (center of SNNPR). Arba Minch has two sub cities, namely Secha and Sikela. The hospital is located in Secha which is the administrative center of Arba Minch town. The hospital provides preventive, curative and rehabilitative care for people from Gamo Gofa Zone and other nearby zones. The hospital has a total of 410 workers. Among these 251 are health professionals, and 159 are administrative staffs.

### Study design

Institutional based Cross-Sectional study design was utilized.

### Source population

Il adult patients who were admitted to the Medical, Surgical, and Gynecology wards of Arba Minch General Hospital.

### Study population

Patients who are admitted to the study wards in the study hospitals at the time of data collection and met the inclusion criteria.

### Inclusion and exclusion criteria

#### Inclusion criteria

Patient who are >18years of age.

#### Exclusion criteria

Patients who are seriously ill and unable to communicate were excluded.

### Sample size and sampling procedure

#### Sample size

Sample size was determined by single population proportion formula and the following assumptions were made: level of confidence 95%;  $Z_{\alpha/2}=1.96$ , a 5% margin of error ( $d=0.05$ ), and a proportion of patient satisfaction of 67% (33). The sample size was 340 and, adding for 5% possible non response rate, the total sample size was 357 patients.  $n = (Z_{\alpha/2})^2 P(1-P)/d^2$

Where: P= proportion of patient satisfaction

$Z_{\alpha/2}$  at 95% CI=1.96

Margin of error (D)=0.05

### Sampling procedure

Patients fulfilling the inclusion criteria and admitted to medical, surgical and obstetrics and gynecology wards of Arba Minch General Hospital during data collection period and stayed for at least one night before data collection in the respective ward were included.

### Study Variable

#### Dependent variable

Patient Satisfaction

#### Independent variables

Age; gender; income; educational status; admission Ward; history of admission and nursing care provided.

### Data collection instrument and procedure

Data was collected by using modified Newcastle Satisfaction with Nursing Scale (NSNS). The questionnaire was translated to Amharic for interview. The satisfaction scale consists of 19-items. All items are scored on a five-point Likert scale (1=very dissatisfied, 2=dissatisfied, 3=Neutral, 4=Satisfied, and 5=Very Satisfied). Participants were asked to rate their satisfaction with various aspects of nursing care by selecting only one number that best described their opinion on each item of the scale. The tool was pretested on 5% of patients who were not included in the actual study; necessary correction was made based on findings from pretest. The four final year nursing students for data collection and two senior nurses one from medical and one from surgical ward were recruited as supervisor. Brief one day orientation about principles and procedures of data collection was given by research team for data collectors and supervisors.

### Data processing and analysis

Data was entered into EPI-data 3.1 and exported to SPSS 20.0 for analysis. Descriptive statistics was computed and binary logistic regression was also conducted to examine the effect of study variables on patients' satisfaction with nursing care. Patient Satisfaction score was computed and Patients were labeled as "*Satisfied*" if they answered Satisfied and Very satisfied for the tool designed to assess patient satisfaction and "*Not satisfied*" if they responded Neutral, Dissatisfied and very dissatisfied for the designed tool. Percentage of overall satisfaction was calculated by the following formula:-

$$\% \text{ Satisfied in each ward} = \frac{\text{Number participants responded satisfied and very satisfied in each ward}}{\text{Total population in each ward}} \times 100$$

$$\% \text{ not Satisfied in each ward} = \frac{\text{Number participants responded neutral, dissatisfied and very dissatisfied}}{\text{Total population in each ward}} \times 100$$

$$\text{Overall \% Satisfaction} = \frac{\text{Sum of participants satisfied in each ward}}{\text{Total population}} \times 100$$

### Data quality assurance

Data collectors and coordinators will trained and the data collection procedure is checked regularly, through supervision and frequent checking of information collected for its consistency on the same day by the coordinators and principal investigators. Collected data was checked by principal investigators for completeness before entering into EPI-data 3.1. Then the data was coded and data template was prepared with double checking for validity.

