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Assessment of Patient Satisfaction with Access to Healthcare Services at Mbozi District Hospital, in Songwe Region, Tanzania

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Abstract

This study assessed patient's satisfaction on access to health services in public health facilities particularly at Mbozi District Hospital, using a convenience sample of 112 patients. Data were collected through interviews, observations, and documentary reviews. The study had two specific objectives: the first was to determine the level of customer satisfaction in accessing health services, and the second was to examine factors for patient satisfaction. Descriptive statistics were used to show the demographic characteristics of respondents and frequencies and percentages were obtained. The Likert scale was used to measure the level of patient satisfaction based on their opinions while a Multiple Linear Regression model was used to examine the determinant factors for patient satisfaction. The results revealed that the level of satisfaction was inadequate where availability of experts in the hospital, such as medical doctors and specialized doctors; staff attitude (traits towards the patient); availability of medicine, and improved sanitation infrastructure (clean washrooms) were the significant determinant factors. Therefore, more efforts should be made to improve patient satisfaction by providing better health services. The local government authorities should continuously sensitize health workers to be available at their working stations. Furthermore, the hospital Management should ensure that sanitation infrastructures, especially washrooms, are constantly cleaned and should also make follow ups to ensure medicines are always available.

Keywords: Patient satisfaction, health services, hospital, Mbozi district

1.0. Introduction

Patient satisfaction is a critical indicator of healthcare quality, reflecting the extent to which health services meet patients' expectations and needs. It is determined by the provision of better services. In Tanzania, understanding patient satisfaction is essential for enhancing healthcare delivery and ensuring equitable access to services. Most health facilities use various techniques to develop rapport with patients, allowing them to feel free to provide feedback about their level of satisfaction. Therefore, better provision of health services makes patients feel comfortable with the services being offered (Woz´niak *et al.*, 2023).

With the evolving healthcare industry toward a patient-centred orientation, patient perspective input is valuable. Improved patient satisfaction is associated with increased adherence to treatment processes, recommended prevention, and improved health outcomes. The provision of health services in Tanzania is guided by its national health policy. One of its primary objectives is providing primary health care to all citizens, which is linked to the

health-related Sustainable Development Goals (SDGs). One key component of the SDGs is ensuring healthy lives and promoting well-being for all ages through better provision of health services.

In Tanzania, health service provision is constrained by several factors, including insufficient infrastructure, unavailability of drugs and/or medical equipment, and limited human resources for health. For example, the nurse-to-patient ratio in rural Tanzania is much higher than in urban areas. According to a study by Coe *et al*. (2023), the nurse-to-patient ratio in public health facilities is around 1:20, against the WHO recommendation of 1:8. Moreover, the World Health Organization reported that the doctor-to-patient ratio in Tanzania stands at 1:20, instead of the recommended 1:8.

In the study on patient satisfaction, the Tanzania Health policy of 2003 was reviewed, which put much emphasis on the client service charter. The role of the Client Service Charter is to provide quality health services that meet clients' satisfaction. The role of the Ministry of Health is to ensure that the needs of the patients are met to achieve the service standards and meet the client's satisfaction (URT, 2003).

Apart from the National Health Policy, several theories were reviewed, including Maslow's hierarchy of needs theory, which states that people are motivated to satisfy their needs. Physiological needs in healthcare relate to the immediate medical needs of patients. Satisfaction is influenced by how well healthcare services address these basic needs, such as timely access to medical care. Another need is safety; patients prioritise safety in healthcare settings, which includes the quality of care and emotional safety through respectful interactions with healthcare providers. A safe environment increases patient satisfaction.

Maslow's theory also considers the need for love and belongingness; emotional support from healthcare providers and strong patient-provider relationships can enhance satisfaction. Patients who feel cared for and understood are more likely to report positive experiences. Esteem needs, which explain that recognition from healthcare staff can boost patients' self-esteem, also play a role. This includes being listened to, having their opinions valued, and receiving acknowledgement of their concerns and achievements regarding their health. Overall, understanding Maslow's Hierarchy of Needs in the context of healthcare can help providers create a more patient-centred approach. By addressing needs at all levels, healthcare organizations can improve patient satisfaction, leading to better health outcomes and increased patient loyalty.

