

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH



**Implementation and Challenges of Referral System in Public
Health Centers of Addis Ababa, Ethiopia, 2019**

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**A Thesis Submitted to the School of Public Health in Partial
Fulfillment of the Requirements of the Degree of Masters of Public Health**

June 2020

Addis Ababa, Ethiopia

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Declaration

I, the undersigned MPH student declare that this thesis is my original work in fulfillment of the requirement for the master of public health in the General Master of public health.

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Approval of the primary Advisor

This thesis work has been submitted with our approval as the university advisor.

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Acronyms and Abbreviations

CI	Confidence Interval
Dr.	Doctor
FMOH	Federal Ministry of Health
HCs	Health Centers
HSDP	Health Sector Development Plan
HSTP	Health Sector Transformation Plan
MRN	Medical Record Number
NGO	Non-Governmental organization
SOP	Standard Operational Procedures
SPSS	Statically Package for Social Science
TASH	Tikur Anbessa Specialized Hospital

Abstract

Background: A referral can be defined as a dynamic process, in which a health worker at one level of the health system, having insufficient resources (drugs, equipment, skills, etc.) to manage a clinical condition, seeks the help of a better or differently resourced facility at the same or higher level to assist patients. In Ethiopia, studies indicated that numerous factors could affect the implementation of the referral system.

Objective: This study was aimed at assessing the implementation and identify the challenges of the referral system in public health centers of Addis Ababa, Ethiopia, 2019.

Methods: Mixed method study design, based on institutional analysis and community perspective was conducted at Addis Ababa, Ethiopia. Documents of the referral system and 125 referred patients' folders 2019 G.C. were reviewed at 25 health centers and analyzed descriptively. Qualitative data were collected by an in-depth-interview using an interview guide and analyzed thematically to identify the possible challenges of the referral system.

Results: This study showed that the implementation status of structure and inputs among health centers was low (69.1%). Referral paper content analysis showed that 58% of the referral format complies with the national standards. The proportion of patients reached and got health care at hospitals according to a referral from the health centers was 92%, while the proportion of referral feedback was 22.4%. Five major themes about the implementation challenges of referral system have emerged: a) Lack of information and inadequate consultation; b) unnecessary referral for drug/ laboratory examination outside the institution; c) incomplete referral form; d) poor coordination and communication between health centers and the receiving hospital; and e) reluctance and poor staff motivation.

Conclusion: Implementation status of referral among health centers was low and the referral papers sent to hospitals did not mostly comply with the national implementation standard, and sending feedbacks from hospitals to health centers was very low. Health centers should establish consultation mechanisms and conduct situational analysis periodically. while health professionals are expected to communicate patient's information at the time of referral as it is essential to high quality and safe patient care and they should value the information exchange for a shared patient.

Keywords: Referral, Feedback from Referral, Implementation of Referral, Referral System Challenge

1. Introduction

1.1. Background

A referral system is a mechanism in the health care system that enables it to manage client health needs comprehensively with resources that are beyond those available locally (1, 2). While some health care facilities are equipped with medical experts and cutting edge equipment some are not, this disparity among health care facilities calls for the need for the referral of patients from one to another (3). With this approach, the health sector has developed a referral strategy, standard guidelines, and forms to guide the sector in building an effective system that responds to the needs of populations (2). Health care systems of every country, therefore, are designed by referral systems (1, 4, 5). Referral systems are relatively easy in terms of design, but implementing them is extremely difficult. The efficiency of a patient referral system's performance depends on the different levels of the health system (6).

The Ethiopian government has established a health service delivery system that requires an effective two-way referral connection (7). The country's health policy which was formulated in 1993 has also got a strategy in the development of an effective referral system by improving accessibility, optimizing utilization, assuring continuity and improved quality of care at all levels, and strengthening the communication within the health care system (7, 8).

An ideal referral system would ensure that patients can receive appropriate, high-quality care for their condition at the lowest cost and closest facility possible (1, 9). Improving the effective functioning of referral systems broadly requires progress in three areas: referral system design, facilitation of the smooth transfers of patients, and information between levels (10). Since all health care requirements cannot be obtained at any given level of the system, an effective referral mechanism is a key element in the delivery of care (7).

1.2. Statement of the problem

The World Health Organization considers the referral system, which began in 1978, to be one of the primary components of any medical system (11). Some countries have a similar formal referral system, where primary care physicians provide health care and act as gatekeepers with responsibility for defining which patients require specialist care. Other countries have a less formalized referral system (4, 12). Although an increase of accountability, people's access to healthcare and reduction of unnecessary costs are the objectives of healthcare plan, some evidence suggests that the most significant weaknesses of the plan are the deficiency of the referral system and the lack of providing appropriate feedback from higher to lower level, lack of foresight facilities, and a high volume of tasks (6, 13). There is also evidence of inappropriateness of referral and poor communication at the time of referral (4). In most countries, patients often bypass primary care facilities and directly go to a higher level thereby, increasing the burden on higher-level facilities (14). Delayed referrals, improper referrals, and referrals at inappropriate levels can result in inadequate preparation, perioperative complications, and poor outcome (15).

Most developing countries have formal or informal referral processes in place within their tiered health care system. The system may or may not include a process for counter-referral, where patients are then sent back to their primary care provider for follow-up and continued care. Several observational studies suggest that the functionality of these systems is often limited (16, 17). Barriers include inappropriate or inadequate use of the process by personnel, misunderstanding of a tiered system by patients, and lack of available resources needed for a functional referral system (16).

In Africa, Despite the importance of understanding the linkages among health facilities within a primary health care system, we lack contemporary studies that have reported such data in low-income settings. Limited Studies from Zimbabwe (18), Nigeria (19), Kenya (20) each reported that

a minority of people (38%, 7%, and 27% respectively) seeking care at hospitals had been referred from a more primary source of care, with the majority accessing the hospital as their first source of care. Furthermore, in a study from Zimbabwe (18), researchers suggested that more than half the patients who were referred from a health center to a hospital should have been treated at lower levels of care. Some of the challenges in health referral systems in most of developing countries include non-compliance with referrals, delays in referral completion, high numbers of self-referrals to higher-level referral facilities, weak health information systems to capture referral data, poor transport arrangements for emergency referrals and inadequately resourced referral facilities (20).