## Results

### Socio demographic data

There were 323 study participants involved in this study with response rate of 90.5%. Majority of them 208(64.4%) were females followed by 115(35.6%) males. More than one third 127(39.3%) of study participants were in Age range of 25-34years with Mean age of  $33.65 \pm (SD=10.48)$  years, ranging from 18-60years. With regard to marital status majority 215(66.6%) were married followed by 69(21.4%) single. More than one half 192(59.4%) of study participants had family size of 1-5 members and mean family size was  $5.72 \pm (SD=3.11)$ , ranging from 2-16 family members. more than one third 124(38.4%) of study participants completed secondary school followed by 84(26.0%) illiterate. About one forth 82(25.4%)

study participants were housewives with regard to occupational status followed by 68(21.1%) farmers (Table 1).

**Others:** students

### Patient Hospitalization related factors

More than one half 185(57.3%) study participants were admitted to medical ward, 80(24.8%) to obstetric and gynaecological ward and 58(18.0%) to surgical ward. More than one third 142(44.0%) of participants were admitted for the first time followed by 127(39.3%) for the second time. Regarding duration of hospitalization majority of participants 198(61.3%) were admitted for 1-5days followed by 58(18.0%) were admitted for 11-15days and mean duration of hospitalization of study participants was  $6.68 \pm (SD=5.65)$  days, ranging from 1-28days (Table 2).

**Table 1** Distribution of socio demographic and hospitalization related factors of study participants who had been admitted to Arba Minch general hospital, southern Ethiopia, May 2017

Sociodemographic characteristics		Frequency	Percent
Sex	Male	115	35.6
	Female	208	64.4
Age category	15-24 years	65	20.1
	25-34 years	127	39.3
	35-44 years	66	20.4
	45 and above years	65	20.1
Marital status	Married	215	66.6
	Single	69	21.4
	Separated	27	8.4
	Divorced	7	2.2
	Widowed	5	1.5
Family size	1-5 members	192	59.4
	6-10 members	105	32.5
	Above 10 members	26	8
Educational status	Illiterate	84	26
	Primary school	54	16.7
	Secondary School	124	38.4
	College and University	61	18.9
Occupational status	Farmer	68	21.1
	Housewife	82	25.4
	Government employee	65	20.1
	Private employee	40	12.4
	Merchant	40	12.4
	Retired	25	7.7
	Others	3	0.9
Residence	Urban	167	51.7
	Rural	156	48.3
Hospitalization Related Factors			
Type of ward	Medical	185	57.3
	Surgical	58	18

Table Continued..

Sociodemographic characteristics		Frequency	Percent
History of hospitalization	Obstetric and gynaecological	80	24.8
	First time	142	44
	Second time	127	39.3
	Several times	54	16.7
History of surgical operation	Yes	121	37.5
	No	202	62.5
Duration of hospitalization	1-5 days	198	61.3
	6-10 days	50	15.5
	11-15 days	58	18
	Above 15 days	17	5.3
Availability of specific nurse assigned for patient care	Yes	219	67.8
	No	60	18.6
	Not sure	44	13.6

**Table 2** Distribution patient satisfaction score among study participants who had been admitted to Arba Minch general hospital, southern Ethiopia, May 2017

S.No	Patient satisfaction assessment tool score	Dissatisfied	Neutral	Satisfied	Very Satisfied
1	The amount of time nurses spent with you	57	26	206	39
2	How capable nurses were at their job	43	30	219	31
3	There always being a nurse around if you needed one	69	20	201	33
4	The amount nurses knew about your care	59	26	216	22
5	How quickly nurses came when you called for Them	51	36	221	15
6	The way the nurses made you feel at home	78	46	183	16
7	The amount of information nurses gave to you about your condition and treatment	133	53	135	2
8	How often nurses checked to see if you were Okay	84	41	192	6
9	Nurses' helpfulness	54	47	201	21
10	The way nurses explained things to you	78	23	207	15
11	How nurses helped put your relatives' or friends' minds at rest	116	30	158	19
12	Nurses' manner in going about their work	77	21	213	12
13	The type of information nurses gave to you about your condition and treatment	129	42	140	12
14	Nurses' treatment of you as an individual	69	32	157	65
15	How nurses listened to your worries and Concerns	83	33	198	9
16	The amount of freedom you were given on the Ward	68	14	224	17
17	How willing nurses were to respond to your Requests	82	22	208	11
18	The amount of privacy nurses gave you	122	39	155	7
19	Nurses' awareness of your needs	147	44	130	2