Another theory reviewed is the Existence, Relatedness, Growth (ERG) theory, developed by Alderfer (1972). This theory, which originates from Maslow's hierarchy, proposes three basic needs: existence (nutritional and material requirements like pay and conditions), relatedness (meaningful social relationships with family, friends, and colleagues), and growth (the need for personal development and increased competence). The ERG Theory emphasizes that a conducive environment in healthcare facilities can motivate patients and increase their satisfaction.

In the empirical review, several studies have explored patient satisfaction. Chonya (2019) studied the quality of health services and patient satisfaction at Mwananyamala Hospital. The findings revealed overall dissatisfaction among patients with the services provided. Patients were dissatisfied with services related to the availability of drugs and the behaviour of medical staff (empathy). However, they expressed satisfaction with aspects such as environmental

safety and information related to drugs, including their usage (accessibility).

A study by Khan *et al*. (2017) at primary healthcare facilities in Gujranwala District highlighted low patient satisfaction levels with public health service providers. Patients were particularly dissatisfied with the behaviour and politeness of staff, including respect, privacy, comfort, and safety during check-ups. The behaviour of registration staff, doctors, and dispensers was also rated as unsatisfactory.

Similarly, Hamis and Njau (2016) conducted a study at a health facility and found that outpatients were dissatisfied across all five quality dimensions studied: assurance, reliability, tangibility, responsiveness, and empathy. Another study by Munyewende and Nunu (2017) on patient satisfaction with nurse-delivered primary healthcare services in the Free State and Gauteng provinces of South Africa observed weaknesses in customer care. These included dissatisfaction with the provision of prescribed drugs, as not all patients received them, and some were asked to purchase medications from outside pharmacies. Additionally, patients expressed dissatisfaction with the lack of information about the side effects of medicines, safety, and customer care at the facilities.

A study at Kilimanjaro Christian Medical Centre (KCMC) addressed prolonged outpatient department (OPD) waiting times by implementing interventions such as electronic medical records and block appointment systems. These measures reduced the median OPD waiting time by 45%, from six hours to three and a half hours, significantly enhancing patient satisfaction (Mwanswila *et al*., 2024).

A study by Bergh *et al*. examined determinants of pregnant women's satisfaction with antenatal care across Kenya, Tanzania, and Malawi, finding that factors such as the quality of provider-patient interactions and the availability of essential services significantly influenced satisfaction levels. Another study by Nyanda and Nyongole (2018) reported that most patients at Muhimbili National Hospital in Tanzania took much longer to see specialist doctors unless they had appointments.

A study conducted in South Africa by Munyewende and Nunu (2017) concluded that patient satisfaction is a fundamental indicator of equitable quality of care. Another study on patient satisfaction at a referral hospital in Tanzania observed a high level of satisfaction among respondents, primarily due to the hierarchical healthcare delivery system, whereby the referral hospital is at the apex of super-speciality services (Muhondwa *et al*., 2008). However, a small proportion of patients were dissatisfied with long waiting times, high treatment costs, and investigation charges. It is well documented that if patients' levels of satisfaction with the quality of care do not meet their standards, they may seek treatment elsewhere. In fact, satisfied patients are likely to exhibit favourable behavioural intentions, which benefit the healthcare provider's long-term success (Chonya, 2019).

A study conducted at Kilimanjaro Region Hospital revealed that only 20% of patients were satisfied with outpatient services, indicating significant dissatisfaction among the majority (Ga & RN, 2017). Similarly, research at Mwananyamala Hospital in Dar es Salaam reported overall dissatisfaction with the quality of outpatient care and long waiting times for services (Khamis & Njau, 2014; Msengwa *et al*., 2020).

However, the research evaluates clients' satisfaction at primary healthcare facilities regarding implementing the Client Service Charter (CSC) and its association with patient satisfaction. The

study found that only 69.1% of facilities displayed the CSC, and a mere 32.5% had mechanisms for client feedback and complaint handling. Despite these shortcomings, the overall prevalence of client satisfaction was 72.8%. The study concluded that clients were more satisfied when healthcare services were provided in facilities that displayed the charter, monitored its implementation, and had mechanisms to obtain client feedback and handle complaints (Kinyenje *et al.,* 2022).