In Ethiopia, studies indicated that numerous factors could affect the implementation of the referral system. These factors include economic difficulties, weak integration, lack of supplies, self-referral, incomplete referral form, lack of feedback and waiting time to see a doctor at the receiving facility were often reported to affect the clients' compliance with the referral, (7, 10, 14, 18, 21).

A study done in Tigray region identified the barriers of referral feedback being: Less qualified health professionals, Lack of registering referred patients, Lack of attaching referral letters to patients' folder, Lack of standard referral feedback form, lack of standard referral form, lack of standard registration (22). Another study done on the obstetric referral system identified several barriers to the provision of timely and effective obstetric referral in Addis Ababa. The majority of the identified barriers were related to the existing health system and have occurred at all levels of healthcare organizations (21).

Studies related to referral were done to a patient-centered understanding of referral, surgical referral to a tertiary hospital, magnitude and determinant of self-referral, and referral status of obstetric and gynecological, patient satisfaction, and quality of the system. However, these studies were focused on specific diseases (TB/HIV, obstetric complications, etc.) referral linkages and/or based on the single tertiary hospital. Although we have tried our best to review literature from

studies that focus was on the referral system; we couldn't find one, that assessed the implementation status and identification of the challenges. Thus, the degree to which the referral systems were implemented and challenges that are facing through primary to secondary/tertiary care in Addis Ababa remained unknown.

1.3. The rationale of the study

The fundamental reason for this study is that major implementation challenges of the referral system with substantial implications are confronting that, patients receive appropriate, high-quality care for their condition in the lowest cost and closest facility possible. (21). The ministry of health in the Health sector transformation plan (HSTP) pointed out the lack of an organized referral system as one problem in Ethiopia's health service (8). Besides previous studies recommend that further research should be done on the challenges of the referral system and predictors of quality (10, 23). Thus, a study that explains more about the challenges was needed to fuel the necessary advances of the referral system to address these challenges.

1.4. Significance of the study

The evidence generated by the study of implementation and challenges of the referral system can be a learning paradigm in the continuum of proper Healthcare delivery, appropriate use of resources, and design programs. The project's goal is designed to help: policymakers, monitoring, and capacity building bodies and health facilities. Accordingly, the study was aimed at assessing the implementation status and to identify the challenges of referral systems. So, as to produce evidence that could be used as an input for further improvement of the referral system.

2. Literature review

2.1. Referral system

A referral is a process by which a health worker transfers the responsibility of care temporarily or permanently to another health professional or social worker or the community in response to its inability or limitation to provide the necessary care (1, 9). Patients are referred to specialist care when an investigation or therapeutic options are exhausted in primary care and more specialized care is needed (4). A referral is a two-way process and ensures that a continuum of care is maintained to patients or clients. It also involves not only direct patient care but support services such as transport and communication. A referral may be for temporary, permanent, or partial transfer of responsibility for the care of a patient (1, 9). The referral process begins with the referring health professional communicating to the receiving health professional or specialist relevant patient information. The receiving health professional communicates back to the referring health professional with information and plans for a continuum of care thereby completing the referral process (1).

A referral can be vertical as in the hierarchical arrangement of the health services from the lower end of the health tier system to the higher ones. It also can be horizontal between similar levels of facilities in the interest of patients for cost, location, and other reasons. Referrals can also be diagonal when a lower-level health facility directly refers patients to a specialized facility without necessarily passing through the hierarchical system (1, 9).

The referral of a patient from a basic to a more sophisticated level of health care is considered an integral part of any health care system (3). Health care systems of every country are designed in such a way to encourage patients to first attempt to get care at the primary level and then to approach a higher level of care according to the need. This protocol minimizes the costs for the

caretaker/patients (5). The primary to secondary care interface is a key organizational feature of many health care systems. Primary care physicians provide primary health care and act as ‘gatekeepers’ with responsibility for defining which patients require secondary care. The referral system is the ‘organizational structure for referring to medical problems from generalists to specialists’ (4). While some health care facilities are equipped with medical experts and cutting edge equipment some are not, this lack of experts and equipment in one health care facility calls for the need for the referral of patients from one to another (3).

An effective referral system ensures a close relationship between all levels of the health system and helps to ensure people receive the best possible care closest to home. It also assists in making cost-effective use of hospitals and primary health care services. In many developing countries, a high proportion of clients seen at the outpatient clinics at secondary facilities could be appropriately looked after at primary health care centers at the lower overall cost to the client and the health system (1).

2.2. Three Tier Health care delivery system in Ethiopia

The Federal Ministry of Health (FMOH) of Ethiopia initiates legislation, develops policy and standard operating procedures for the implementation of the referral system; sets standards for health facilities across the new tier system; develops the standards for resources to be available at health facilities; capacity building of the referral system; monitors and coordinates referral systems at the national level; revises and updates the referral system as appropriate and works with regions for the preparation of national directory of health services (7, 9). The Ethiopian health service is now restructured into a three-tier system. These levels are: The primary care unit has three kinds of service points: health posts, health centers, and Primary hospitals, the secondary care level is comprised of General Hospitals, the tertiary care level is comprised of Specialized Hospitals (8, 18, 24).

primary Level health care: The woreda (district) includes a primary hospital (with population coverage of 100,000 people), health centers (1/25,000 population), and their satellite health posts (1/5,000 population) connected by a referral system. Health centers and health posts form a primary health care unit with each health center having five satellite health posts (8, 9, 24).

Secondary Level health care: a general hospital with population coverage of 1-1.5 million people.

Tertiary Level health care: a specialized hospital that covers a population of 5 million. The rapid expansion of the private-for-profit and nongovernmental organization (NGO) sectors is playing a significant role in expanding health service coverage and utilization of the Ethiopian Health care System, thus enhancing the public/private/ NGO partnerships in the delivery of health care services in the country (8, 9, 24, 25). The urban and rural structures are not the same, that the primary care in rural includes health posts also which serves 3000 – 5000 population.

2.3. Implementation and Challenges of referral systems

In the referral process, referral papers are the standard and typically the sole method of communicating information between general practitioners and hospital specialists. Non-compliance of referral letter can be a source of poor continuity of care (delayed diagnosis, multiple medication, multi-drug resistance, high litigation risk, unnecessary testing, and extra-medical costs) and therefore, decrease the quality of care. Referral papers of high quality are an essential part of good clinical care and act as the interface between health care professionals in primary, secondary, and tertiary care (7). The referral process involves the generation of big data every day. It is estimated that up to 30% of the total health budget is spent on handling this big data. It is therefore, imperative that information should be managed in the most effective way possible in order to ensure a high-quality service delivery (10).