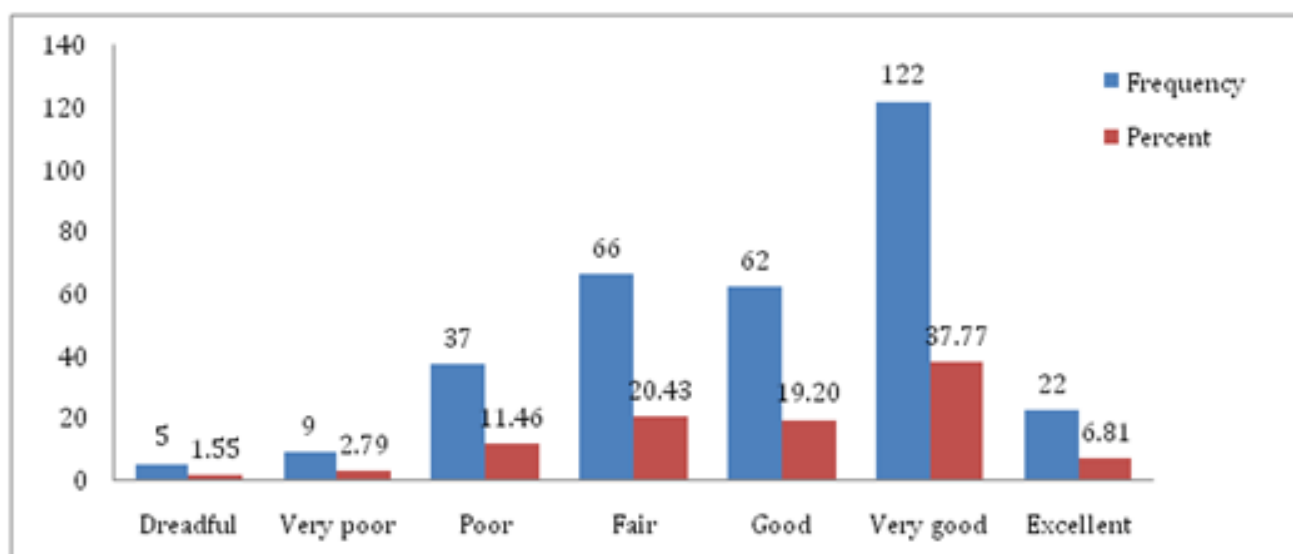


## Patient satisfaction about inpatient nursing service

Participants were asked a series of 19 questions to determine their perception about inpatient nursing service provided for them in respective wards. Majority of respondents 116(62.7%), 51(87.9%) and 73(91.3%) of respondents were satisfied with the amount of time nurses spent with them in medical, surgical and Obstetrics and gynecology wards respectively. Regarding capability of nurses at their job 128(69.2%), 49(84.5%) and 73(91.3%) of respondents were satisfied with the amount of time nurses spent with them in medical, surgical and Obstetrics and gynecology wards respectively. one hundred seven 47.8%, 53(89.7%) and 77(96.2%) of respondents were satisfied with the presence of nurses around if they needed them in medical, surgical and Obstetrics and gynecology wards respectively. Majority 100(54.1%) and 42(92.4%) and 44(55.0%) were not satisfied with the amount of information nurses gave to them about their condition and treatment in medical, surgical and Obstetrics and gynecology wards respectively. One hundred nineteen 64.3%, 22(37.9%), and 31(38.8%) of respondents were not satisfied with the type of information nurses gave to them about their condition and treatment in medical, surgical and Obstetrics and gynecology wards respectively. with regard to Nurses' awareness of patient needs 120(64.8%), 34(38.6%) and 37(46.3%) were not satisfied in medical, surgical and Obstetrics and gynecology wards respectively. Concerning Patient privacy given by nurses 87(47.0%), 44(75.9%) and 64(80.0%) were not satisfied in medical, surgical and Obstetrics and gynecology wards respectively. The overall Patient satisfaction in respective wards was 65(35.1%), 24(41.4%) and 43(53.7%) in medical, surgical and Obstetrics and gynecology wards respectively. Overall patient satisfaction about inpatient nursing service in the hospital was 132(40.9%) and 191(59.1%) were not satisfied with nursing care provided to them (Table 3).