These studies underscore persistent gaps in patient satisfaction across different dimensions of healthcare delivery and provide valuable insights into patient satisfaction in various regions of Tanzania. However, there is a noticeable gap in research explicitly focusing on Mbozi District Hospital. Therefore, this study assessed patients' satisfaction with access to healthcare services at Mbozi District Hospital, collecting information that could help the government establish interventions to improve healthcare delivery in the Songwe Region. Various efforts made by the Tanzanian government to enhance patient satisfaction include improving the standards of service provision to clients and establishing an open-door policy whereby patients can freely provide complaints through complaint desks established in every health facility in Tanzania. Public hospital management has gauged the measurement of patient satisfaction through the number of complaints received from patients (Kinyenje, 2022).

Despite the government's efforts and successes with satisfaction measurement and several studies on patient satisfaction, evidence shows that more work is still needed in this area. There has been little improvement in customer satisfaction in public hospitals. Therefore, this study is limited to assessing customer satisfaction regarding the quality of health services accessed at Mbozi District Hospital.

2. Materials and Methods

2.1. Description of Study Area

The study was executed in the Mbozi District of the Songwe Region, Tanzania. Mbozi district is located in the southwestern part of the Mbeya Region, between latitudes 8^0 and 9^0 12' south of the Equator and longitudes 32^0 7' 30" and 33^0 2' 0'' East of the Greenwich Meridian. It shares borders with Mbeya District to its eastern part, Ileje District to the south, Momba District to its western part and Chunya District to the north. The area is easily accessible to patients. Additionally, there is already available data and previous research studies on patient satisfaction at the facility, which can provide a foundation for the new research to make comparisons over time. Moreover, familiarity with the facility enhances access to data and participants. Lastly, the facility's good reputation, quality of care, and staff-patient ratios interest the researcher in understanding how these factors correlate with patient satisfaction.

2.2. Study Design and Data Collection

The study involved a sample size of 112 outpatient respondents who were obtained through convenience sampling. Convenience sampling is a non-probability sampling method where units are selected for inclusion in the sample because they are the easiest for the researcher to access. This can be due to the availability of patients at a given time or their willingness to provide information (Simkus, 2022). These sampling techniques enabled the researchers to obtain information relating to satisfaction directly from patients seeking care at Mbozi District Hospital. Data were collected using questionnaires administered through interviews and a checklist employed for observations and documentary reviews.

2.3. Data Analysis

Descriptive statistics were used to obtain frequencies, means, and standard deviations to determine the level of customer satisfaction in accessing health services at Mbozi District Hospital. A Likert scale was also used to gather information on patient perceptions regarding satisfaction with various dimensions of health services. In each dimension, some patients were satisfied (services met their expectations), while others were dissatisfied (services did not meet their expectations). The two groups (satisfied and dissatisfied) were described across six dimensions of health service accessibility: the treatment of patients with respect and politeness (empathy), the availability of health workers whenever needed, the availability of necessary medications, the availability of privacy and confidentiality, information on how to use prescribed medications, and the availability of conducive sanitation infrastructure (clean washrooms). Patients could then explain the extent of their satisfaction or dissatisfaction based on the services offered. Additionally, the patient's satisfaction with each quality dimension was measured by comparing the mean score for each item.

Patients were categorized into satisfied and dissatisfied groups based on the six dimensions of health service accessibility: empathy (respect and politeness), availability of health workers, access to medications, privacy and confidentiality, medication information, and sanitation facilities (clean washrooms). Satisfaction was assessed by comparing the mean scores for each dimension.

Multiple Linear Regression was used to examine the determinant factors for customer satisfaction in accessing health services at Mbozi District Hospital (equations 1 and 2). This model studies the effect of specific independent variables while controlling for the effects of other variables (i.e., confounders) and can also collectively analyse the effects of several independent variables.

Description of variables in models

$Y=f(x_1 x_2 x_3 x_4 x_5 \ldots X_n \varepsilon)$. ..... Equation 1

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta 7X7 + \varepsilon$ ..... Equation 2

Where by

Y: Dependent variable

Xs: independent variables

β_0: Regression constant

β =Regression coefficient

ε = Error term

β_0 = is the value of Y when all Xs (all independent variables) are zero (0)

β_1 = is the amount of change in Y when X_1 is increased by one unit when other independent variables are held constant (i.e., held at their mean);

β_2 = is the amount of change in Y when X_2 is increased by one unit when other independent variables are held constant (i.e., held at their mean); etc.