Pathway of referrals is more important to indicate that you operate an efficient practice capable of providing the most advantageous patient care and gatekeeping can, therefore, be seen as an organizational mechanism to triage coordinated care (10, 26).

A referral is a weak link in the organization of many district health systems globally. In theory, health centers and district hospitals should complement each other: whoever can be treated adequately at the health center level will be treated there, and the referral system will ensure that all others are referred to the district hospital in a timely fashion (4, 27-29). There is also evidence of inappropriateness of referral and poor communication at the time of referral (4). In most countries, patients often bypass primary care facilities and directly go to the higher center thereby, increasing the burden on higher-level facilities (14). Information provided in the referral process constitutes the main communication from primary care to specialist health care. The transit from primary care to specialist health care constitutes a major clinical handover situation, implying a large risk of adverse events. Further, coordination across services is one of the major challenges to health care. Improving the information transference is the principal means of reducing the risk of adverse events in clinical handovers and ensuring continuity and coordination of care (30, 31).

The international conference on primary health care held at Alma Ata underlined the need for a proper and organized referral process as a means of achieving success in primary health care. A study done in Kenya concluded that infrastructure, health information systems, the capacity of health care workers, and financial resources are challenges in the implementation of the health care referral system (20).

The ministry of health pointed out the lack of an organized referral system as one problem in Ethiopia's health service (8). Studies indicated that numerous factors could affect the utilization of the referral system in Ethiopia. These factors include economic difficulties, weak integration,

lack of supplies, self-referral, incomplete referral form and waiting time to see a doctor at the receiving facility were often reported to affect the clients' compliance with the referral, poor knowledge of healthcare workers (7, 10, 14, 18, 21). A study done in the Tigray region identified factors affecting referral feedback being: Less qualified health professionals, Lack of registering referred patients, Lack of attaching referral letters to patients' folder, Lack of standard referral feedback form, lack of standard referral form, lack of standard registration (22). Another study done on the obstetric referral system identified several barriers to the provision of timely and effective obstetric referral in Addis Ababa city administration of Ethiopia. (21).

Even if there is a remarkable expansion in the number of health posts and health centers in Ethiopia, studies found that people routinely accessed hospitals without a formal referral from primary health care. Only a small minority (9.9%) of patients who accessed secondary health care had first been seen at primary health care. A study done in the northern Tigray zone revealed that 50% of the Health Centers had referral registry form, and 63.6 % of referred patients had referral paper for communication of health professionals. But none of the health centers had a focal person. Regarding compliance of the referral form, the name of health centers was recorded in 15.9%, and the name of referring health professionals recorded in 20.2% of referred patients. These indicate that patients were referred with insufficient details which can lead to a discontinuity of care, delayed diagnosis, polypharmacy, weak follow-up plans, repeated and unnecessary tests, and also inability of the receiving physician to recognize the need for referral, all of which cause reductions in quality of care, medical errors, and increases in health sector expenses (23).

2.4. Conceptual framework of the study

As presented in figure 2 below, the overall study outcome will be an effective utilization of the referral system. The hypothesized challenges of the referral system based on studies done at a different area and/or within the specific disease and/or facility include Economic difficulties, weak

integration, lack of supplies, self-referral, incomplete referral form, waiting time to see a doctor at the receiving facility, lack of transportation, lack of focal person, and lack of feedback (7, 10, 14, 18, 21, 22). Implementation challenges made difficulties in the facilitation of the smooth transfers of patients and information between levels, adherence to referral discipline, and the whole system. These challenges directly affect the implementation and affect the utilization of the referral system directly and indirectly through the implementation of the referral system.

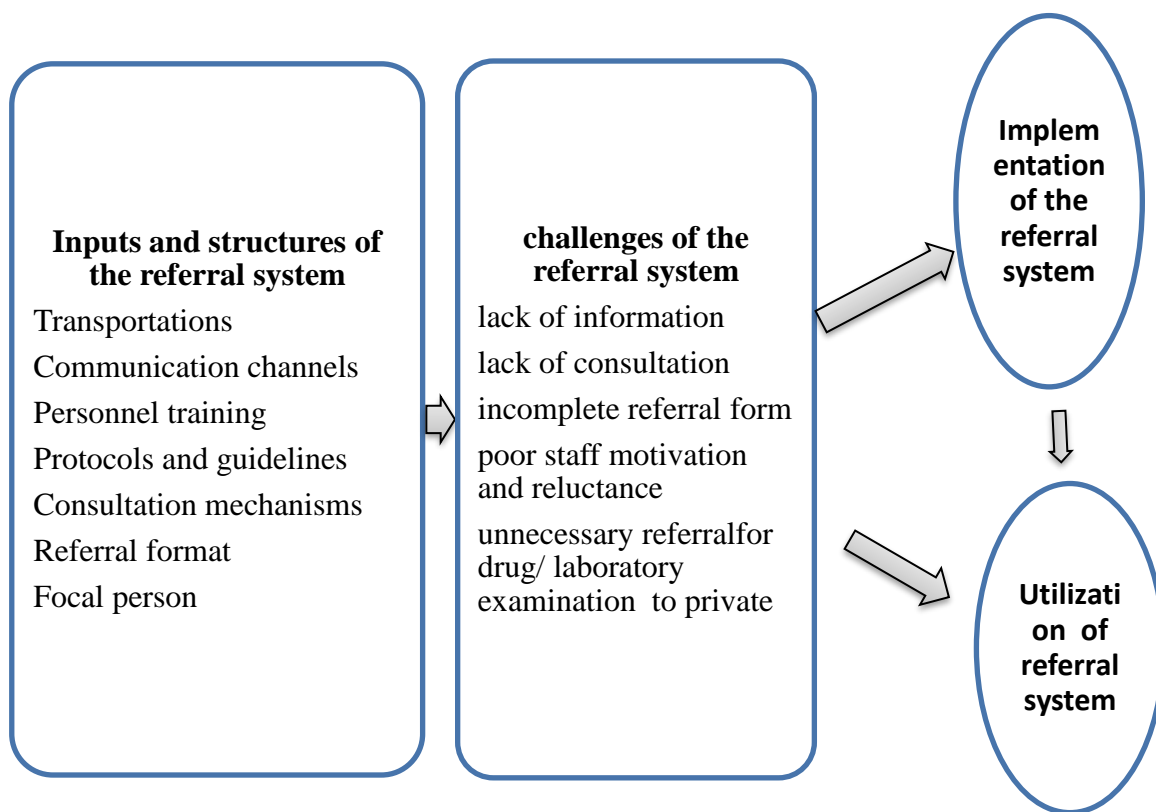


Figure 1: Conceptual framework of the referral system and implementation challenges

Source: modified from (7, 10, 14, 18, 21, 22)

3. Objective

3.1. General objective

To assess the implementation status and identify the challenges facing the implementation of the referral system in public health centers of Addis Ababa, Ethiopia, 2019.

