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LEVEL OF SATISFACTION AND ASSOCIATED FACTORS AMONG PATIENTS ADMITTED TO MEDICAL WARDS OF HERGEISA GROUP HOSPITAL, HERGEISA SOMALILAND

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**BAHIR DAR UNIVERSITY COLLEGE OF MEDICINE AND
HEALTH SCIENCES, SCHOOL OF PUBLIC HEALTH,
DEPARTMENT OF HEALTH SYSTEM MANAGEMENT AND
HEALTH ECONOMICS**

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Abdiqani Hassan Abdirahman (BSc, MPH)

**February, 2022
Bahir Dar University**



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**A THESIS SUBMITTED TO THE DEPARTMENT OF HEALTH SYSTEMS
MANAGEMENT AND HEALTH ECONOMICS, SCHOOL OF PUBLIC
HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES, BAHIR
DAR UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC
HEALTH IN HEALTH SYSTEMS AND PROJECT MANAGEMENT.**

**February, 2022
Bahir Dar University**

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Acronyms

CI	Confidence Interval
HGH	Hergeisa Group Hospital
MOHD	Ministry of Health Development
SPSS	Statistical Package for Social Science
SLHDS	Somaliland Health Demographic Survey
WHO	World Health Organization
DC	Data Collection
NGO	Non-Governmental Organizations
PS	Patients Satisfaction
HCP	Health Care Provider
PI	Principal Investigator
IPD	Inpatient Department
COR	Crud Odds Ratio
AOR	Adjusted Odds Ratio

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Abstract

Background: Level of patient satisfaction is important because it reflects the gap between the expected patient's perception of a service and the experience of the service. In recent years, there has been giving emphasis for assessing quality in health care and considering level of patient satisfaction as one parameter of it.

Objective: The objective of the study was to assess the level of satisfaction and its associated factors among patients admitted to the medical wards of Hergeisa Group Hospital, Hergeisa-Somaliland.

Methodology: A Hospital based cross sectional study was employed to collect data from 149 respondents. Data was collected by using interview-administered structured questionnaire. A consecutive recruitment of respondents was used until the sample size is reached. The data was summarized by descriptive statistics like frequency and percentage. Bivariate and multivariable logistic regression analysis used to identify associated variables using SPSS version 22.

Result: 73.15% of the respondents were satisfied, while 26.85% were dissatisfied. The dissatisfaction with the adequacy and maintenance of ward equipment and infrastructure was 57 (38.3%), while the cleanliness of the ward, and situation beds were 47 (31.5%) and 37 (24.8%). Similarly, 41 (27.5%) of the respondents were dissatisfied with the way doctors and nurses treated each other with respect and good behavior. The overall dissatisfaction among respondents who were satisfied with the situation of beds was 15.7% (AOR = 0.157, 95% CI: 0.049, 0.50) times more likely compared to those who were not satisfied with it. Respondents who were employed were 2.85 times less likely to be unemployed than those who were unemployed (AOR=2.85, 95% CI: 0.99, 8.22). The dissatisfaction among patients who did not have enough time to discuss their problems with doctors or nurses was 12.7% (AOR = 0.127, 95% CI: 0.019, 0.85) times less likely compared to those who were satisfied with them.

Conclusion: The overall status of satisfaction of the respondent was 73.15%. Hospital environment, patients care and appropriateness and as well as occupation and situation of beds are important factors influencing the satisfaction condition. Somaliland MoHD, HGH should improve services including beds, access to water and sanitation facilities.

Key Words: Inpatient, Patient Satisfaction, Dissatisfaction, Medical wards.

INTRODUCTION

1.1. Background

Satisfaction is an emotional response to the difference between what patient expect and what they ultimately receive. According to Liljander and Strandvik, Satisfaction refers to an insider perspective, the patient's own experiences of a service where the outcome has been evaluated in terms of what value was received. It can also be defined as patient's cognitive and affective evaluation based on the personal experience across all service episodes within the relationship (1).

Level of patient satisfaction is an important measure of service quality in health care organization and patient responses to healthcare services are one of the best ways to obtain information about patient view regarding the quality of healthcare. Patient satisfaction is the level of satisfaction that patients know having used a service (2).

Level of patient satisfaction is crucial because it reflects the gap between the expected patient's perception of a service and the experience of the service, from the patient's point of view. Patients' judgment of hospital service quality and their feedback are essential in quality of care monitoring and improvement. Measuring the level of patient satisfaction is challenging but is a key indicator of both outpatient and inpatient care and is associated with clinical outcomes following admission and different factors including patient characteristics have been inconsistently linked with satisfaction (2) (3).

In recent years, there has been increasing emphasis on assessing quality in health care in both developing and developed countries. So, when assessing the quality should consider patient satisfaction as one of an important indicator by health care managers and it enhance health care providers accountability and leads to service delivery improvements efforts by the hospitals physicians and other health worker (4). patient satisfaction also use to compare the performance of different health care systems globally, and to identify health care policies, health services organization and the provider's behaviors that best respond to patients' expectations or needs. Patient satisfaction also improves patient safety level and lowers the cost of care (5).

The interest in health care service quality is increasing and patients seriously need for healthcare when they are hospitalized. There is a growing consensus that patient satisfaction is an important indicator of health care quality and many hospitals are searching for ways to change the delivery of patient care through quality improvement initiatives (6).

According to the World Health Organization (WHO), the health and well-being of persons depend on the performance of the health system and measurement of patients' satisfaction level, as part of health system responsiveness. It is one of the five important and commonly used indicators for measuring the performance of health systems. The world health organization report emphasizes responsiveness of health systems as a crucial component of their overall performance defining as the way the system responds to non-health aspects and whether meeting or not patient expectations (7).

The first-ever joint global report from WHO, the World Bank and the Organization for Economic Co-operation and Development (OECD) marks clear that poor quality health services are holding back progress on improving health in countries at all income levels (8).

As nations commit to achieving universal health coverage by 2030, there is an imperative to deliberate focus on quality of health services. This relates providing effective, safe and people-centered services that are timely, equitable, integrated and efficient (8).

The health systems of Somaliland was collapsed during the civil war in 1988, the government has successfully re-established the national health system with partially functioning primary and secondary services with limited finance. The government of Somaliland is driven to strengthen the health system despite facing multiple challenges in its efforts to improve coverage, access, staffing and service delivery. The main challenges that the government mentioned are financial constraints, human resource capacity, limited infrastructure, donor dependency and fragmented health system. However, considerable health outcomes have been achieved in the areas of reproductive health, maternal, neonatal and child health.

Somaliland is a country that has limited natural resources, low middle-income rates and high population growth rate. Somaliland's economy is service-oriented. The health sector in Somaliland consists of service providers' public, private and charity sectors and institutions working on the development of health policy.

