DETERMINANTS OF SELF-REFERRAL FROM PRIMARY TO SECONDARY LEVEL HEALTH FACILITIES AMONG OUTPATIENTS IN TANZANIA: A CROSS-SECTIONAL STUDY AT KATAVI REGIONAL REFERRAL HOSPITAL, TANZANIA

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Introduction

In Tanzania, self-referrals have been one of the sources of underutilization of primary-level health facilities resulting in the overutilization and overburdening of secondary-level health facilities. A significant number of patients receiving services at the outpatient departments in the secondary-level health facilities could have been served at the primary health facilities. Understanding of determinants of self-referral is critical to informing important interventions to improve the referral processes and rational utilization of health facilities at the two levels.

Methods

A cross-sectional study was conducted among 230 outpatients at Katavi Regional Referral Hospital in Tanzania. A convenient sampling method was used to enroll study participants. An interviewer-administered questionnaire was used to collect data. STATA version 15 was used to analyze data descriptively while the chi-square test was performed to establish the association between dependent and independent variables at a *p*-value of less than 0.05.

Results

The magnitude of self-referral was 66.5%. The perceived determinants of self-referral were quality of care offered (90.8 %), availability of medicine (89.4%), proximity of health facility (88.8%), and patient-perceived severity of the disease (86.7%). The availability of medicine (p= 0.015), quality of care offered (p=0.00), location of the facility (p=0.044), place of residence (p=0.04), and patient-perceived severity of disease (p=0.017) were statistically significantly associated with the self-referral practices.

Conclusion

The magnitude of self-referral practice was high. Availability of essential medicines, quality of care offered by the hospital, hospital proximity, patient-perceived severity of the disease, and availability of barriers to accessing healthcare in lower-level facilities were factors significantly associated with the self-referral practice. It is recommended that continuous investment should be made in lower-level facilities to ensure patients receive the care they need at every point of care.

Keywords: *Self-referral, regional referral hospital, primary health care facilities*

INTRODUCTION

Self-referral has been defined as a process in which a patient at one level of the health system connects with the same or higher level that is better resourced to get medical assistance without following the formal referral linkage (Abdi et al., 2015). Essentially, referral health systems are designed to allow patients to seek healthcare services from one level (mostly primary level) to the next level within the same healthcare system (Liu et al., 2018). Many countries have referral policies and guidelines designed to smoothen the referral process and eventually improve the efficiency and effectiveness of the health system (Kamau et al., 2017). When all levels of the healthcare delivery system are not functioning accordingly and appropriately, the referral

system becomes ineffective and causes self-referrals (Okoli et al., 2017).

Studies in low and middle-income countries have shown that a significant number of patients receiving health care services at the outpatient departments in most of the secondary-level health facilities could have been seen by the health professionals at the primary health facilities (Abere et al., 2021; Rajman & Mahomed, 2019). Self-referral practices have been the major cause of the under-utilization of primary-level health care, subsequently causing the next-level health facilities to be overburdened because of congestion (Wambui, 2013). Moreover, self-referral overstretches the human and physical resource capacity, which ultimately compromises the quality of care (Kamau et al., 2017; Rajman & Mahomed, 2019).

Over the last decade, Tanzania has been implementing health sector reform packages that include expansion and rehabilitation of primary health facilities across the country with the strategy of ensuring that health services are easily accessible to the population (Ntuli A Kapologwe et al., 2020). These reforms have been implemented hand in hand with the allocation of qualified medical personnel and the distribution of health commodities and supplies primarily to make sure that healthcare services are closer to the community (Mdegela, 2020).