3.2. Specific objectives

- To verify availability of inputs and structures for the referral system in public health centers of Addis Ababa; Ethiopia, 2019;
- To assess compliance of referral letter in public health centers of Addis Ababa; Ethiopia, 2019;
- To assess compliance of referral feedback in public health centers of Addis Ababa; Ethiopia, 2019;
- To identify the pathways that patients go through in the process of referral within the public health system Addis Ababa; Ethiopia, 2019; and
- To identify challenges of the referral system in public health centers of Addis Ababa; Ethiopia, 2019.

4. Methodology

4.1. Study area and period

This study was conducted from February to March 2020, in Addis Ababa city administration, the capital city of Ethiopia (figure 3) (32). Addis Ababa city administration has three layers of administrative structures, the city administrative government at the top, 10 sub-city administrations in the middle, and 118 woreda administrations at the bottom of the level. Addis Ababa city administration has 98 public health centers each serving an estimated 40,000 populations.

4.2. Study design

Mixed-method study design was employed to conduct the study. Sequential mixed methods consist of first collecting and analyzing quantitative data and then collecting, analyzing, and interpreting qualitative data to help explain the quantitative results was followed. Thus, We believe that identifying implementation challenges was best explained with the qualitative method (33).

4.3. Source population

All public health centers in Addis Ababa city administration, Ethiopia

4.4. Study population

Randomly selected public health centers in Addis Ababa city administration.

4.5. Inclusion and Exclusion criteria

4.5.1. Inclusion criteria for participants

Participants passed through all three levels of Healthcare; primary, secondary, and tertiary health care in the referral process.

4.5.2. Exclusion criteria for participants

Participants who did not complete their follow up/on appointment in the referral process.

4.6. Sample size determination

For objectives, one to three, health centers and referral documents were selected by a multi-stage random sampling method to get a representative sample of public health centers in Addis Ababa city administration. About 25% of the source population were randomly selected to represent public health centers. Accordingly, 25 public health centers from each sub-city (3 from Akaki Kality, Bole, Kolfe Keranio, Nifas Silk Lafto, and Yeka, and 2 from Addis Ketema, Arada, Gulele, Kirkos, and Lideta) were included in the study based on facility distribution.

Table 1: Distribution of selected health centers in 10 sub-cities of Addis Ababa

10 sub-city									
Akaki Kality	Bole	Kolfe Keranio	Nifas Silk Lafto	Yeka	Addis Ketema	Arada	Gulele	Kirkos	Lideta
3	3	3	3	3	2	2	2	2	2
25 health centers									

The sample size for the document review was determined by a single population proportion technique by the following assumptions (level of confidence to be 95%, CI= critical value of 1.96), a margin of error (d=0.05), 232 population size (sub-cities health office 2019 report), 23% proportion of implementation status of referral system(15% feedback, 17% quality of referral letter, 0% focal person, and 22.8% transportations (23)) and the required sample size of study subjects by using Epi info sample size calculator was (n = 125) figure 4 below.

StatCalc - Sample Size and Power

Population survey or descriptive study
For simple random sampling, leave design effect and clusters equal to 1.

Confidence Level	Cluster Size	Total Sample
80%	77	77
90%	105	105
95%	125	125
97%	137	137
99%	155	155
99.9%	178	178
99.99%	191	191

Population size: 232

Expected frequency: 23 %

Acceptable Margin of Error: 5 %

Design effect: 1.0

Clusters: 1

Figure 2: Sample size determinations for quantitative data of health centers.

For objective four and five, the study participants were 22 patients/caretakers those referred from public health centers to secondary/tertiary health care in 2019. Participants were selected based on their service recipients from primary care, secondary care and tertiary care consecutively and from all sub-cities.

4.7. Sampling procedure

To get a representative sample of study subjects from the health centers, a simple random sampling method was applied then, 5 patients' referral letters and documents in 2019 were reviewed in randomly selected health centers. Participants were selected purposively from health centers based on their service users and fulfill the inclusion criteria in the referral linkage during the study period and used as qualitative data sources.

4.8. Variables

→ Structure and inputs of the referral system

- Compliance of referral form
- Compliance of referral feedback form
- Pathways of the referral system
- Challenges of the referral system

4.9. Data collection tool and procedure

Observation checklists for inputs and structures, compliance of referral, and feedback form were prepared based on the Ethiopian ministry of health implementation guidelines for the referral system(9).

Desk review of referral documents was carried out to verify the availability of inputs and structures at health centers. Individual records were carried out with adopted and modified checklists to assess the compliance of referral letters and referral feedback form. Proportions of patients reached and got access at secondary/tertiary Healthcare and proportion of referral feedback were quantified by tracking the patient's pathway from the health center to hospital and filling adopted checklists. To get patients' medical record numbers at the hospital, their phone number, collected from the health center, then, entered into a computer and the digital system displayed the necessary information. The qualitative data were collected after the quantitative data had been collected and analyzed. An in-depth interview using an interview guide was conducted to purposively selected participants based on the inclusion criteria. During the interviews, audiotapes were recorded and field notes with scribbles had been collected simultaneously. Also, preventive measures for COVID 19 were taken by applying physical distancing (2 meters), and using personal protective equipment; face mask, gloves, and sanitizer.

4.10. Data quality assurance

Data collectors were trained on the research objective, the data collection tool, and procedures. After conducting a detailed discussion on issues aroused during the training, the tool was modified based on the comments raised by the research team. Then, the research team has conducted a pretest to validate the tool in a health center-hospital network, located outside of the study population. The final modification of the tool was considered based on the feedback obtained from the pretest. Thus, observation checklists for compliance of referral format and feedback were modified accordingly. The qualitative data were transcribed on a daily bases on the data collection date and checked with the field notes. The quality of data was checked by reviewing the transcripts while listening to the audio records.