## Perception of Patients about overall nursing service in the Hospital

More than one third 122(37.7%) reported that nursing care service is Very good, 62(19.20%) good, 66(20.43%) Excellent, 37(11.46%) poor, 9(2.79%) Very poor and 5(1.55%) reported nursing care service in the hospital was Dreadful (Figure 1).



**Figure 1** Distribution of patient perception about inpatient nursing care service among study participants who had been admitted to Arba Minch general hospital, southern Ethiopia, May 2017.

Participants were asked to describe openly about problems in nursing care service and hospital performance and more than one quarter 89(27.6%) of participants reported that there was shortage of bed sheets; 62(19.2%) reported shortage of drugs; 57(17.6%) reported inadequate water supply and 48(14.9%) reported that nurses have punctuality Problem. finally 52(16.1%) reported they have no idea and 15(4.6%) reported that nurses lack motivation (Figure 2).

## Factors associated with patient satisfaction in inpatient nursing care

Binary logistic regression showed that Age category 35-44years, educational Status College and University, Rural residence, Admission to medical ward, repeated hospitalization, history of surgical operation and duration of hospitalization were factors associated with Patient satisfaction in inpatient nursing care service.

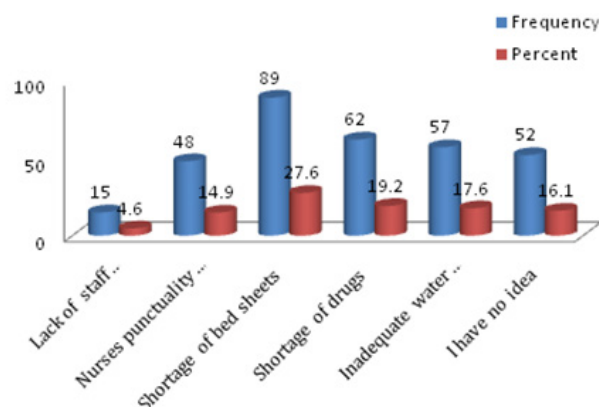
Variables statistically significant in binary logistic regression were entered into Multivariable logistic regression to identify factors predicting adult patient satisfaction in inpatient nursing care service. Age category 35-44years were 2.7times [AOR= 2.795 (1.224, 6.381)] more likely to be satisfied with nursing care service provided when compared with 15-24years. Respondents attended college and University were 1.6 times [AOR=1.618 (1.572, 3.392)] more likely to be satisfied with nursing care service provided than illiterate once. Rural residents were 1.1 times [AOR=1.135 (1.123, 2.035)] more likely to be satisfied with inpatient nursing care service than urban residents. Patients admitted to Medical ward were [AOR=0.349 (0.162, 0.751)] less likely to be satisfied with inpatient nursing care service than those admitted to obstetrics and gynaecology ward. Patients admitted several times and patients admitted second time were [AOR=0.364 (0.154, 0.858)] and [AOR= 0.262 (0.105, 0.657)] less likely to be satisfied with inpatient nursing care provided when compared with those admitted for the first time. Patients with history of surgical operation were [AOR=0.925 (0.519, 0.948)] less likely to be satisfied than those with no history of surgical operation. Patients who were admitted for more than 15days were [AOR=0.236 (0.061, 0.911)] less likely to be satisfied with inpatient nursing care service than those admitted for 1-5days (Table 4).