The quality of health care services has been the subject of constant interest among researchers and health institutions. Unfortunately hospitals in Somaliland have not begun to adopt different quality improvement initiatives yet, from this time the literature on patient satisfaction about the quality of health services have not done in Somaliland, especially in the public sector. This research tries

to fill this gap by investigating the impact of healthcare service quality on patient satisfaction at HGH the point of view of patients.

1.2.Statement of the problem

Patients extremely require or want for medical service when they are in hospitals or other health institutions. Therefore, inadequate service to their expectations or requirements 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 (6).

Level of patient satisfaction is a cognitive response that is influenced by various factors. Association factors that affecting satisfaction, is considered direct and indirect ways to achieve real patient satisfaction, in this regard, Assessing patient satisfaction by associated factors affecting satisfaction and understanding expectations and needs of patients and eliminating dissatisfaction causes can enhance service provision level and as a result increase satisfaction of patients and improvement of their physical and mental health will be better (9).

In recent years, the scope of patient's participation in the evaluation of healthcare services has been increased because patient's experiences and satisfaction are considered to be vital components in the evaluation of healthcare interventions, as well as in assessing the quality of care and since the last two decades, lot of emphasis has been laid down to the measurement of patient satisfaction with the health care services and health care system globally (8).

In Africa many countries used patient satisfaction to assess and measure quality of health care service and hospitals. However different studies revealed that the level of patient satisfaction varies in different types of health institutions (4).

In Somaliland the low level of socio economic development resulting in low standards of living, poor environmental conditions and low level of social services has been the major cause for a poor health status of the people. After the collapse of health systems during the civil war in 1988, The Somaliland national health system was restructured and gradually progressed with moderately functioning primary and secondary health care services with limited resource.

Various studies have pointed out that the level of satisfaction in different types of health facilities and different countries vary. According to a study conducted in Hospital, Kathmandu, Nepal,

overall satisfaction was 74.78% (10). A study done at Amhara region Primary Hospitals of North Shoa Zone, satisfaction level of inpatient was 59.1% (11). In addition to that a study showed that overall level of satisfaction was 55.1%. Sex and occupation, were the only predictors of patient level of satisfaction with nursing care (12).

A better understanding of the patient's satisfaction and associated factors might help policy and decision makers adopt and implement effective measures to improve health care services in the hospital (11). In Somaliland, quality assessment methods for health facilities, including the measurement of patient satisfaction have not been done in the past and we are not aware of any recently and related study on assessing patient satisfaction in general and at hospitals in Somaliland.

Therefore the current study was designed to assess level of satisfaction and associated factors among inpatients admitted to medical ward of Hergeisa group hospital, Hergeisa, Somaliland. The secondary aim of this study is to inform policy-makers, health provider and managers about the strengths and weaknesses of the quality of health service in tertiary Hospitals in Somaliland, which can help in defining starting points to improve quality of care service.

1.3. Significance of the study

This study served as a baseline for monitoring the changes in quality of services that the inpatient in medical wards perceived and also it informs policy-makers, health providers and managers about the strengths and weaknesses of the quality of health service in Hergeisa Group Hospitals and tertiary Hospitals in Somaliland, which can help in defining starting points to improve quality of care service.

The findings of this study primarily provide information for Hergeisa Group Hospital and referral hospitals on how current situation is and how to improve the quality of services of the inpatient. Hence, this study is assumed to have significant importance in providing information in view of patient's satisfaction of medical wards service provided by Hergeisa group hospital. Further, it may serve as an insight for any researcher interested in similar study in and out of Somaliland.

2. LITERATURE REVIEW

2.1.Overview of Patient Satisfaction

Satisfaction is a unit of similarity between patient beliefs of ideal care and their experience of real care received (13). Patient satisfaction is the degree to which patients are satisfied with their healthcare services, both inside and outside healthcare facilities (14). It gives providers insights into various healthcare features, including the effectiveness of their care and their level of understanding (15). Patient satisfaction is a key indicator of inpatient care quality and is associated with clinical outcomes following admission. Different patient characteristics have been inconsistently linked with satisfaction (3).

Measuring the level of patient satisfaction is challenging. Patient satisfaction assessment surveys should accurately measure the patient's reaction to the care they received using a valid and reliable instrument (16). Measuring patient satisfaction with the different instruments may provide different results of outcome (level of patient satisfaction) (17).

Patient satisfaction is reflection of the level of matching between their expectation and actual experience with the health-care service. Patient satisfaction is very complicated process and can be affected by numerous factors such as patients' socio-demographic factors, experience with health-care service, and expectation. In order to provide quality health-care services in public hospitals, understanding the determinants of patient satisfaction is crucial (18).

2.2.Level of patient satisfaction

Hospital based cross sectional study done in Nagpur was indicated most of the patients (75%) were satisfied with overall services available in the hospital (19).

Patients' satisfaction with services obtained from Aminu Kano teaching hospital, Kano, northern Nigeria revealed that 83% of the patients were satisfied with the services received from Hospital (20).

A result of descriptive study conducted in the inpatient unit of Tribhuvan University Teaching Hospital (TUTH) in Kathmandu showed that overall patient satisfaction was good regarding the quality of health care services (21). A cross-sectional study of Patients' satisfaction in 2009 done by Tehran University of Medical Sciences revealed that overall, 78.1% were satisfied in respect to general status of the hospitals (22).

Evaluation of patients' satisfaction with hospital care done on a sample of 615 patients who were hospitalized in Shahid Beheshti and Yahyanejad hospitals of Babol in 2005 indicated that level of patients satisfaction was high which was 93.6% and one-third of patients had low and very low satisfaction with general care (23).

A cross-sectional study conducted in Khartoum teaching hospital in Sudan pointed that the overall satisfaction is 73.4%, which indicates the general satisfaction with the services is good (24). Moreover a cross-sectional study conducted in 3 PHC centers, affiliated to Riyadh Military Hospital, Riyadh, Kingdom of Saudi Arabia showed that the level of satisfaction with PHC services in health centers affiliated to RMH is relatively low (25).

A study of Patient Satisfaction in Shahroud Hospitals in 2018 showed that the average score of satisfaction in the public hospitals affiliated to the University was 22.45 ± 6.02 and in the private sector, it was 21.56 ± 5 , which is deemed moderate (26). Patients' Satisfaction with Healthcare Services Received in Health Facilities done in Bushenyi District of Uganda demonstrated that 77.9% of people in Bushenyi district were satisfied with health care services (27).

A cross-sectional study conducted in Public Hospitals in Mekelle Town, Ethiopia revealed that the overall satisfaction rate is high and rate was 79.7% at 95% CI (75.8%, 83.6%) (28). A study done in tertiary care hospital in rural haryana India indicated that the overall patient satisfaction were 89.1%, another study conducted in Nigeria showed that overall level of patients' satisfaction was excellent (78.5%) (29) (30).