4.11. Data Analysis procedures & presentation

The quantitative data were entered, checked, and cleaned using Epi data version 3.1 then exported to SPSS version 25 for analysis. Descriptive analyses were carried out to determine implementation status, getting secondary/tertiary health care and referral, and presented in tables and graphs. The qualitative data analysis was started at the beginning of the interview to identify issues that need further explorations. The audio-taped recorded was first transcribed and expanded into field notes. Open code software was used to code and categorize the transcribed data. The principal investigator has studied the transcription and expanded notes to define themes about the objectives of the assessment. Then codes will be verified during the data analysis process by crosschecking the field note with the audio-recorded data. Then thematic analysis was done through sequential steps of code generation, category, and theme based on the narratives of the respondents. Texts were given codes according to their category and emerging themes were re-categorized to the new theme. The data gathered was thus organized into two categories to respond to the objectives. These include: 1) the pathways that patients go through in the process of referral

within the public health system; 2) the challenges that are facing the implementation of the referral system in public health centers.

4.12. Operational definition

Compliance of referral letter: Referral letters fulfill all the components in the national standard referral form.

Compliance of referral feedback letter: Referral feedback letters fulfill all the components in the national standard referral feedback form.

Patient referral feedback: Sending patient referral information back to the referring organization.

Referring unit: Is a health service organization that initiates the referral process. A facility can be both a referring and receiving unit depending on circumstances.

Receiving unit: is a health service organization that receives patients or clients from referring units and ensures that required care is given to the client and returns the patient with feedback.

4.13. Ethical considerations

Before the commencement of this study, ethical approval was obtained from the Institutional Review Board of Addis Ababa University College of Health Sciences. Additional clearance was also obtained from Addis Ababa Regional Health Bureau, Public Health Research, and Emergency Management Directorate. Written and verbal consents were obtained from each study participant and health facility. To protect the confidentiality of the information, interviews were conducted in settings where confidentiality could be maintained.

4.14. Dissemination of the results

The results of this study will be submitted to Addis Ababa University, College of Health Sciences and School of Public Health, Sub-city Health Office, Addis Ababa Regional Health Bureau, Public

Health Research and Emergency Management Directorate, Ministry of Health and other stakeholders. The findings will also be presented at national scientific conferences, manuscripts will be prepared for possible publication.

5. Results

5.1. Availability of structures and inputs of the referral system in public health centers

5.1.1. Socio-Demographic Characteristics of study subjects

Of the quantitative study subjects, 66 (52.8%) of them were females, and 59 (47.2%) of them aged 15-34 years (Table 2).

Table 2 Socio-demographic characteristics of referred patients from public health centers in Addis Ababa, Ethiopia, 2019 G.C.

Variable	Frequency (N)	Percentage (%)
Sex		
Female	66	52.8
Male	59	47.2
Age		
≤14	11	8.8
15-24	29	23.2
25_34	30	24.0
35-44	21	16.8
45-54	10	8.0
55-64	7	5.6
≥65	17	13.6

5.1.2. Structures and inputs of the referral system in public health centers

All of the health centers have referral format, communication channels, and transportations to the receiving hospital. Moreover, Moreover, 96% of the health centers have a referral directory list of facilities and written protocols and guidelines for referrals. The least implemented structural

variables were consultation 3 (12%), training on referral 9 (36%), and situational analysis 10 (40%).