ε = Effect of all other variables NOT included in the model

Table 1 Description of variables

Variable		Variable Description	Expected effects
Dependent Variable Y		**Patient satisfaction** Dummy 1 satisfaction, 0 otherwise	**+/-**
Independent Variables X		**Factors for patient satisfaction**	**+/-**
experts	X_1	Availability of experts Dummy 1 Available, 0 otherwise	+/-
Staff attitude	X_2	Employee attitude (customer care) Dummy 1, good, 0 otherwise	+/-
Medicine	X_3	Availability of medicine Dummy 1, Available 0, otherwise	+/-
hygiene	X_4	Hygiene of sanitation infrastructure Dummy 1, Clean 2, otherwise	+/-
Technology	X_5	The use of information technology Dummy 1, the use of ICT, 0 otherwise	+/-
Cost medical	X_6	Costing of medical services Dumy 1, high cost 0, otherwise	+/-
Accountability	X_7	Employees accountability Dummy 1 high accountability 0, otherwise	+/-

3. Results and Discussion

3.1. Demographic characteristics of respondents

The results from Table 2 indicate that 61% of the respondents were female, while the remaining 39% were male. This suggests that females, especially pregnant women, attend health facilities for clinic services compared to males. In addition, females pay more attention to health-related problems when they arise than men. This finding is consistent with a study by Chonya (2019) at Mwananyamala Hospital, which noted that many women attend health facilities more than men. This implies that women are taking health issues more seriously than men.

The age range was categorized into four groups, with approximately 30% of respondents aged 60 and above, indicating that this group is more vulnerable to diseases. Conversely, the least represented group was those aged 18 to 30, comprising about 10%, suggesting that this age group is less affected by diseases, so they do not frequently seek health services. This observation aligns with a study by Nyamwange (2012) conducted at public hospitals in Kisumu Municipality, Kenya, which found that elderly individuals visit hospitals more frequently than other age groups. However, these results differ from a study by Msengwa *et al*. (2020) at Mwananyamala Hospital, which observed that the 41-58 age group visits health facilities more often than other age groups.

Approximately 40% of respondents were married, making them the most significant group compared to other marital statuses, as shown in Table 2. This suggests that married individuals may face more health-related challenges due to their responsibilities, such as caring for dependents like children and elderly relatives. These caregiving roles likely increase their visits to health facilities, either for their own needs or to assist sick family members. This finding aligns with Wasswa & Amwonya *et al.* (2024), who found that married

individuals often have greater family responsibilities, which may lead to increased interactions with healthcare services.

The findings also indicate that individuals with secondary education or higher visit health facilities more frequently than those with only primary education. This may be attributed to increased health awareness among those with higher education, leading them to seek professional medical care and accurate diagnoses rather than self-medication. These results highlight the influence of education on health-seeking behaviour and the importance of informed decision-making in accessing healthcare services. This is consistent with a study on childhood illness prevalence and health-seeking patterns in rural Tanzania, which found that caregivers with higher education levels were more likely to seek formal healthcare services for their children (Wasswa *et al.,* 2024).

Table 2: Demographic characteristics of respondents (n=112).

Status	Frequency	Percent
Gender		
Male	44	39.3
Female	68	60.7
Age		
18-30	12	10.7
31-40 years	18	16.1
41-50 years	21	18.8
51-60 years	28	25.0
Above 60 years	33	29.5
Marital status		
Married	38	33.9
Single	28	25.0
Widowed	18	16.1
Divorced	16	14.3
Separated	12	10.7
Education level		
Primary level	39	34.8
Secondary and above	61	65.2

3.2. Levels of patient satisfaction in accessing health services:

3.2.1. Treatment with respect and politely

The result in Table 3 indicates that most respondents, about 60%, reported that health workers, specifically nurses, do treat patients politely, and therefore, they were not satisfied with health services concerning customer care. This implies that patient care in most public health facilities is insufficient; this result is similar to a study that was conducted by Chonya (2019) at Mwananyamala, who revealed that the rate of patient care is minimal compared to private hospitals. One of the patients reported that;

"When we arrived at the hospital, health workers did not use welcoming language or even show us where to start. It was our responsibility to find the specific area to begin. Most of us were not aware of the registration procedure. In addition, we took a long time to be served. One of the

reasons associated with the delays included insufficient customer care and staff insensitivity to individual needs." (15th September 2023).