A study conducted in Debre Berhan Referral Hospital, Debre Berhan, Ethiopia revealed about half the admitted patients were satisfied with the nursing care (49.2% of patients were satisfied with nursing care) (31). A study indicated that level of inpatient satisfaction with nursing care was low (12). A study done in china and examined inpatient satisfaction with nursing care in a teaching hospital in China indicated that patients had a relatively high level of satisfaction with nursing care (32).

In Chana, a study conducted on 200 patients in the War Memorial Hospital Showed that the overall satisfaction level of patients were 67% and that is meaning the satisfaction level at that hospital is higher (33). A descriptive cross sectional study conducted in a tertiary care hospital of Lahore in April 2013 mentioned that about patients 232 (94%) were satisfied with the doctor (34).

Moreover, a study conducted Gamo Gofa Zone, SNNPR, Ethiopia suggested that the level of overall adult Patient satisfaction about inpatient nursing service in the hospital was very low. The information provided for patients was poor, nurses' awareness about patient desire and keeping privacy of patients in all wards was also low (35).

2.3.Factors associated with patient satisfaction

Patient characteristics and Socio-demographics such as age, gender, marital status, occupation and education is significantly associated with patient satisfaction with health care services. According to previous study the patient characteristics may influence patient's satisfaction with health care services (36). A study revealed that older age, more educated, middle-class income earners, being married were more satisfied with the quality of care received (37). A study conducted in Debre Berhan Referral Hospital, Debre Berhan, Ethiopia indicated that Patients who had high educational status were 80% less satisfied compared with those who had no formal education ($p=0.01$, $OR=0.2$, $95\% CI 0.1$ to 0.7) (31), in addition to that the education level of patients and the type of clinics had a significant influence on patient satisfaction (38). A study showed that overall level of satisfaction was 55.1%. Sex and occupation, were the only predictors of patient level of satisfaction with nursing care (12). In similar to that 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 (39). Previous study at Bahirdar Felege Hiwot Referral Hospital, North West Ethiopia stated that characteristics of patient department, age, and occupation were significantly associated with patient satisfaction (40).

A Study of the impact of health service quality and its impact on patient's satisfaction, case in a public hospital in Bechar, Algeria indicated that there was a relationship between overall service quality and patients' satisfaction with the services of specific hospital (41).

Evaluation of satisfaction with nursing care of patients hospitalized in surgical clinics of different hospitals done in turkey revealed that there were differences in patient satisfaction with nursing care in surgery clinics in different hospitals in turkey related to educational background, profession, the hospital in which the patients stay and previous hospital experience (42).

A Study of satisfaction of inpatients was conducted in a tertiary care hospital in Nagpur which mentioned that the level of satisfaction among patients was found to be better with behavior of doctors (87.76%) as compared to behavior of nurses (70.01%, 59.09%). Dissatisfaction was found to be more with cleanliness in toilets (56.01%) as compared to the other hospital areas (19). In line with that the study conducted among patients admitted in wards of Medicine, General Surgery, Obstetrics and Gynecology and Orthopedics departments of Rajindra hospital also showed that patients were more satisfied with the behavior of doctors and dissatisfaction was found to be more regarding cleanliness in the toilets and the wards (39).

Institution based quantitative cross-sectional study conducted in Dessie Referral Hospital, Northeast Ethiopia revealed that the overall patient satisfaction with nursing care was 52.5%, and respondents' sex, age, admission ward, self-reported health status, and class of admission were the variables significantly associated with patient satisfaction with nursing care. The study found the patient satisfaction with nursing care low (43).

A facility based cross-sectional study conducted from January 1-30, 2015 at Felege Hiwot Referral Hospital, Amhara Regional State, Northwest Ethiopia indicated the level of inpatient satisfaction with nursing care was low 44.9%. Sex and occupation, were the only predictors of patient level of satisfaction with nursing care (44).

Patient satisfaction with nursing care is one of important indicators of health care quality. As for Care, it is an indicator of patient health. Patient satisfaction with nursing care can be affected by numerous factors including patient-related factors such as residence, history of the previous hospitalization and the surrounding physical environment (45).

A study done in Pakistan revealed that laboratory, as well pharmacy services, had positive significant effects on patient satisfaction, while doctor–patient communication and physical facilities had an insignificant relationship with patient satisfaction. Therefore, it is suggested that a significant communication gap exists in the doctor–patient setting, and that Pakistan's healthcare system is deprived of physical facilities (46).

Other variables associated or influence patient's satisfaction in health care services identified by different literatures or scholars including, lack of privacy, autonomy, involvement in decision making, poor communication, and sanitation/hygiene leads to bad patient experience hence

decreased satisfaction (9). In similar to that other factors influence patients' satisfaction in hospital care including medical and nursing care, communication, and ward management, working hours, hospital physical environment, Patient characteristics or patient socio-demographic variables (11).

In summary, the knowledge of the current levels of satisfaction and associated factors of satisfaction either inpatients or outpatients are unknown in Somaliland, because there were no previous studies that concerned patient's satisfaction. Following to that there is a gap of evidence to assess patient's satisfaction of the service in general and at the study hospital. Thus, this study aims to create up-to-date evidence on inpatient's service delivery through assessment of patient's satisfaction, and identifying of indicators and factors which play a role to influence patient's satisfaction.