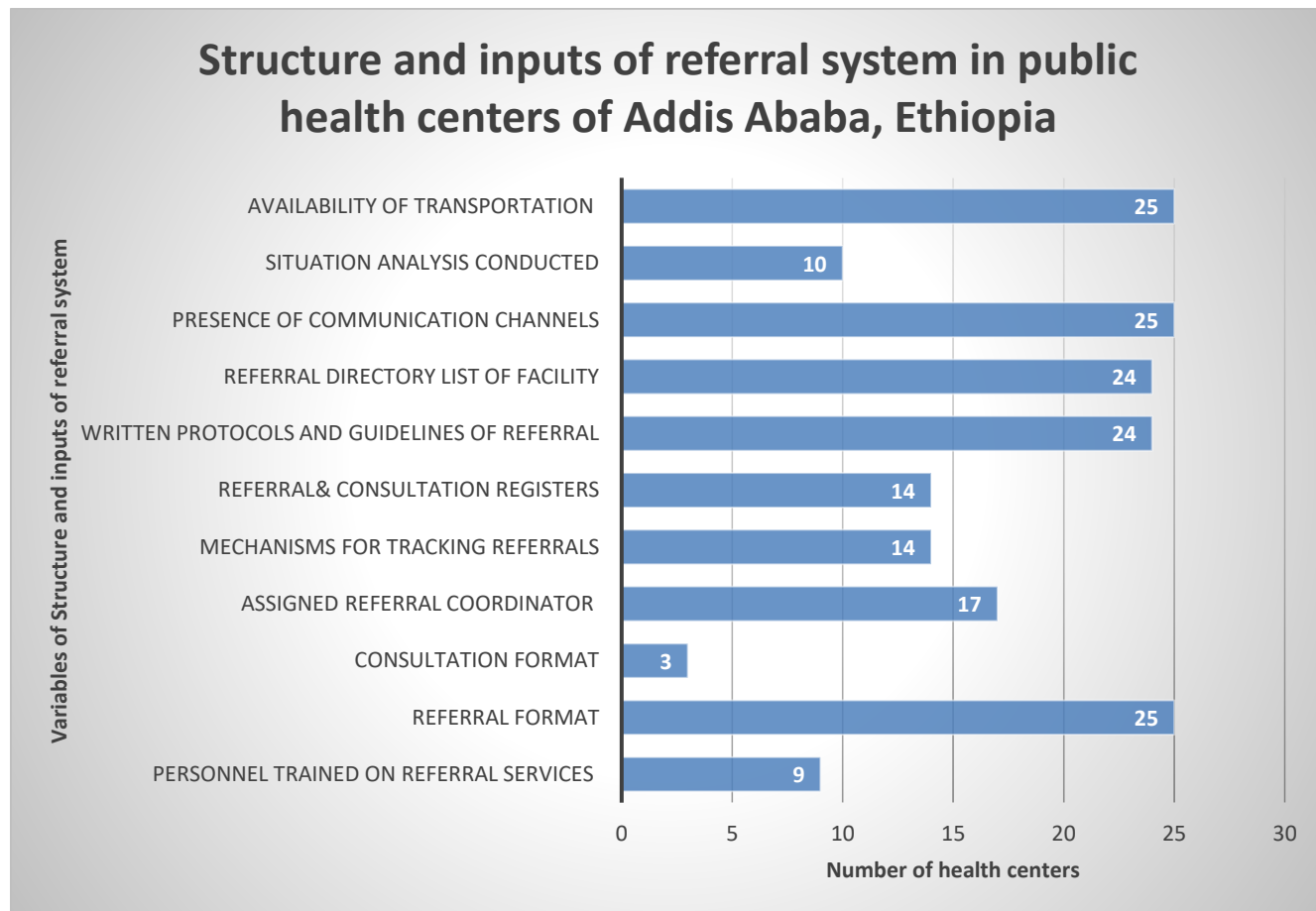


Figure 3 Structure and inputs of the referral system in public health centers of Addis Ababa, Ethiopia, 2019 G.C.

5.2. Compliance of referral letters at public health centers

The proportion of patients who reached and got health care at hospitals according to a referral from the health centers was 92%. However, 8% of referred patients' documents from the health centers were not found at the receiving hospitals. Referral paper content analysis showed that 58% of the referral formats completed according to the national standards. However, the medical record number and name of referring professionals have recorded in 68.8% and 73.6% cases respectively.

Table 3 Content of referral paper in public health centers of Addis Ababa, Ethiopia, 2019 G.C.

Variable	Frequency(N)	Percentage (%)
Name of Health Center	125	100
Name of Hospital	125	100
Medical record number	86	68.8
Age of Patient	125	100
Sex of A Patient	125	100
Clinical findings	125	100
Diagnosis	103	82.4
Investigation result	103	82.4
Management/treatment	39	31.2
Reason for Referral	125	100
Name and signature of Referring Professional	92	73.6
Date of Referral	125	100

5.3. Compliance of referral feedback from the higher-level facilities

The proportion of referral feedback was 28 (22.4%). Referral feedback Content analysis showed that 56% of the referral feedback slips were recorded according to the national standards. Moreover, the medical record number and management/treatment done at hospitals were indicated for only 57% and 72% of cases respectively.

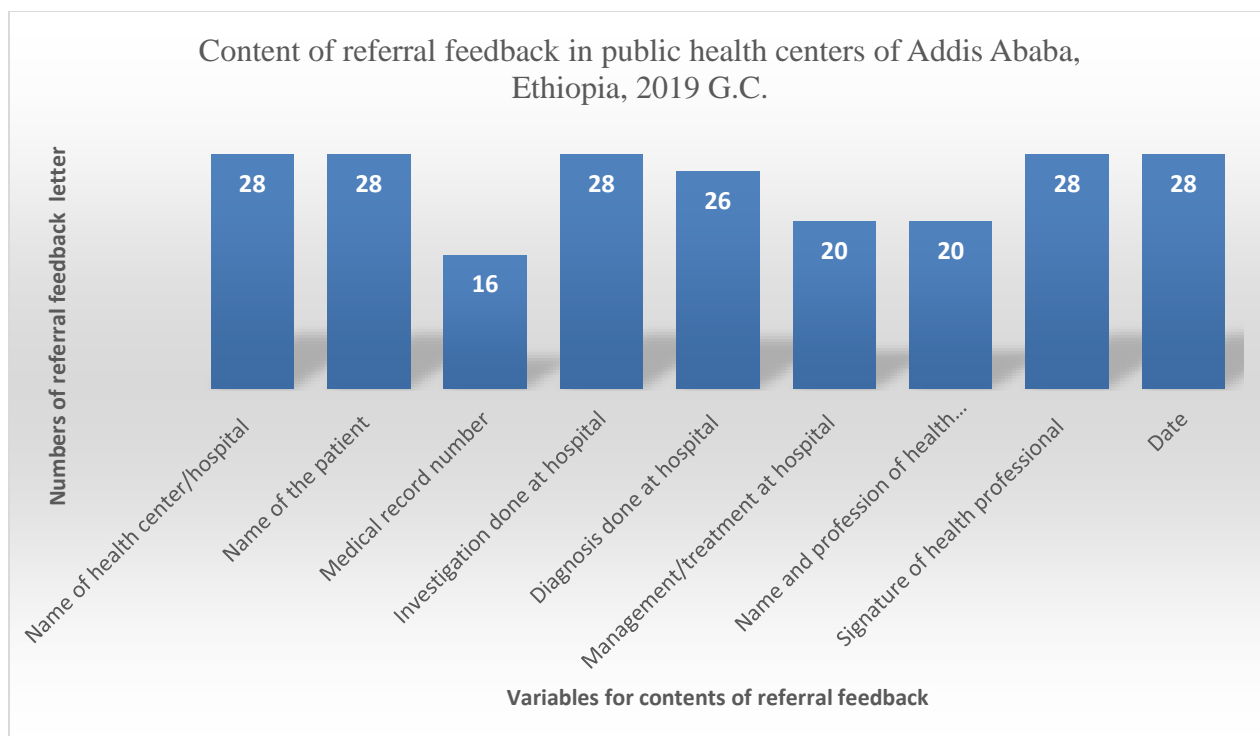


Figure 4: Content of referral feedback in public health centers of Addis Ababa, Ethiopia, 2019 G.C.

5.4. The pathways that patients go through in the process of referral within the public health system

In-depth interviews were conducted among 22 patients or caretakers who referred from the public health centers to secondary/tertiary health care in 2019 G.C., concerning 1) the pathways that patients go through in the process of referral and 2) implementation challenges of the referral system.

5.4.1. Socio-Demographic Characteristics of study participants

Educational status, professions, and occupations of the participants may have effects on the data generated from them. Hence, the distribution of these characteristics was summarized as follows. Of the qualitative study participants, 8(36%) were females and aged 25-64 years. About 23% of

the participants were above grade twelve and 33% were below grade five and illiterates. In addition to that, 9% of them were health professionals, while 77% of them were non-professionals.