**Table 3** Distribution of patient satisfaction at each wards among study participants who had been admitted to Arba Minch general hospital, southern Ethiopia, May 2017

Cross tabulation of patient satisfaction score		Type of ward					
		Medical (n=185)		Surgical (n=58)		Obstetric/Gyn (n=80)	
		Frequency	Percent	Frequency	Percent	Frequency	percent
The amount of time nurses spent with you	Not satisfied	69	37.3	7	12.1	7	8.7
	Satisfied	116	62.7	51	87.9	73	91.3
How capable nurses were at their job	Not satisfied	57	30.8	9	15.5	7	8.7
	Satisfied	128	69.2	49	84.5	73	91.3
There always being a nurse around if you needed one	Not satisfied	78	42.2	5	8.6	6	7.5
	Satisfied	107	47.8	53	91.4	74	92.5
The amount nurses knew about your care	Not satisfied	76	41.2	6	10.3	3	3.8
	Satisfied	109	58.9	53	89.7	77	96.2
How quickly nurses came when you called for Them	Not satisfied	62	33.5	14	24.1	11	13.8
	Satisfied	123	66.5	44	75.9	69	86.2
The way the nurses made you feel at home	Not satisfied	80	43.2	27	46.6	17	21.3
	Satisfied	105	56.8	31	53.4	63	78.7
The amount of information nurses gave to you about your condition and treatment	Not satisfied	100	54.1	42	72.4	44	55.0
	Satisfied	85	45.9	16	27.6	36	45.0
How often nurses checked to see if you were Okay	Not satisfied	80	43.2	22	37.9	23	28.7
	Satisfied	105	56.8	36	62.9	57	71.3
Nurses' helpfulness	Not satisfied	82	44.3	10	17.2	9	11.3
	Satisfied	103	55.7	48	82.8	71	88.7
The way nurses explained things to you	Not satisfied	68	36.7	13	22.4	20	25.0
	Satisfied	116	63.3	45	77.6	60	75.0
How nurses helped put your relatives' or friends' minds at rest	Not satisfied	89	48.1	39	67.2	18	22.5
	Satisfied	96	51.9	19	32.8	62	77.5
Nurses' manner in going about their work	Not satisfied	77	41.6	10	17.2	11	13.8
	Satisfied	108	58.4	48	82.8	69	86.2
The type of information nurses gave to you about your condition and treatment	Not satisfied	119	64.3	22	37.9	31	38.8
	Satisfied	66	35.7	36	62.9	49	61.2
Nurses' treatment of you as an individual	Not satisfied	81	43.8	7	12.1	13	16.3
	Satisfied	104	56.2	51	87.9	67	83.7
How nurses listened to your worries and Concerns	Not satisfied	73	39.4	16	27.6	27	33.8
	Satisfied	112	60.4	42	72.4	53	66.2
The amount of freedom you were given on the Ward	Not satisfied	51	27.6	5	8.6	26	32.5
	Satisfied	134	72.4	53	91.4	54	67.5
How willing nurses were to respond to your Requests	Not satisfied	68	36.7	12	20.6	24	30.0
	Satisfied	211	63.3	59	79.4	60	70.0
The amount of privacy nurses gave you	Not satisfied	87	47.0	44	75.9	64	80.0
	Satisfied	98	53.0	14	24.1	16	20.0
Nurses' awareness of your needs	Not satisfied	120	64.8	34	58.6	37	46.3
	Satisfied	65	35.2	24	43.4	43	53.7
Overall Patient satisfaction score	Satisfied	65	35.1	24	41.4	43	53.7
	Not satisfied	120	64.9	34	58.6	37	46.3

**Table 4** Multivariable logistic regression of factors predicting the likelihood of patient satisfaction on inpatient nursing care at Arba Minch General Hospital, Southern Ethiopia, May 2017, (n=323).