As per the Tanzania health systems referral procedure, patients from the dispensaries are referred to the health centers, and from the health, centers are referred directly to the district hospital. District hospitals refer patients to regional hospitals which can refer patients to the national or specialized hospitals (higher level) if the need arises (Ntuli A. Kapologwe et al., 2020). However, it is perceived that the utilization of the nearest primary health facilities is still unacceptable, which suggest that outpatients still bypass the primary hospitals to seek health care directly at secondary facilities. Since there is limited empirical literature about self-referral practices in Tanzania and specifically in Katavi region, this study aimed to assess the determinants of self-referral from primary to secondary healthcare facilities amongst outpatients at Katavi regional referral hospitals in Tanzania. The results of this study could inform the policymakers, and hospital management teams (in primary health facilities and regional referral hospitals) to plan for appropriate interventions to address self-referral practices.

METHODS
Study design and setting
This study employed an cross-sectional case study design conducted among the outpatients at Katavi regional referral hospital between December 2021 and January 2022. The Katavi regional referral hospital is a public-owned hospital, which historically started in 1957 as a health center in Mpanda district. It was upgraded to a level of district hospital in 1977 before being promoted to a level of Regional Referral Hospital in 2017. The hospital has a total of 7 wards and 160 beds. According to the 2022 Population and Housing Census, Katavi region has a total population of 1,152,958 (National Bureau of Statistics, 2023), which is expected to be served by this hospital.

Sample size and sampling procedures
The study population comprised 230 patients from an average of 7500 outpatients who attended the facility per month. This study did not include outpatients who were under 18 years of age, critically ill, those with chronic diseases, patients who had emergency cases, and pregnant women. A convenient sampling method was used to select participants.

Study variables
Dependent variable
In this study, self-referral was the dependent variable. We defined self-referral as the outpatients who bypassed the primary level facilities (dispensary, health center, and district hospitals) and presented themselves at the secondary level (regional referral hospital) without an appointment. The responses were either Yes or No.

Independent variable
The independent variables were socio-demographic factors (age, gender, education, means of transport, residence, and occupational status); health facility-related factors (waiting time, quality of care, availability of medicines, availability of diagnostic services, and location of the facility); and individual perceived factors (perceived severity of disease, perceived benefit, and perceived barriers). The conceptual framework was used to summarize these variables that were considered in various pieces of literature to be determinants associated with self-referral practices (Kamau et al., 2017; Koce et al., 2019; Okoli et al., 2017; Rajman & Mahomed, 2019).

Data collection tools and procedure
A modified semi-structured interviewer-administered questionnaire adopted constructs from various previous studies was used to collected data (Abere et al., 2021; Oladimeji et al., 2021; Phankitiya & Luvira, 2021). The questionnaire was divided into three major parts. The first part was designed to capture data related to the socio-demographics of the participants; the second part captured data on health facility-related factors; and the third part captured data on individual perceived factors. The questionnaire was at first prepared in English language and then translated into Kiswahili language and back-translated into English. The translation was done by the first author and reviewed by the third author to ensure to check consistency and accuracy of the translation. The first author administered a questionnaire at the time when patients were exiting the hospital. An average of 11 questionnaires were administered per day to ensure completeness and consistency of collected data.

Data processing and analysis
Data were entered into Microsoft Excel version 2010 for cleaning and then exported to STATA version 15 for analysis. Graphs and tables were generated and used to present descriptive statistics (frequency and percentage). The chi-square test was used to establish the relationship between

independent and dependent variables. Logistic regression analysis was performed and set at $P < 0.05$ to establish factors associated with self-referral.

Ethical consideration

The study protocol was reviewed by the hospital leadership and permission to conduct the study was granted. Informed consent was sought and granted by the study participants after all of them were informed of the overall objectives of the study, benefits, and potential risks associated with the study. Participants' information and responses were kept confidential throughout the study.

RESULTS

Socio-demographic characteristics of the study participants

A total of 230 outpatients participated in this study. More than half (57.8%) of the participants were female. Nearly three-quarters (73.5%) of participants had the age of less than 35 years of age; however, the mean age was 29 years. A total of 90 participants (39.1%) had a secondary level of education. Sixty percent of the participants were employed and 124 (53.9%) were urban residents (Table 1).