Table 4 Socio-demographic characteristics of participants (referred patients/caretakers) from public health centers in Addis Ababa, Ethiopia, 2019 G.C.

Variables		Frequency (N)	Percentage (%)
Sex	Female	8	36
	Male	14	64
Age	25_34	8	36
	35-44	6	27
	45-54		
	55-64	5	23
		3	14
Educational status	Masters	1	4.5
	Degrees	2	9
	Diploma	2	9
	Grade 9-12	5	23
	Grade 5-8	5	23
	< grade 5	6	27
	Illiterates	1	4.5
Profession	Health professionals	2	9
	Other professionals	3	14
	Non-professionals	17	77
Occupation	Government employees	4	18
	Private employees	6	27
	Housewife	3	14
	Merchant	7	32
	Other	2	9

5.4.2. Pathways of the referral system

In the in-depth interview, participants agree that the referral process at the health centers was not complicated. However, at the hospitals, there is boring, huge time-waiting and time-wasting process. Pathways of the referral system that patients go through in the referral process within

(Intra-institutional) a health institution and between (Inter-institutional) health institutions were identified by in-depth interviews of participants and summarized as in the following diagrams.

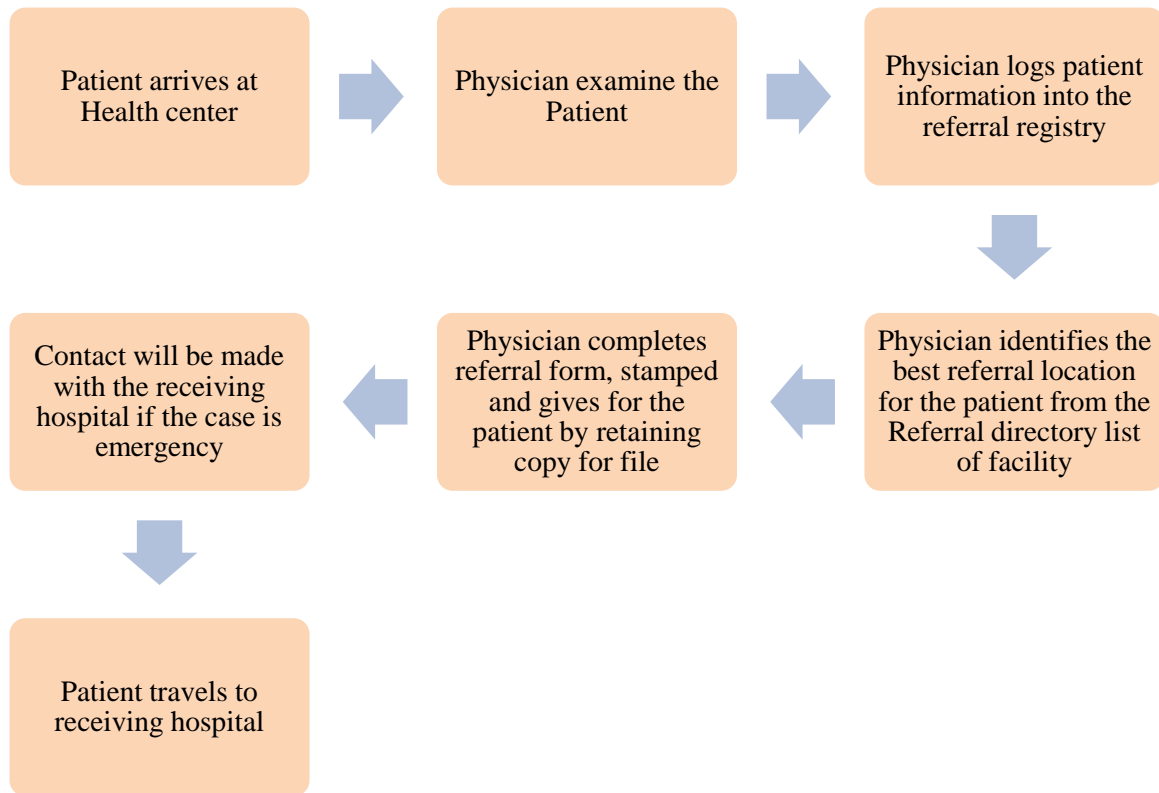


Figure 5: Intra-institutional flow of a referred patient at the health center

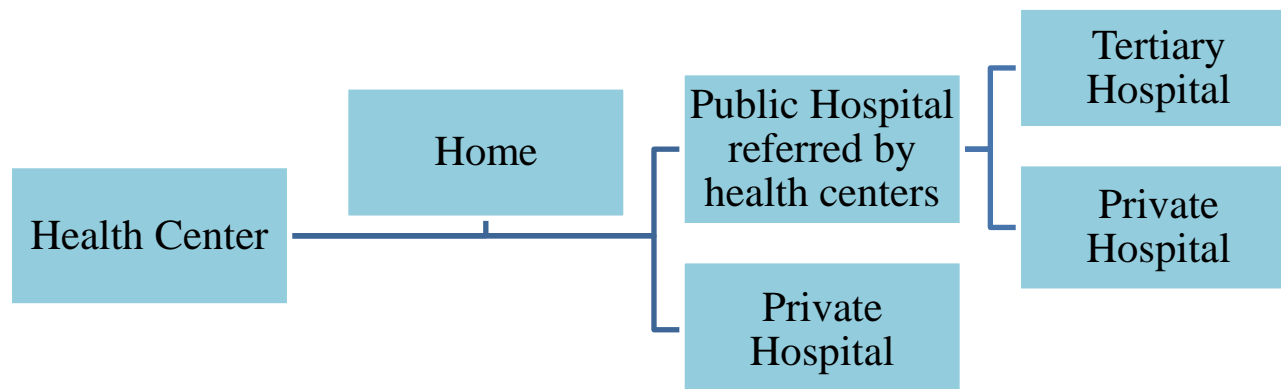


Figure 6: Inter-institutional flow of referred patients

5.5. Challenges that are facing the implementation of the referral system in public health centers

This qualitative part of the study identified several implementation challenges of the referral system in Addis Ababa city administration. These major themes about the implementation challenges of referral system were: lack of information (about the receiving hospital, the case, the cost of the treatment), inadequate consultation (how to handle patients during the referral process, etc.), unnecessary referral for drug/ laboratory examination (unnecessary out referral for a drug that may available at the health institution and unnecessary referral for laboratory examination that may not valuable for the case), incomplete referral form(that missed, mainly the name of the referring professional and/or signature), poor coordination and communication between health centers and the receiving hospital, Reluctance and poor staff motivation. These challenges are quoted and presented in the following sections.