Patient satisfaction on inpatient nursing care a		Patient satisfaction		COR	95% CI for COR		95% for AOR			P value b	
		Satisfied (n=132)	Not satisfied (n=191)		LB	UB	AOR	LB	UB		
											Frequency (%)
Satisfied	Age category	15-24 years	27(20.5)	38(19.9)	1	-	-	1	-	-	0.000
	25-34 years	66(50.0)	61(31.9)	.771	.380	1.565	1.552	.606	3.978	.360	
	35-44 years	16(12.1)	50(26.2)	.506	.273	.937	2.795	1.224	6.381	.015*	
	45 and above	23(17.4)	42(22.0)	1.711	.801	3.654	.622	.266	1.453	.273	
	Educational status	Illiterate	28(21.2)	56(29.3)	1	-	-	1	-	-	0.000
	Primary school	25(18.9)	29(15.2)	1.211	.608	2.410	.669	.269	1.662	.387	
	Secondary School	56(42.4)	68(35.6)	.702	.333	1.478	1.148	.471	2.798	.762	
	College and University	23(17.4)	38(19.)	.735	.393	.676	1.618	1.572	3.392	.020*	
	Residence	Urban	71(53.8)	96(50.3)	1	-	-	1	-	-	0.000
	Rural	61(36.2)	95(49.7)	.868	1.357	1.554	1.135	1.132	2.035	.032*	
	Admission ward	Medical	65(49.2)	120(62.8)	2.146	1.259	3.657	.349	.162	.751	.007*
	Surgical	24(18.2)	34(17.8)	1.646	.832	3.259	.739	.302	1.813	.509	
	Obstetric and gynaecological	43(32.6)	37(19.4)	1	-	-	1	-	-	0.000	
	History of hospitalization	First time	59(44.7)	83(43.5)	1	-	-	1	-	-	0.000
	Second time	46(34.8)	81(42.4)	1.407	.750	2.639	.262	.105	.657	.004*	
	Several times	27(20.5)	27(14.1)	1.761	1.924	3.355	.364	.154	.858	.0218	
	History of surgical operation	Yes	53(40.2)	68(35.6)	.824	.522	.891	.925	.519	0.948	.002*
	No	79(59.8)	123(64.4)	1	-	-	1	-	-	0.000	
	Duration of hospitalization	1-5 days	83(62.9)	115(60.2)	1	-	-	1	-	-	0.000
	6-10 days	17(12.9)	33(17.3)	1.725	.564	5.277	.395	.097	1.604	.194	
	11-15 days	24(18.2)	34(17.8)	.259	.25	.732	.665	.186	2.384	.532	
	Above 15 days	8(6.1)	9(4.7)	1.232	.456	3.326	.236	.061	.911	.036*	



**Figure 2** Frequency distribution of reported problems affecting inpatient nursing care among study participants who had been admitted to Arba Minch general hospital, southern Ethiopia, May 2017.



## Discussion

This study revealed the level of overall adult Patient satisfaction and associated factors in Arba Minch General Hospital. The level of overall patient satisfaction about inpatient nursing service in the hospital was 132(40.9%). This is lower than study in Tikur Anbassa indicated overall Patient satisfaction 90% with nursing care in contrary to other studies in the country.<sup>27</sup> This could be explained variation in socio-demographic characteristic of study participants, tool used to assess patient satisfaction and operational definition given by researchers to satisfaction.

This study revealed that Majority 100(54.1%), 42(72.4%), 44(55.0%) were not satisfied with the amount of information, 119(64.3%), 22(37.9%), and 31(38.8%) of respondents were not satisfied with the type of information nurses gave to them about their condition and treatment, 120(64.8%), 34(38.6%) and 37(46.3%) were not satisfied with Nurses' awareness about their needs and 87(47.0%), 44(75.9%) and 64(80.0%) were not satisfied with Patient privacy given by nurses in medical, surgical and Obstetrics and gynecology wards respectively. Different studies conducted in Pakistan and Bangladesh showed that, care givers' politeness, consultation and respect for privacy, explaining them prescription drugs and lab investigations are areas required attention and short waiting time were the most powerful predictor for client satisfaction.<sup>18,22</sup> This could be explained by lack of staff motivation which could contribute to delivery poor information with respect to quality and amount of information.

Age category 35-44years were 2.7times [AOR= 2.795 (1.224, 6.381)] more likely to be satisfied with nursing care service provided when compared with 15-24years. This is different from other Studies which revealed that older respondents generally record higher satisfaction.<sup>20</sup> This is similar with Study conducted on Adult Patients' Satisfaction with Inpatient Nursing Care in northeast Ethiopia showed that Female patients were more likely to be satisfied with the nursing care as compared to male patients. Patients within the age group of 18-30years were more likely to be satisfied with the nursing care as compared to patients above the age of 61years.<sup>25</sup>

Respondents attended college and University were 1.6 times [AOR= 1.618 (1.572, 3.392)] more likely to be satisfied with nursing care service provided than illiterate once. This similar study with the study in Jimma specialized hospital indicated that patient satisfaction with the health care was found to have a significant association with the age of the respondents ( $p=0.034$ ) and educational level of the respondents ( $p=0.003$ ).<sup>12</sup>