2.4.CONCEPTUAL FRAMEWOR

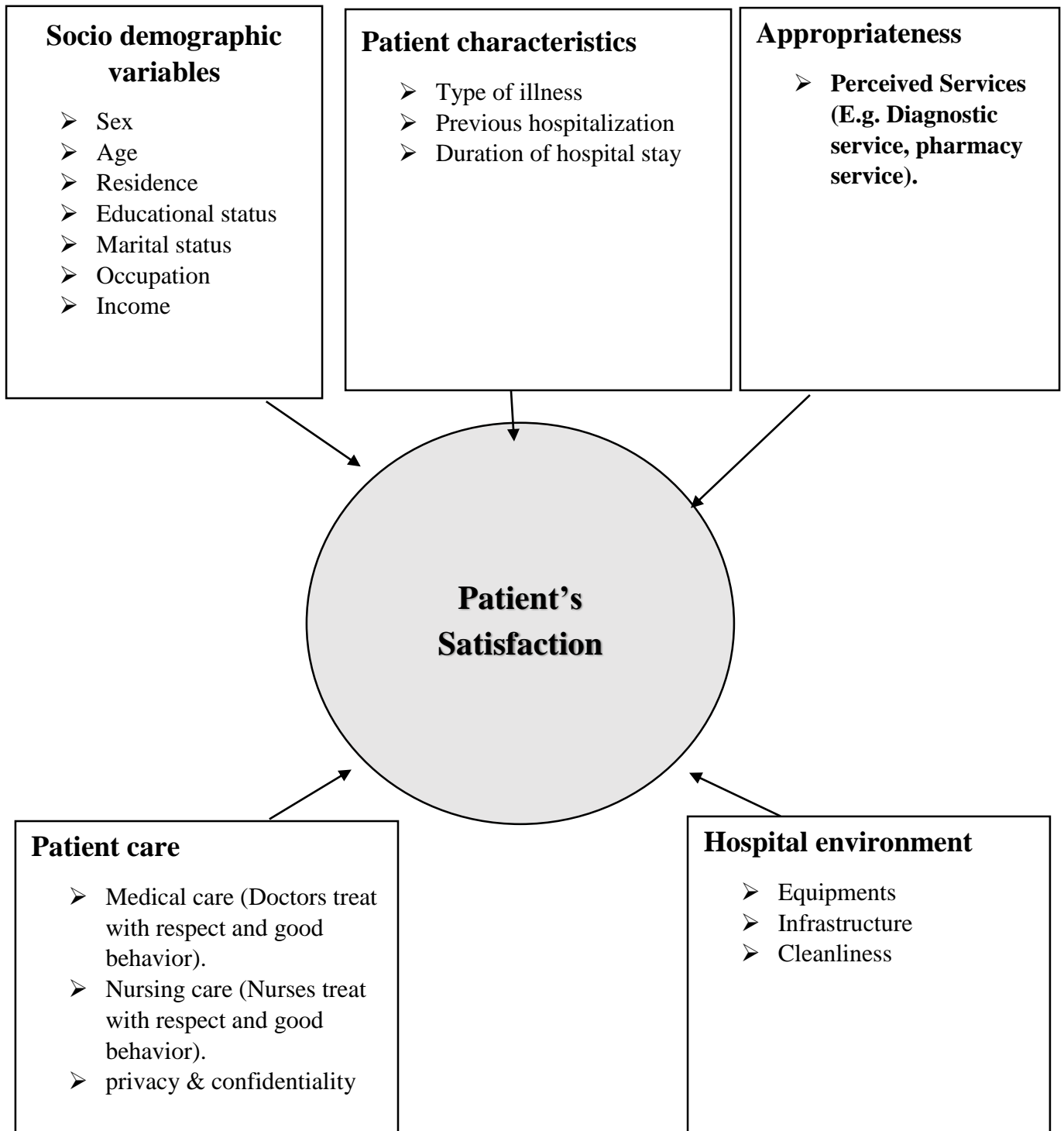


Figure 1: Conceptual framework for patient satisfaction (developed by the investigator by referring different literature) showing that patient's satisfaction and associated factors among patients admitted to the medical wards.

3. OBJECTIVES OF THE STUDY

3.1.General objective

The general objective of the study was to assess the level of satisfaction and associated factors among patients admitted to the medical wards of Hergeisa Group Hospital, Hergeisa-Somaliland.

3.2.Specific objectives

- To assess satisfaction level of patients who are admitted in the medical wards of Hergeisa Group Hospital.
- To identify factors associated with patient's satisfaction in the medical wards of Hergeisa Group Hospital.

4. METHODS AND MATERIALS

4.1. Study Area

This study was conducted in Hargeisa Group of Hospital (HGH), Hargeisa, Somaliland. Hargeisa Group of Hospital is located in Marodi Jeh Region, the capital city of Somaliland known as Hargeisa (9.5624° N, 44.0770° E).

According to the Somaliland Health demographical Survey, the Republic of Somaliland is located in the Horn of Africa. It is bordered by Djibouti to the west, Ethiopia to the South, and Somalia to the east. Somaliland has an area of 176,119.2 square kilometers and 850 kilometers of coastline with the majority lying along the Gulf of Aden. Somaliland people are ethnic Somalis and Muslims. The Somaliland population was estimated at 4.2 million in 2020 using the growth rate of 2.93 percent.

According to the 2019 census report from Central Statistics Department of Somaliland, Hargeisa has a total population of 1.2 million. Hargeisa Group of Hospital is a public hospital with vast diversity of health care services, carried out by more than 250 healthcare professionals. Hargeisa Group of Hospital is the largest referral hospital in Somaliland.

The institution was built long before the civil war in 1988 and now is one of the health hubs in Somaliland. Currently, HGH has different departments including administration, Medical department, surgery department, orthopedic department, laboratory department, radiology department, pharmacy department, pediatric department, obstetric department, gynecology department, abdominal ultrasound, ophthalmology unit, dentistry unit and outpatient department. The Medical department of HGH has outpatient and inpatient departments. Inpatient departments has 17 General practitioners serving at the medical ward, with twenty one Nurses for 34 hours rounds. The outpatient department has also three General practitioners, and Patients are admitted for different medical and surgical condition such as cardiovascular diseases, Diabetes, respiratory conditions, diarrhea, pneumonia, liver disease, gastritis, and skin diseases.

4.2. Study design and Period

A hospital based cross sectional study was conducted from March to April, 2021 to assess the level of satisfaction and associated factors among patients admitted to medical ward of HGH.

4.3. Source population

All patients admitted to the Hergeisa Group Hospital.

4.4. Study population

Patients admitted to the medical ward of the hospital.

4.5. Inclusion and exclusion criteria

4.5.1. Inclusion criteria

Patients admitted to the medical wards were included in this study.

4.5.2. Exclusion criteria

Patients admitted to the medical ward less than 48hrs prior to the data collection time and under the age of 18 years, patients who cannot communicate, Patients who are seriously ill and patients who have a mental problem were excluded from the study.

4.6. Sample size determination

Since there was no previous studies related to the subject in the study area, prevalence of patient satisfaction was taken from previous study conducted in other country to calculate the sample size. Based on an institution based cross sectional study done in Ethiopia, in 2012 (overall patient satisfaction was 90.1%) (47). Accordingly the sample size was calculated by using a single population proportion formula. $n = \frac{(Z \alpha/2)^2 * p (1-p)}{d^2}$ by considering 95% confidence interval, 5% margin of error and 90.1% proportion of patient's satisfaction. Therefore, the sample size was calculated using the following formula:-

$$\begin{aligned} n &= \frac{(Z \alpha/2)^2 * p (1-p)}{d^2} \\ &= \frac{(1.96)^2 * 0.901 * (1-0.901)}{(0.05)^2} \\ &= \frac{3.841 * 0.901 * 0.099}{0.0025} \\ &= \frac{3.841 * 0.089}{0.0025} \\ &= \frac{0.342}{0.0025} \\ &= 136.8 \end{aligned}$$

= 137

Where

n= sample size

p= prevalence, 90.1%

1-p = 1-0,901 =0.099

e= margin of error, 5%

Z= 1.96 at 99% confidence interval.