Table 1: Socio-demographic characteristics of the study participants (n=230)

Variables	Frequency	Percentage
Gender		
Male	97	42.2
Female	133	57.8
Age (in years)		
< 35	169	73.5
≥36	61	26.5
Level of Education		
No formal education	13	5.7
Primary	66	28.7
Secondary	90	39.1
College/University	61	26.5
Means of transport		
Motorcycles "Bodaboda"	68	29.6
Commuter Bus "Daladala"	20	8.7
Bajaj	97	42.2
Walking	45	19.6
Occupation		
Unemployed	92	40.0
Employed	138	60
Place of residence		
Urban	124	53.9
Rural	106	46.1

Magnitude of self-referral

More than two-thirds (66.5%; n=153) of participants (84.4%)

reported to have self-referred to Katavi regional referral hospital.
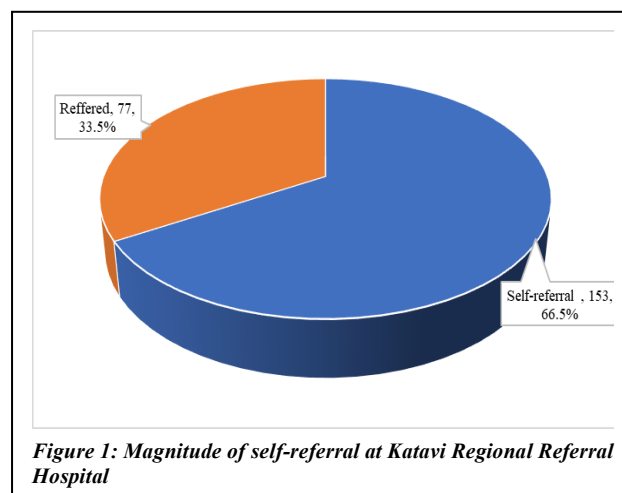
Socio-demographic factors of the outpatients, and their

Figure 1: Magnitude of self-referral at Katavi Regional Referral Hospital

association with self-referral

Self-referral practices were most common among outpatients with less than 35 years of age (n=143; 84.6%; female (n=109; 81.9%); those with secondary education (n=74; 92.3%); those visiting the hospital using commuter buses "daladala" (n=79; 81.4%); employed (n=115; 85.4%) and those living in urban areas (n=110; 88.7%). Although the analysis showed that there is statistical significance between socio-demographic factors such as place of residence (p=0.04) and education level (p=0.034) and self-referral practice amongst outpatients from primary healthcare facilities to secondary healthcare facilities, there was no statistical association between age (p=0.853), gender (p=0.242), means of transport (p= 0.469) and occupation (p=0.789) on self-referral practice amongst outpatients (Table 2).

Table 2: Association between socio-demographic factors and self-referral among the outpatients (n=230)

Variables	Self-Referral		χ 2	P-value
	Yes (%)	No (%)		
Age (in years)				
< 35	143 (84.6)	26 (15.4)		
≥36	51 (83.6)	10 (16.4)	0.0346	0.853
Gender				
Male	85 (87.6)	12 (12.4)		
Female	109 (81.9)	24 (18.1)	1.3678	0.242
Level of Education				
No formal education	12 (82.2)	1(17.8)		
Primary	55 (83.3)	11(16.7)		
Secondary	74 (92.3)	16 (7.7)	1.2808	0.034
College/university	53 (86.9)	8 (13.1)		
Means of transports				
Motorcycles	57 (83.8)	11(16.2)		
Commuter Bus	79 (81.4)	18 (18.6)	2.5362	0.469

Bajaj	19 (95)	1(5)		
Walking	39 (86.7)	6 (13.3)		
Occupation				
Unemployed	79 (85.9)	13 (14.1)	0.4515	0.789
Employed	115 (85.4)	23 (14.6)		
Place of residence				
Urban	110 (88.7)	14 (11.3)		
Rural	84 (79.3)	22 (20.75)	3.8774	0.049

Reasons for Self-Referral and Association between Self-referral and hospital-related factors.