3.2.2. Availability of health workers in time

The result in Table 3 indicates that most of the respondents, about 66%, were satisfied with the availability of health workers; the rest of the respondents, about 34%, were not satisfied with the availability of nurses and doctors. This result is similar to Waya (2013), who observed that most health workers are always available. However, most patients reported that the health workers were few compared to the number of patients, especially in the morning sessions. This implies that the ratio of nurses/ doctors to patients is unsatisfactory. According to WHO standard 1: 8 patient ratio. However, currently, it is 1:20 patients.

One of the doctors explained, "We are facing a greater challenge of receiving many patients compared to our capacity; you may find a patient can spend five to eight hours waiting for health services." (Doctor, 24 September 2023).

3.2.2. Availability of needed medicine on time

The results indicate that there is a relationship between the level of satisfaction and whether the hospital provided all specific drugs needed by patients. The study revealed that more than half of the respondents, about 56% (patients), did not receive all medicine when needed on time, and the rest, about 44%, did not receive medicine on time. This result is similar to Chonya (2019), who reported that most public health facilities that are not referral hospitals do not have all the required medicine.

One of the respondents reported that:

"Several times when I visit this health facility, I fail to get all the medicine required; as a result, I go to buy from the pharmacy. Most of us visit public health facilities because of assurance in the quality of services since government hospitals are not for profit." (Patient, 2023, September 15*).*

3.2.3. Privacy and confidentiality

The study's findings reveal that a significant portion of respondents, approximately 68%, are satisfied with the management of privacy and confidentiality regarding their health information. These patients reported that their medical conditions are not disclosed to others. However, the remaining respondents expressed dissatisfaction with how their health information is handled. This contrasts with the findings of Nyamwange (2012), who noted that many public health facilities fail to address patient privacy concerns adequately.

3.2.4. Information on medicine usage

The result in Table 3 shows that respondents are more likely to be satisfied with the information provided at the facility about what medicines are provided at the hospital. Regarding whether nurses and doctors provide enough information on how to take medicine correctly. About 69% of the respondents were satisfied, and the rest of the respondents, about 31%, were not satisfied. Those who were unsatisfied reported that the language used was a significant barrier. This implies that the level of patient satisfaction is still low since the matter of medicine needs special attention. The expectation is to have 100% of respondents get the required information on how to use medicine. This result is similar to Sule *et al*. (2020), who found that providing comprehensive information on how to use medicine can increase customer satisfaction.

One patient reported, "We get medicine, but some nurses do not spare their time to provide understandable information on how to use it; they normally write outside medicine bags or boxes on how to use the medicine." (October 4, 2023).

3.2.4. Condition sanitation infrastructure (washrooms)

The results in Table 3 indicate that on the issues of services related to sanitation, all patients with different levels of sickness were not satisfied with the cleanliness of washrooms and the availability of water. The results in Table 3 also show that 75% of respondents were satisfied with the issue related to hygiene, specifically in the washrooms. This result is similar to those of Ojo and Akinwumi (2019) and Boyce (2019), who reported that private health facilities have better hygiene than public health facilities. This implies that the level of customer satisfaction on issues related to hygiene in public health facilities is low.

One of the respondents reported, *"I feel disappointed visiting the washrooms because they miss water and soap. I am not comfortable attending washrooms in a public hospital."* (October 4, 2023).

Table 3. Levels of patient satisfaction in Mbozi District Hospital

Variable		Strong disagree	Dis agree	Agree	Strong Agree	Total
Treatment with respect and politely	Dissatisfied	0	0	68(60.7%)	0	68(60.7%)
	Satisfied	0	0	0	44(30.3%)	44(30.3)
Availability of health workers on time	Dissatisfied	38(33.9%)	0	0	0	38(33.9%)
	Satisfied	0	0	74(66.1%)	0	74(66.1%)
Availability of the prescribed medicine	Dissatisfied	0	0	63(56.3%)	0	63(56.3%)
	Satisfied	0	0	0	48(43.7%)	48(43.7%)
Privacy and confidentiality	Dissatisfied	0	0	36(43.1%)	0	36(43.1%)
	Satisfied	76(67.9%)	0	0	0	76(67.9%)
Clear information on medicine usage	Dissatisfied	0	35(31.3%)	0	0	35(31.3%)
	Satisfied	0	0	77(68.7%)	0	77(68.7%)
Conducive sanitation infrastructure (clean washrooms)	Dissatisfied	0	0	75(67%)	0	75(67%)
	Satisfied	0	37(33%)	0	0	37(33%)