Patients admitted to Medical ward 65(35.1%) were [AOR= 0.349 (0.162, 0.751)] less likely to be satisfied with inpatient nursing care service than those admitted to obstetrics and gynaecology ward 43(53.7%). This is against Patient satisfaction study done in Ethiopia which showed which that Patients admitted to Gynecological ward, the amount of time nurses spend with the patient and the type of information nurses given to patients about their condition and their treatment, were factors negatively affecting satisfaction levels.<sup>27</sup> Improved patient satisfaction in obstetrics and gynaecology ward in this study could be explained increased government commitment given to reduce maternal and child mortality through strengthening capacity of health professionals by giving on job trainings. It could also be explained by difference in study population characteristics and tools used by researchers.

Patients admitted several times and patients admitted second time were [AOR=0.364 (0.154, 0.858)] and [AOR=0.262 (0.105,0.657)] less likely to be satisfied with inpatient nursing care provided when compared with those admitted for the first time. This could be explained by patient perception about their illness; patients who perceive their current health is in good condition were more likely to be satisfied as compared to those who perceive their current health status is in poor condition.<sup>25</sup>

Patients who were admitted for more than 15days were [AOR= 0.236 (0.061, 0.911)] less likely to be satisfied with inpatient nursing care service than those admitted for 1-5 days. This similar with study in Tikur Anbassa indicated those who stayed 11-21 nights had lesser satisfaction than those who stayed less than 10days.<sup>26</sup> Other study also revealed similar findings length of stay and previous admission were factors associated with patient satisfaction.<sup>20</sup> However it is different from cross sectional study conducted in Turkey to assess patient satisfaction with nursing care showed that patients who were hospitalized for longer periods were most satisfied.<sup>6</sup> The variation could be explained by difference in socio-demographic characteristics, tool use and operation definition given for patient satisfaction.

## Strengths and limitation of the study

### Strengths

- The study utilized a valid and standardized instrument for assessing patient satisfaction
- Since interview was made with admitted patients, patients who stay for a long period of time were not missed.

### Limitation

- Because of time constraints, the interview was held with admitted patients, since exit interview is preferred, to reduce information biases.
- Patients may be afraid to say whatever they feel when they were still in the ward. So, the findings of this study might be inflated when we compared to the real findings.
- Nurses might also increase their care during process care measurement; this might be inflating the findings of the study.
- Being a cross sectional study it showed factors associated adult patient satisfaction and did not explain determinants.

## Conclusion and recommendations

### Conclusion

In conclusion the level of overall adult Patient satisfaction about inpatient nursing service in the hospital was very low. The amount and type of information provided for patients was poor, nurses awareness about patient needs and keeping privacy of patients in all wards also low. Satisfaction of patients admitted to medical ward was relatively lower than patients admitted to surgical and obstetrics and gynaecology ward. Age category 35-44years, Respondents attended college and University, Rural residents, Patients admitted to Medical ward, Patients admitted several times and patients admitted second time, Patients with history of surgical operation and Patients who were admitted for more than 15days were factors affecting patient satisfaction to inpatient nursing care service.

## Recommendations

Depending on findings of this we recommend the following responsible bodies

- I. Arba Minch General hospital administration:
  - a. Patient satisfaction is one of quality indicators for health care quality; this requires the due attention by hospital administration and staffs to improve satisfaction especially focusing on understanding patient needs, quality and amount of information provided to the patient and protecting patient privacy through providing on job training and support for nurses.
  - b. Improving drug supply, water supply and availability of bed sheets that could improve nurses motivation to care for their patients
  - c. The hospital should introduce Operational standards of Nursing Care Practice to new staffs
- II. Nursing staff of the Hospital
  - a. Providing quality care is responsibility of every professionals and giving attention to fill this gap
- III. Researchers
  - a. Those who are interested to conduct study in adult patient satisfaction, it important consider strong study designs to pick out bottle necks of patient satisfaction

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## Conflict of interests

There is no financial or personal relationship(s) which may have inappropriately influenced us in writing this article.

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