Hence, the sample size calculated is **137**. Adding for **10%** possible non response rate the total sample size is **151**.

A total of 151 study participants were allocated to the male and female medical wards by considering the case flow in the hospital during the study period March-April (76 inpatients of male medical ward and 75 female medical ward).

4.7. Sampling procedure

A Consecutive sampling technique was used to include the study participants. All patients admitted in medical wards of HGH and who fulfilled the inclusion criteria was included consequently until the required number of study participants was reached.

4.8. Study variables

4.8.1. Dependent Variable

Level of Patient's satisfaction

4.8.2. Independent Variable

Socio-demographic variables: sex, age, residence, occupation, educational level, income

Patient characteristics: history of admission, acute or chronic problem, duration of stay.

Appropriateness: of diagnostic services, treatment efficacy, access and cost of the services

Patient Care: communication and care visits by nurses and physician.

Hospital environments: Hospital environment including equipment, infrastructures, cleanliness and privacy and confidentiality.

4.9. Data collection tool and procedure

The data was collected from March to April 2021 in HGH at Medical wards using a structured questionnaire. The questionnaire was developed in English and translated into Somali (the local language) and retranslated back into English to ensure its consistency. The participants were interviewed by trained data collectors at the ward/bed side using the local language.

The questionnaire of the study covers the following items. Part one is about a socio demographic variables, patient care and appropriateness and hospital and patients characteristics. The socio demographic variables consists of seven items which includes age, sex, occupation, marital status, and educational status and economic factor deals about income. Patient care and appropriateness that contains medical care, nursing care, and all services related to hospital service care. Lastly, Hospital and patient characteristics.

Thus, the researcher developed structured questionnaire by reviewing different studies and the questionnaire consisted of 4-points Likert scale items, with 1 and 4 indicating the lowest and highest levels of satisfaction, respectively. Patients indicated their level of satisfaction by selecting responses ranging from very dissatisfied =1, dissatisfied =2, satisfied =3, and very satisfied =4 then the 4-item scales were merged into two groups “satisfied” and “dissatisfied”.

4.10. Operational definitions

Duration of stay: The number of days of stay to the hospital wards since admission.

Patient Care: Physical care provided to the patient by the nurses, physicians and other health care workers including medical care, nursing care, response time and recommendations.

Patients' satisfaction was classified; into two categories satisfied and dissatisfied based on the demarcation threshold formula $[\text{total highest score} - \text{total lowest score}]/2 + (\text{total lowest score})$ (48). Therefore

Dissatisfied: patients who score less than cut point were categorized as dissatisfied.

Satisfied: patients who score above the cut point were categorized as satisfied.

Patients overall satisfaction level: By summing up the response of all satisfaction questions those who score above the cut point were categorized as satisfied and those who score less than cut point was categorized as dissatisfied.

4.11. Data quality assurance

The data was collected using a structured questionnaire. The questionnaire was developed in English and translated into Somali (the local language) and retranslated back into English to ensure its consistency. Four Health professionals (Three Qualified Nurse and one Health officer) were recruited and trained on data collection for 3 days. The data collectors were selected out of the HDH. The data collection tool was checked through a pre-test a week before the main data collection period at HGH. The quality of the data was maintained through daily supervision, spot checking and reviewing the completed questionnaire by three trained clinical nursing and one Health officer. The principal investigator and supervisor were checked together the questionnaire for completeness, accuracy and consistency.

4.12. Data analysis

Data was entered, cleaned and analyzed by using Statistical Software for Statistical Package for Social Sciences (SPSS). The study was used quantitative data analysis of each section, the data was summarized median, standard deviation and percentage and presented in tables, graphs and charts. A 4 point Likert scale rating of very dissatisfied (1-point), dissatisfied (2-points), and Very satisfied (3 points) and satisfied (4points) were used. The 4-item scales were transformed and categorized to “satisfied” and “dissatisfied”.

Analysis was used bivariate and multivariable logistic regression using 0.05 significance level at CI of 95% to check for any association between the independent and dependent variables. The factors with p- value < 0.25, CI: 95% and less were added to multivariable regression model for analysis. The results of the logistic regression analysis was presented as odds ratio at 95% confidence interval (CI) and p-values.

4.13. Ethical considerations

An ethical clearance letter was obtained from the Institutional Review Board (IRB) of College of Medicine and Health Science (CMHS), Bahirdar University. A permission letter was obtained from the Ministry of Health, Somaliland, and Hargeisa Group of Hospital (HGH).

The objectives of the study was explained to the study participants and written informed consent was obtained before interviewing each participant. All the information obtained from the study participants was kept confidential.

5. RESULTS

5.1. Socio demographic characteristics of the respondent

Socio demographic characteristics of the respondent

From the below table, the total of 151 planned study participants, complete response rate was obtained for 149 (98.67%) (Table 1).

Seventy seventh 77 (51.7%) participants were female, whereas 72 (48.3 %) were male. From the Total of 149 participants majority of them 97 (65.1%) were married (Table 1).

Most of the respondents 92 (61.7%) were residents of Urban and closed to half of participants 66 (44.3%) were not educated (Table1).

Table 1: Socio demographic characteristics of the respondent, Hergeisa Group Hospital (HGH), Hergeisa, Somaliland, August 2021.

Variable	Category	Frequency (N)	Percentage (%)
Sex	Male	72	48.3
	Female	77	51.7
Age	10 – 29	18	12.1
	30 – 49	31	20.8
	50 – 69	68	45.6
	70 – 89	32	21.5
Residence	Rural	57	38.3
	Urban	92	61.7
Education level	Collage/University	23	15.4
	Secondary	30	20.1
	Primary	19	12.8
	informal education	11	7.4
	No education	66	44.3
Marital Status	Single	19	12.8
	Married	97	65.1
	Divorced	17	11.4
	Widowed	16	10.7
Occupation	Employed	59	39.6
	Unemployed	90	60.4
Family Monthly income	500000-2500000	67	45
	2600000-4500000	40	26.8
	4600000-6500000	24	16.1
	6600000-8500000	11	7.4
	8600000-10500000	7	4.7

2.1. Patient characteristics of the respondent

Patient characteristics

According to the frequency, the majority of the patients 79 (53%) were admitted to the Medical wards for their first time and 57 (38.3%) for second time and while rest admitted for their third or more 13 (8.7%) time (Table 2).

Most of the patients stayed in the ward for the period of 1-15 days (73.2%). For all respondents, Majority of patients 105 (70.5%) were admitted because of acute conditions and about 44(29.5) were admitted due to chronic (Table 2).