3.2.5. Measurement Instruments and Cronbach's Alpha Reliability

During this study, a number of measurement instruments were used, such as internal consistency, which was assessed by calculating Cronbach's alpha reliability coefficients for each scale. An alpha coefficient of greater than 0.7 was considered acceptable (Asif *et al*., 2019).

$$\alpha = \frac{N\bar{c}}{\bar{v} + (N-1)\bar{c}}$$

Where by Here N equals the number of items, $\bar{c}$ is the average inter-item

covariance among the items and $\bar{v}$ equals the average variance.

Variables=q1, q2, q3, q4.q5, q6
Reliability :
[Datasets2] D:\documents\spss—alfa_faq\spss_faq.sav

Case Processing Summary:

Cases	N	%
Valid	112	100
Excluded	0	0
Total	112	112

Reliability Statistics

Cronbach's alpha	No of items
0.788	6

Since the alpha coefficient for the six items is 0.788, this suggests that the items have relatively high internal consistency. (Note that a reliability coefficient of 0.70 or higher is considered "acceptable" in most social science research situations (Bowling, 2014).) Therefore, the calculations of the mean score provide results on the dimension of health provision and the level of patient satisfaction.

The patients' satisfaction for each dimension was measured by comparing the mean scores for each of the items with the cut-off point (mean score of 3.897), indicating that a mean score above 3.897 shows a low level of satisfaction with the healthcare services. Table 4 reveals that patients at Mbozi District Hospital were not satisfied in some dimensions, such as respect and politeness, availability of medicine, and provision of accurate information on medicine usage. However, they were much more satisfied with the availability of health workers on time and with privacy and confidentiality.

Table 4. Dimension of health service provision and level of satisfaction

Variable	Number of items	Total mean score	Mean score per item	Mean score cut-off point
Treatment with respect and politely	6	16.72	4.18	1.07
Availability of health workers on time	6	14.53	3.41	0.52
Availability of needed medicine	6	18.30	4.55	1.17
Privacy and confidentiality	6	9.42	3.12	0.79
Accurate information on medicine usage	6	15.52	3.24	0.99
conducive sanitation infrastructure (clean washrooms)	6	17.37	4.88	1.08

3.3. Determinant factors for patients 'satisfaction at Mbozi District Hospital

In determining key factors for patients' satisfaction, a multiple linear regression model was used; the following regression assumption was considered:

Assumption: The relationship between the independent and dependent variables should be linear (linearity).

Test: Scatter Plots: Plot the dependent variable against each independent variable. The graph indicates that the relationship between independent and dependent variables is linear.

Assumption: Independent variables should not be too highly correlated with each other (No multicollinearity)

Test: Correlation Matrix: pairwise correlations between independent variables.

Variance Inflation Factor (VIF): A VIF value above 10 (or sometimes 5) indicates high multicollinearity.

VIF = 1: Indicates no correlation between the independent variable and the other variables. This means that the variable is not correlated with other independent variables.

1 < VIF < 5: Suggests a moderate correlation. Generally, this is considered acceptable, but it is good to monitor.

VIF ≥ 5: Indicates significant multicollinearity. This suggests that the independent variable is highly correlated with one or more other independent variables in the model.

VIF ≥ 10: This is often considered a threshold for serious multicollinearity issues, meaning that the variable's estimates may be unreliable.

The following formula calculates the variance inflation factor for predictors (VIF):

$VIF = 1/(1 - R^2)$,

Where R represents the multiple correlation coefficient of an independent variable relative to all other descriptors in the model.

Mode summary

Model	R	R Square	Adjusted R Square Std. Error of t	Std. Error of the Estimate
1	.789	.622	.507	332.764

Predictors: Availability of medical experts, staff attitude, availability of medicine, hygiene, and medical costs. Dependent variable: Patient satisfaction.