Descriptive analysis showed that most participants (n=149; 90.9%) reported having self-referred to Katavi Regional referral hospital due to decent quality of care; followed by availability of essential medicines (n=118; 89.4%); hospital proximity (n=79, 88.8%); and availability of diagnostic services (n=120; 86.9%). The analysis further indicates that there was a statistical association between self-referral and waiting time (*p*=0.00), availability of medicine (*p*=0.015), quality of care offered (*p*=0.00), and proximity of the hospital (*p*= 0.044). The availability of diagnostic services was not associated with self-referral amongst outpatients from primary healthcare facilities to secondary healthcare facilities at Katavi Region (Table 3).

Table 3: Reasons for Self-referral and Association between Self-referral and hospital-related factors (n=230)

Variables	Self-Referral		χ 2	P-value
	Yes (%)	No (%)		
Waiting time for services				
Less than 1 hour	172 (88.2)	23(11.8)	14.4415	0.000
More than 1 hour	22 (62.9)	13 (37.1)		
Availability of essential medicines				
Available	118 (89.4)	14 (10.6)	5.9750	0.015
Not available	76 (77.5)	22 (22.5)		
Availability of diagnostic services				
Available	120 (86.9)	18 (13.1)	1.7784	0.182
Not available	74 (80.4)	18 (19.6)		
Quality of care offered by the hospital				
Good quality	149 (90.8)	15 (9.2)	18.3225	0.000
Poor quality	45 (68.2)	21 (31.8)		
Distance to the hospital (proximity)				
Less 30 minutes	79(88.7)	10(11.3)	3.8824	0.044
30 minutes to 1 hour	96(83.5)	19(16.5)		
More than 1 hour	19 (73.1)	7 (26.9)		

Individual perceived factors, and their association with self-referral among the outpatients

The majority (n=170; 86.7%) of participants perceived that their illnesses were profoundly serious and therefore decided to self-refer to the regional hospital. The analysis further shows that 87.9% (n=165) of participants self-referred due to the barriers associated with access to healthcare services in primary-level facilities while 85.7% (n=156) of participants had the prospect of getting better services at the regional hospital. The analysis showed that although patient-perceived severity of disease (*p*=0.017) and perceived barriers in primary-level facilities (*p*=0.046) were statistically associated with self-referral practice amongst outpatients, the individual perceived benefit (*p*=0.267) was not associated with self-referral practice (Table 4).

Table 4: Individual perceived factors, and their association with self-referral among the outpatients (n=230)

Variables	Self-Referral		χ 2	P-value
	Yes (%)	No (%)		
Patient perceived the severity of the disease				
Perceived illness was serious	170 (86.7)	26 (13.3)	5.7215	0.017
Perceived illness was not serious	24 (70.6)	10 (29.41)		
Perceived benefit				
Perceived to get best treatment	156 (85.7)	26 (14.3)	1.2334	0.267
Perceived not best treatment	38 (79.2)	10 (20.8)		
Perceived barriers in primary-level facilities				
Availability of barriers to accessing healthcare	165 (87.9)	32(12.1)	0.3638	0.046
No barriers to accessing healthcare	29 (83.8)	4(16.2)		

DISCUSSION

Our study examined the determinants of self-referral from primary to secondary healthcare facilities amongst outpatients at Katavi regional referral hospitals in Tanzania. Self-referral practices were common and high at 66.5 %. The results indicate that the practice of self-referral was more or less similar to the studies conducted in Ethiopia, Nigeria India, Kenya and Ghana (Abere et al., 2021; Kamau et al., 2017; Koce et al., 2019). This could be due to the massive investment that has been made by the government within a short period of time to improve infrastructure and increase human resources for health, and health commodities, which has led patients to believe that good services are only available in this hospital.