Table 2: Patient characteristics, Hergeisa Group Hospital, Hergeisa, August-2021.

Variable	Category	Frequency (N)	Percentage (%)
History of admission/Frequency	First time	79	53
	Second	57	38.3
	Three or more	13	8.7
Duration of stay in the ward in days	3-15	109	73.2
	16-30	35	23.5
	31-45	2	1.3
	>45	3	2
Cause of illness	Acute	105	70.5
	Chronic	44	29.5

2.2. Hospital Environment

In this study, among the total of 149 majorities of them 92 (61.7%), 102 (68.5%), 112 (75.2%) were satisfied regarding to Adequacy and maintenance of ward equipment and infrastructure, Cleanliness of the ward, and situation beds respectively, while 66 (44.3%) of the respondents dissatisfied concerning to availability of water and 77 (51.7%) dissatisfied for Toilets and hand washing facility (Table 3).

Table 3- Hospital Environment, Hergeisa Group Hospital, Hergeisa (HGH), August-2021.

Variables	Satisfied N (%)	Dissatisfied N (%)
Ward equipment and infrastructures	92 (61.7%)	57 (38.3%)
Cleanliness of the ward is	102 (68.5%)	47 (31.5%)
Sufficiency of ward space	109 (73.2%)	40 (26.8%)
Situation of beds is clean and comfortable	112 (75.2%)	37 (24.8%)
Surrounding atmosphere quite	112 (75.2%)	37 (24.8%)
Drinking water available	83 (55.7%)	66 (44.3%)
Cleanliness of Toilets and hand washing	72 (48.3%)	77 (51.7%)

2.3.Patient care (Both medical and nursing care) and Appropriateness

Regarding to Doctor/Nurse explaining well and listening careful to patient and treat with respect and good behavior 110 (73.8) and 108 (72.5%) of the study participants were satisfied respectively. Majorities of the patients 116 (77.9%) were satisfied with Doctor and nurse adequate visit and getting their support when needed. Out of 149, above half participants 122 (81.9%), 130 (87.2%), and 136 (91.3%) were satisfied concerning to Diagnostic services, Access to service - pharmacy, get medicine in the hospital, and Satisfied with the care that you have received in the medical ward. Whereas 35 (23.5 %) and 33 (22.1%) of the patients were dissatisfied towards reasonability of the number of rounds made by doctor and time to discuss with doctors/nurses about your problem (Table 4).

Table 4- Patient care (Both medical and nursing care) and Appropriateness, Hergeisa Group Hospital, Hergeisa, August-2021.

Variables	Satisfied N (%)	Dissatisfied N (%)
Doctors/ Nurses treat with respect and good behavior	108 (72.5%)	41 (27.5%)
Doctors/Nurses explaining well and listening careful to patient	110 (73.8%)	39 (26.2%)
Nurses make adequate visits and get their support when needed	116 (77.9%)	33 (22.1%)
Number of rounds made by the doctor is reasonable	114 (76.5%)	35 (23.5%)
Doctors/Nurses explaining well and listening careful to patient	116 (77.9%)	33 (22.1%)
Enough time to discuss with doctors/Nurses about a problems	116 (77.9%)	33 (21.1%)
Satisfied with your personal privacy	124 (83.2%)	25 (16.8%)
Diagnostic services are good	122 (81.9%)	27 (18.9%)

Have got good progress of treatment (effective)	121 (81.2%)	28 (18.8%)
Access to service - pharmacy, get medicine in the hospital	130 (87.2%)	19 (12.8%)
Access to service- laboratory and x-ray diagnosis	128 (85.9%)	21 (14.1%)
Payments for the exam, drug and other services is fair	129 (86.6%)	20 (13.4%)
Overall time spent in the hospital to get whole services	115 (77.2%)	34 (22.8%)

2.4. Overall Satisfaction of the Respondents

Overall satisfaction among the respondents were 73.15% satisfied and 26.85% were dissatisfied (Fig 2).

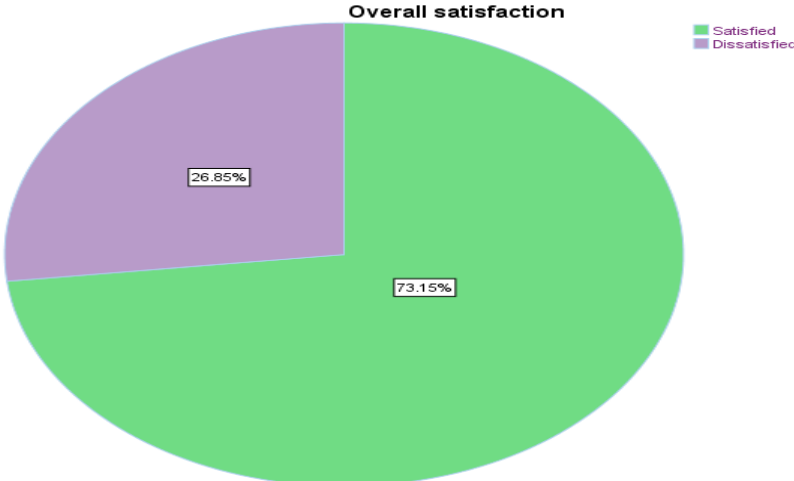


Figure two

Figure2: Overall Satisfaction of the Respondents, HGH, Hergeisa, August-2021
Overall satisfaction.

2.5.Factors associated with satisfaction level

Binary Logistic regression was used to select candidate variables for final model. By this analysis sex, education, duration of stay, cause of illness, age, situation of beds, enough time to discuss with doctors nurses about your problem, payments for the examination, drug and other services, doctors/nurse explaining well and listening careful to patient and occupation were associated with patient satisfaction.

On multivariable logistic analyses, the overall dissatisfaction was significantly associated with situation of beds, occupation, payment and enough time to discuss with doctors nurses about their problem (Table6).

Among respondents who did not satisfy with Situation of beds was 15.7% (AOR=0.157, 95% CI: 0.049, 0.50) times less likely compared to those who did to satisfy by the service.

Participants who were employed 2.85 time more likely to be satisfied than participants who were not unemployed (AOR=2.85, CI: 0.099, 8.22) (Table6).

Respondents those are dissatisfied by getting enough time to discuss with doctors/nurses about their problem were 12.7% (AOR=0.127 CI: 0.019, 0.85) less likely to satisfy with services than their counter parts (Table6).

The overall dissatisfaction was also associated with specific variables: payments for the exam drug and other services and occupation. Respondents who dissatisfied with Payments for the exam drug and other services were 13.7% time (AOR=0.137, 95% CI: 0.131, 0.58) less likely with provision of service in medical ward inpatient service compared to those who satisfied (Table 6).