The model summary shows that independent variables are good predictors since they have R^2 of 0.622, which is within the range from 0 to 1. When R^2 is 0, it means that the independent variables do not explain any variance in the dependent variable. When R^2 is 1, it means that the independent variables explain all the variance in the dependent variable.

Table 5. Factors for patients' satisfaction in accessing health service

Model	Unstandardized coefficients	Standardized coefficients		t	p-value
	β	Std. error	Beta		
Constant)	-010	-087		2.204	.028
Expert (X_1)	.237	.121	0.192	9.230	.000
Staff attitude (X_2)	.233	.392	-.068	3.617	.000
Medicine (x_3)	.324	.114	.267	2.593	.030
Hygiene (x_4)	.037	.184	.032	3.310	.001
Costmedical (x_5)	.077	.283	.024	2.143	.044
ICT(x_6)	.043	.118	.043	2.231	.022
Accountability(x_7)	.051	.203	.067	1.661	.103

3.3.1. Availability of expert in a facility

Results presented in Table 5 indicate that the availability of experts has a positive variation of about 24% in influencing customer satisfaction. The P value is .000, implying that the availability of experts, such as doctors in a health facility, can lead to patient satisfaction. This result is

similar to that of Khan (2017), who assessed District Gujranwala, India's primary healthcare facility, and observed that competent staff availability greatly influences customer satisfaction. Most customers prefer to go to the facilities where there are many specialist doctors. One of the medical doctors reported, *"In our hospital, we do not have specialist doctors, we have special days where specialized doctors from Mbeya Referral Hospital visit to assist us in handling special cases. For that reason, some patients go directly to Mbeya Referral Hospital, which is located about 70 kilometres from our hospital."* (Doctor 18, October 2024). This implies that the availability of specialized doctors is an important factor in patient satisfaction.

3.3.2. Staff attitude

The results from Table 5 indicate that respondents' opinions regarding employees' attitudes toward patients were unsatisfactory. A better attitude also increases customer satisfaction by 23%, and the p-value is less than 5%, which shows that employee attitude has a direct influence on patient satisfaction. However, employee behaviour differs from unit to unit; some staff members use more appealing language with customers.

Despite variations in respondents' opinions regarding health workers' attitudes toward patients, the findings revealed satisfaction gaps, particularly among outpatient staff, medical doctors, laboratory staff, and pharmacy staff. The results indicate that outpatient and pharmacy staff traits ranked low, with mean scores of less than 3.0. In contrast, medical doctors and laboratory workers developed good relationships with patients, achieving mean scores above 3, with dispersion measures of 1.061 and 1.085, respectively, as indicated in Table 6. One of patients reported,

"Nurses tend to be in a rush, and they end up not being polite with us." (Patient, 2024).

This result conforms with a study conducted by Nyamwange (2012), who observed that staff attitude is one of the factors affecting customer satisfaction in public hospitals in Kisumu Municipality in Kenya.

3.3.3. Availability Medicine

The result in Table 5 indicates that a variable that represents the availability of medicine has a p-value of 0.030, which is less than 5%, indicating that the availability of medicine is a significant factor that the availability of medicine in health facilities can influence customer dissatisfaction by 32%. Therefore, as medicine is always available, the level of dissatisfaction with the patient increases by 32%. This result is similar to the study conducted by Onwujekwe (2017) on patients' satisfaction with healthcare services in Nigeria, who revealed that most of the public health facilities at the lower levels do not have all categories of medicine because public medicine is being distributed based on the level of a facility. However, in Tanzania, shortages of essential medicines in public health facilities are a significant issue in Tanzania that has persisted (Wales *et al.,*2014). This situation has resulted in patient satisfaction in public health facilities.

One of the patients reported that, *"We always go to Ilasi Hospital, which is a private hospital, because all medicine is available at a given time, and in addition, workers assist us in following procedures for getting services" (October 15, 2023).*

One of the Doctors reported that *"Sometimes medicine does not reach the facility on time, and some medicines are consumed too much by patients, such as antibiotic drugs, which results in missing some medicine. The only solution is to ask a patient to take medicine outside the facility."(October 18, 2024).*

The issue of being asked to buy medicines outside the hospital seemed to be crucial and made patients dissatisfied with the services. Some of the

respondents reported that they were asked to purchase certain drugs outside the facility because they were either out of stock or unavailable within the facility. The availability of essential drugs is an important factor influencing patients' level of satisfaction, as observed in several other studies in different settings (Khan *et al.,* 2017).