This study found that the availability of essential medicines was one of the determinants of self-referral practices (p=0.015). These findings are consistent with studies in South Africa, South Africa, Ethiopia and Thailand; both indicated that patient self-referral is likely to be driven by the experience of a lack of essential prescribed medications in primary-level health facilities (Abere et al., 2021; Phankitiya & Luvira, 2021; Rajman & Mahomed, 2019). These

experiences increase the possibility of the patients to self-refer, subsequently increasing overutilization of the next level of the health care system. The findings suggest that there is a possibility that the hospital has a good system or internal mechanisms that ensure the availability of essential medicines. Interestingly, this study found that the availability of diagnostic services was not a determinant of self-referral. Perhaps this is due to the patients' belief that even without tests if they are seen by medical specialists, it is enough for them to get medical advice and treatment. However, this shows that qualitative research is needed to explore this misnomer.

The study participants perceived the quality of care offered at the hospital as an important determinant that influenced them to self-refer. It is undeniable fact that Tanzania has had been investing massively in the rehabilitation and construction of primary health facilities in response to the implementation of a Primary Health Service Development Programme (2007–2017); specifically for the purpose of improving access to basic health care service (Binyaruka & Borghi, 2022). However, it is perceived by patients that the highest quality of care is mostly available in the regional referral hospitals since hospitals at this level are required to provide specialist medical care. These results collaborate with the results of the study conducted at the Referral Hospitals in East Wollega in Western Ethiopia where it was found that patients were bypassing the primary health facilities to seek more specialized care which is less likely to be available at the lower-level facilities (Geta et al., 2019).

The finding of this study was consistent with results of previous studies conducted in Ethiopia and Mozambique where proximity to the hospitals was the determinant of patient to practice of self-referral (Abere et al., 2021; Yao & Agadjanian, 2018). The possible explanation was that the hospital is located within the vicinity of Mpanda Municipal Council. This implies that self-referral practices were likely because 88.7% of the participants reported residing within the hospital proximity where all kinds of transport were easily accessible.

Patients perceived the severity of the disease as an important determinant of self-referral. This could be explained by the fact that patients were self-convinced that they will get highly specialized care due to the hospital having specialists and advanced medical and diagnostic equipment. Additionally, the results suggest that patients self-referred themselves with the hope that the hospital has good laboratory services than those found in primary-level facilities. These findings are consistent with the previous study where patients were self-referring to the secondary level hospitals expecting to see medical that were not available at the lower-level facilities (Geta et al., 2019).

Perceived barriers in primary-level facilities were considered by participants as a determinant for self-referral. A study on perceived barriers to primary care services utilization and its associations with the overall satisfaction of patients in Saudi Arabia found that the overarching barriers to the utilization of primary-level health facilities include poor hygiene (cleanliness), poor preventive services, challenges associated with referrals and long patient waiting times (AlOmar et al.,

2021). Such barriers could also be a driving force for patients to bypass the primary-level facilities in Tanzania.

LIMITATIONS
First, the sample size is small, however, it exceeded the minimum sample required. Second, the study did not capture participants' knowledge of the referral system. However, most of the questions were relevant to the overall objective of the study. Third, participants were selected based on their convenience, which could lead to selection bias.

CONCLUSION
The magnitude of self-referral practice was high. Availability of essential medicines, quality of care offered by the hospital, distance to hospital (proximity), patient perceived the severity of the disease, and availability of barriers to accessing healthcare in lower-level facilities were factors significantly associated with the self-referral practice. As a measure to reduce self-referral that overstretches the secondary level facilities, it is recommended that continuous investment to lower-level facilities to ensure patients receive the care they need at every point of care Regional Health Management Team should devise a participatory evidence based strategy or mechanisms to improve referral processes including awareness creation among health care users.

AUTHORS' CONTRIBUTIONS
Manyizi Malale conceived, designed the study, collected, and analyzed data. Boniface Lyimo validated study results. Godfrey Kacholi critically reviewed the paper. Henry A. Mollel edited the paper. All authors have approved the paper.

CONFLICT OF INTEREST
The authors declare that they have no competing interest

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