Table 6- Bivariate and multivariable logistic regression analysis of patients' satisfaction and associated factors.

Variable	Category	Satisfaction		COR, 95%CI	P.value	AOR, 95%CI
		Yes (S)	No (D)			
Situation of beds	D	15 (40.5%)	22 (59.5%)	2.04 (3.35, 17.5)	0.002	0.157 (0.049, .50)
	S	94 (83.9%)	18 (16.1%)	1	1	1
Occupation	Employed	43 (72.9%)	16 (27.1%)	1.74 (1.52, 11.4)	0.052	2.85 (0.99, 8.22)
	Unemployed	66 (73.3%)	24 (26.7%)	1	1	1
Payments for the exam drug and other services	D	7 (35%)	13 (65%)	1.94 (2.55, 19.3)	0.007	0.137 (0.131, 0.58)
	S	102(79.1%)	27 (20.9%)	1	1	1
Enough time to discuss with doctors nurses about your problem	D	15 (45.5%)	18 (54.5%)	1.63 (2.24, 11.7)	0.034	0.127 (0.019, 0.85)
	S	94 (81.0%)	22 (19.0%)	1	1	1

COR=Crude odds ratio, **AOR**=Adjusted Odds ratio, p. value<0.05, **S**=Satisfied **D**=Dissatisfied

3. Discussion

Hospital based cross sectional study has attempted to assess the satisfaction of patients in Hergeisa group Hospital, Hergeisa-Somaliland.

The overall state of satisfaction (73.15%) of the respondent in this study was low compared to other studies. The study done at Jimma specialized and study done in tertiary care hospital in rural haryana India indicated higher satisfaction rate of 77.0% and 89.1% respectively. However, it also more than a study conducted on inpatient service at Debre Markos hospital, which was an overall satisfaction 46.2% (29, 49, 50). This discrepancy may be due to the level of the hospital and/or employees capacity and motivation status of the health providers to attain higher patients' needs.

This study showed that patient satisfaction about the doctor/Nurse explaining well and listening careful to patient was (73.8), this was lower than the study conducted in Dangila primary hospital, Awi zone, Northwest Ethiopia, 2018, which is 99% and higher than the study done in Gondar university hospital and Addis Ababa (2, 51, 52).

68.5% of the respondents were satisfied with cleanness of the ward, A study done in Amhara Regional State, Ethiopia 58.13% of the respondents were satisfied with cleanness of the ward and a study in Tanzania 88.5% were satisfied with cleanness of the ward (11, 53). This difference may be due to hospital organizational structure and hygienic practice.

In this study, patients were more satisfied with respect and behavior of doctors 72.5%. Arpita Bhattacharya et al also reported 98.2% patients were satisfied with behavior of doctors which is similar with the present study (39).

In present study, less than half of the patients were dissatisfied with availability of drinking water 44.3% and most of them were dissatisfied cleanliness of toilets 51.7% which is comparable with a study done in Lucknow district, India which is unsatisfactory availability of drinking water were (45.7%) and toilet facilities (37.4%) (54). The difference might be due to the difference in tools and the participants of the study.

Regarding to factors that associated with satisfaction of patients, in current study, socio-demographic variables like residence, sex, age, education, marital status, and residence, history of admission, cause of illness and admitted days of Medical wards have not significant association with patients' satisfaction. This study in line with a study conducted in Hawassa which reported that socio demographic factors not found to affect the satisfaction status of respondents (55).

However, studies conducted in different area by different scholars' socio-demographic variables were significantly associated such us, in Central Nigeria (5) age, educational status and address, in India (29), education and background, in Nigeria (56), age, marital status and educational level; in Jimma (49), age and educational level and in South Ethiopia (55), age were not statistically associated with patients' satisfaction.

The difference might be difference in study settings and participant selection. The participant of the current study is member of patient satisfaction and associated factors among patients admitted to medical wards both men and women patients' where as others were other patients either women or men, both.

In current study economic factor which is family monthly income is not significant with patient's satisfaction. The finding is similar with the study in Ghana (33) where as different from a study conducted, in India (29), in Nigeria (56), in South Ethiopia (57). The difference may be the socio economic status of the study area.

According to this study situation of beds were found be associated with satisfaction level, However, the study conducted in Northern Nigeria (20) indicated Condition of beds as an important factors that associated with satisfaction of patients. On the contrary, the study conducted at Gondar, indicated that there was not significant association of the satisfaction with the situation beds (48).

In this study patient care and appropriateness factors regarding services by nursing and doctors such as Enough time to discuss with doctors/Nurses about a problems and Payments for the examination, drug and other services is fair were statistically significant.

The finding is dissimilar with the study conducted in Ethiopia (43), which reported that factors not found to affect the satisfaction status of respondents, in Babol (23) Enough time to discuss with doctors/Nurses about a problems and Payments for the services is fair were not statistically significant. In contrast a Study done in Northwest Ethiopia (2), showed that were associated factors for patient satisfaction doctors/ nurses treat with respect and good behavior and doctors/nurses explaining well and listening careful to patient.

7. STRENGTH AND LIMITATION

7.1. Strength

- ❖ The study could be said the first in such thematic area particularly in Hergeisa-Somaliland
- ❖ Since the interview was made with admitted patients, patients who stay for a long period of time were not missed.
- ❖ Participation of patients was also generally good with a 98.67% response rate.

7.2 Limitation

- ❖ The fact that studies conducted so far in Hergeisa-Somaliland are limited on the topic, no enough literature to discuss with Somaliland context.
- ❖ The study was cross sectional, it shows only temporal relationship between variables (inability to infer causality).
- ❖ Since patients were interviewed in the hospital setting, they might give responses favoring the care provider resulting in social desirability bias.
- ❖ Data collectors were health professionals, which might result in confirmation bias.

8. Conclusion

The overall status of satisfaction of the respondent was 73.15%. The study revealed assessing satisfaction of patients is important, simple and cost effective way for evaluation of hospital services and has helped finding that indoor patients admitted in Hergeisa Group Hospital were more satisfied access to service- laboratory and x-ray diagnosis, adequacy and maintenance of ward equipment, cleanliness of the ward, doctor/nurse explaining well and listening careful to patient and treat with respect and good behavior, the time to discuss with doctors/nurses about their condition and treatment and the amount of privacy doctors/nurses gave them. Availability of water, latrine and hand washing facility should be some urgent issues needing concern.

Hospital environment, Patient care and appropriateness are areas which influences the satisfaction condition. Additional study to assess the quality of service by type and level of healthcare facilities is crucial.

9. Recommendation

Based on the finding of the study the following important recommendation is forward respective body on increasing satisfaction of patients and researchers who are engaged in this area.