3.3.4. Hygiene status of Sanitation infrastructure (Washrooms)

The study focused on investigating whether cleanness and neatness were taken onboard in sanitation infrastructures, specifically in the washrooms. From Table 5, the study revealed that the washrooms were not clean and neat. This result is similar to the study conducted by Khamis and Njau (2014) at Mwananyamala Hospital that the status of cleanliness in the hospital was insufficient; as a result, most of the patients were not satisfied with the service. Also, the study found that 55% of the respondents (patients) were not satisfied with the cleanliness and neatness of the hospital, as indicated in Figure 1. Also, WHO (2019) reported that cleanliness and neatness are important in reducing patient stress. Cleanliness and neatness are the most tangible factors that influence patient satisfaction. The result from Table 5 shows that the sanitation infrastructure has a P value of 0.01, which is less than 5%; therefore, this is statistically significant. This implies that most of the patients are satisfied when they go to the washroom, which is clean with plenty of water. In addition, the coefficient indicates that as an organisation improves hygiene in the washrooms, they increase the level of customer satisfaction by 37%.

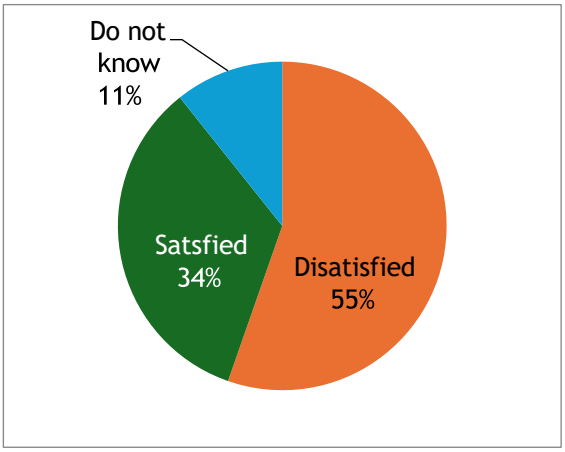

Figure1. Customer satisfaction with the available toilets

3.3.5. Cost of medicines, the use of ICT, and accountability of workers

The results in Table 5 indicate that the cost of medicine, the use of ICT, and accountability do not influence the patient's satisfaction since their P value is greater than 5%. These results differ from those of Nyamwange (2012), and WHO reported that the extent of adoption of information technology was another indicator of customer satisfaction due to associated efficiency and effectiveness. These results also differ from Chandra (2019), who reported that public hospitals charge higher prices for medicines compared to some private pharmacies.

This study has a few limitations, which suggest several questions for future research. First, the primary data were only collected from the outpatient department. A future study can use data from the inpatient care department (admitted patients). Second, the current study is limited to one public hospital in Mbozi District. Future studies could be conducted in the other hospitals in the Songwe Region. Finally, the study only accounts for the independent variables' direct effects on healthcare satisfaction. Future research can use path models with hypothesized direct and indirect effects to test more complex healthcare satisfaction models.

4.0. Conclusion and Recommendations

The study assessed patient satisfaction with access to health services in public health facilities. Mbozi District Hospital was taken as a sample; the results revealed that the level of patient satisfaction at this hospital was inadequate in the following aspects: the way health workers treat patients with respect and polite language, the availability of workers on time, the availability of medicine when needed, sanitation infrastructure (washrooms), and the dissemination of information on medication usage. However, there is some element of satisfaction regarding workers' availability and the privacy of patient information in health facilities. Therefore, it can be concluded that the better provision of healthcare services plays a crucial role in increasing level of patient satisfaction. In examining the determinants of patient satisfaction, the following factors were identified: the availability of experts in health facilities, staff attitude, availability of medicine, and general hygiene at the facility. Consequently, the study recommends that health facilities, such as public hospitals, improve service provision, including customer care. Doctors and nurses should also be polite, empathetic, and concerned about their patients. The government should focus on hiring additional staff, including nurses and medical doctors, to alleviate the workload. Furthermore, health workers should ensure that sanitation infrastructures are always kept clean. Finally, organizational management should ensure that medicine is always available at the facility level.

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