Therefore this study recommend to:-

Hospital decision makers

- ❖ The hospital managers should consider institutional factors and improve to increase satisfaction of patients such as availability of water, latrine and hand washing facility.

Health care providers

- ❖ Doctors/Nurses should keep up and advance their provision of services in order to make their patients more satisfied.

Other researchers

- ❖ Further studies should be considered to explore the needs of patients and to identify types of interventions that will have a positive impact on the satisfaction of patients.

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Appendix 1



**Bahir Dar University, College of Medicine and Health Science, School of Public Health,
Department of Health System and Health Economics.**

A. Information and informed consent

Interviewer: Full name _____

Date of interview _____

Respondent's code number _____

Information sheet

Good morning/afternoon dear respondent, I am _____ who is the data collector for a study designed to assess level of satisfaction and associated factors among patients admitted to medical ward of Hergeisa group hospital, Hergeisa Somaliland, conducted by Abdiqani Hassan, a Master's student at Bahir Dar University, Department of Health system and Health economics. The study will have a benefit in the effort to improve the quality service by the stakeholders and can influence decision makers. Cross sectional data will be collected using interview from patient's admitted to the medical ward. If you take part in the study it would not be took us more than 30 minutes. I would like to assure you that everything from your information and records would be completely confidential to the research and the data are stored without your name and only used for the purpose of this study. Also no identifying names or characteristics will go into my report, so you may share your thoughts openly. Additionally, taking part in this study is completely voluntary. It is your choice whether to participate or not. You may skip any questions that you do not want to answer.

If there are things that require clarification please don't hesitate to ask the Interviewer or the principal investigator for clarification.

Contact detail of the Investigator

If you want to know more about the study you can contact the principal investigator of the study Abdiqani Hassan through his mobile phone numbers +252-634596404, or +252-654596404, Email: **a.khayre.h@gmail.com**

Do you have any questions that you need to be clarified more? If you have any questions you can contact the principal investigator at any time convenient for you using the above address.

B. Informed consent sheet

I have been briefly informed about the study and I clearly understood the objective. Since it doesn't affect my personal life and have no any incentives, I agreed to take part in the study. Consequently, I here approve my consent to take part in the study as an interviewee with my signature.

Agreed to participate than sign and proceed to interview

Not agreed to participate than thank the respondent and end the interview

Signature _____ Date _____

C. General Information

Interviewer: full name: _____ Signature _____ Date _____

Title: level of satisfaction and associated factors among patients admitted to medical ward of Hergeisa group hospital, Hergeisa Somaliland 2021.

Respondents Code No _____

Date of interview _____ **Time started** _____ **Time finished** _____

Appendix 2

Questionnaire, English Version

Part one- Socio demographic characteristics

S/N	Questions	Responses
1.1.	Sex	1. Male 2. Female
1.2.	Age	_____In years
1.3.	Residence	1. Urban 2. Rural
1.4.	Education Level	1. No education 2. Informal education 3. Primary school 4. Secondary 5. Collage/University
1.5.	Marital Status	1. Single 2. Married 3. Divorced 4. Widowed
1.6.	Occupation	1. Unemployed 2. Employed.
1.7.	Family monthly income (in SL.shilling)	_____SLsh

Part two- Patient characteristics

S/N	Questions	Responses
2.1.	History of admission/Frequency	1. First time 2. Second 3. Three or more
2.2.	Duration of stay in the ward	_____ in days
2.3.	Cause of illness	1. Acute 2. Chronic

SATISFACTION MEASURING QUESTIONNAIRES

Instruction: Please give one answer among the alternatives that most accurately reflects Patient's view on each statement. The alternative answers are as follows

Glossary: 1= Very dissatisfied 2= dissatisfied 3= Satisfied 4= Very satisfied

Part three- Hospital Environment

S/N	Questions	Responses			
		1	2	3	4
3.1.	Adequacy and maintenance of ward equipment and infrastructures including availability of wheelchair.				
3.2.	Cleanliness of the ward is				
3.3.	Sufficiency of ward space				
3.4.	Situation of beds is clean and comfortable				
3.5.	Surrounding atmosphere quite				
3.6.	Drinking water available				
3.7.	Cleanliness of Toilets, hand washing and bathrooms facility				

Glossary: 1= Very dissatisfied 2= dissatisfied 3= Satisfied 4= Very satisfied

Part four- Patient care (Both medical and nursing care)

S/N	Questions	Responses			
		1	2	3	4
4.1.	Doctors/ Nurses treat with respect and good behavior				
4.2.	Doctors/Nurses explaining well and listening careful to patient				
4.3.	Nurses make adequate visits and get their support when needed				
4.4.	Number of rounds made by the doctor is reasonable				
4.5.	Enough time to discuss with doctors/nurses about your problem				
4.6.	Satisfied with your personal privacy				

Glossary: 1= Very dissatisfied 2= dissatisfied 3= Satisfied 4= Very satisfied

Part five-Appropriateness

S/N	Questions	Responses			
		1	2	3	4
5.1.	Diagnostic services are good				
5.2.	Have got good progress of treatment (effective)				
5.3.	Access to service - pharmacy, get medicine in the hospital				
5.4.	Access to service- laboratory and x-ray diagnosis				
5.5.	Payments for the exam, drug and other services is fair				
5.6.	Overall time spent in the hospital to get whole services				
5.7.	Satisfied with the care that you have received in the medical ward				
5.8.	All the services needed to treat problems available at the hospital				

Glossary: 1= Very dissatisfied 2= dissatisfied 3= Satisfied 4= Very satisfied

For the question 6.2 please select yes or no based on a patients response

Part Six-General

S/N	Questions	Responses			
		1	2	3	4
6.1.	Overall satisfaction to the service				
6.2.	Will you return to the hospital in the future when you become ill	Yes		No	
6.3.	Recommend the hospital to your friends and family	Yes		No	

General Information

Interviewer: full name: _____ Signature _____ Date _____

Respondents Code No_____

Date of interview _____ **Time started** _____ **Time finished**_____

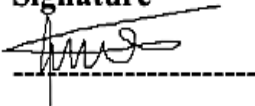
Declaration

I, the undersigned, MPH student declare that this level of satisfaction and associated factors among patients admitted to medical wards at Hergeisa group hospital, Hergeisa Somaliland is my original work and has not been presented for a degree in this or any other university, and all the source used or quoted for the thesis have been indicated and acknowledged.

Name: Abdiqani Hassan Abdirahman Signature: _____

Submission Date: 24-Feb-2022

This thesis has been submitted for examination with my approval as University Advisor(s).
Approval of Advisors.

Name	Signature	Date
1. Mr. Mohammed Hussein	 -----	<u>22-Feb-2022</u>
2. Mr. Getasew Tadesse	-----	-----