a) Lack of information and inadequate consultation

As the participants reported and experienced that, the major challenges of the referral system were lack of information and inadequate consultation from health centers. Besides, they experienced a great time and financial wastage due to the presence of high delays at hospitals to obtain information and care. Participants complain that they have gone from the health center without enough information about the receiving hospital except that the health professional told them the name of the hospital and gave the referral slip. A patient caretaker said that *“when the health professional gave me the referral slip, he did not tell me how to handle my mother’s broken leg, even he did not inform me that my mother encountered bone fracture. If he had told me, I would take measures for proper handling of it. Now I feel that I have harmed or worsened her pain on the way to the hospital”*. Another caretaker also said that, *“the health professional gave me the referral letter and told me that, “the health center cannot manage the case, hurry up...hurry up... to the hospital” without any word. I cannot forget the panic and frustration I felt that time.... what happened to my daughter?”*

b) Unnecessary referral for drug/ laboratory examination outside the institution

The shortage of the necessary medical equipment in the health center was also reported as a factor that affected the length of time and costs of medication. The participants said that there were unnecessary laboratory costs. Because most of the participants experienced additional laboratory referrals to private laboratories which are very expensive in addition to the cost of transports. Moreover, they said that there was no adequate medicine in hospitals. However, the study participants' perception was that referral for drug/laboratory examination outside of the public health institution is an unnecessary deed.

c) Incomplete referral form

One of the most important components of the referral process is the referral paper. When patients are referred from one health facility to another, clear and adequate information should be documented in the referral paper. A patient from a health center and referred to a hospital told us, *“I have returned to the health center because the health professional forgot to write his name on the referral letter and put his signature only, what will happen if my case was urgent”*.

d) Poor coordination and communication between health centers and the receiving hospital

The participants experienced that, there is superficial, low coordination and linkage between the health centers and the Hospitals. There is usually liaison communication for an emergency case for bed by phone, however, for non-emergency cases, participants' thought is, the health centers didn't communicate to the receiving hospital to get up to date available services. A referred mother said, *“I have been redirected to another hospital without any examination done there, after wasting my precious time because the hospital didn't begin the proposed service yet”*.

e) Reluctance and poor staff motivation

Most of the participants said that there was no responsible personnel for the referred patients to send and receive their referral format timely. A participant, with a deviant idea, said that *“few health professionals seem that they have not salaried for their work, hence, not accountable or responsible for it. Therefore, their institution should supervise, train, and remunerate them frequently and consistently.”*

6. Discussion

The study assessed the implementation and challenges of referral system among Health Centers in Addis Ababa city administration. Referral systems are relatively easy in terms of design, but implementing them is extremely difficult (6). All health centers have referral format, that fulfills the national standard, communication channels, and transportation to the receiving hospital. In contradiction, incomplete referral form, poor coordination, and communication were raised as challenges by participants. The least implemented structural variables like consultation (12%), training on referral (36%), and situational analysis (40%) have emerged as the challenges of the referral system. Following the implementation guidelines for the referral system is a crucial component in making an effective referral. In Addis Ababa city administration, the standard for the integrated referral was being implemented since 2013 (21). The consultation also identified as challenges of referral system by the qualitative part of this study, indicating that when there is low implementation, it appears as a challenge for patients/caretakers. This agrees with a qualitative study was done in TASH that was mentioned as “Consultation out of the hospital with other health institutions does not exist still now, but consultation is communicated by using consultation format, by paper and via cell phone (10). Likewise, different studies conducted in developing countries (Ethiopia, Nigeria, and Kenya) showed that poor coordination and consultation mechanisms hindered early referral of patients who experienced complications (20, 21, 30). A situational analysis also should be done by health centers, however, implemented only 40% and the qualitative part of this study also identified that patients sent to inappropriate receiving hospital. The implementation status of structure and inputs among health centers was 69.1%. when this figure is compared to Ethiopian public service agency evaluation criteria for institutions, ranked third (less than 70%) or good (34). This finding also similar to the study done at the Northern

Tigray region that was 63.7% health centers ascertained the use of national standardized referral (23).

Findings of referral paper Content analysis showed that 58% of the referral format completed according to the national standards. In referral form, the most recorded items were: sex, age, date, name of receiving, and initiating health institutions in which they were recorded in all of the referral letters. These figures are significantly higher than that of studies done in northern Tigray in which, name of referring health centers recorded only 15.9% and TASH in which the age and sex of patients were recorded 88.2% (7, 23). In opposite to that, the less recorded items: medical record number and name of referring professional were implemented 68.8% and 73.6% respectively. The outcomes of these were seen by the qualitative part of this study, as incomplete referral letters, found to be one of the major challenges of the referral system among public health centers of Addis Ababa. This agrees with the study of referral linkage among public health facilities, facilitators, and barriers for emergency obstetric referral in Addis Ababa City Administration (21). Similarly, the name of referring health professional was recorded 20.2% in the study done by Fre Gebremeskel at northern Tigray and 76% in the study done by Abrhalay Thehay in Mearge hospital, Tigray region (22, 23).

Although an increase of accountability, people's access to healthcare and reduction of unnecessary costs are the objectives of healthcare plan, some evidence suggests that the most significant weaknesses of the plan are the deficiency of the referral system and the lack of providing appropriate feedback from higher to lower level (6, 13). In this study proportion of referral feedback were, 22.4%. This finding also supported by the study conducted in Tigray, that feedbacks from hospitals were 15% (23). This study also revealed several factors of referral, which posed a challenge to the facilities during the referral process. Five major themes have emerged for the challenges of the referral system. These themes were interdependent and that have occurred at

different levels of implementation. Lack of information and inadequate consultation to patients were raised as major challenges of the referral system. The incompleteness of referral form was also the challenge of the referral system in public health centers of Addis Ababa. Consistently, our study's findings were supported by several study findings that non-compliance with the available standard operating procedure posed a challenge to an early referral when needed (21, 35, 36). This might be attributed to a lack of motivation/reluctance of healthcare workers to thoroughly fill the referral form and to implement the standard operating procedures. Poor coordination and communication between health centers and the receiving hospital were reported to pose a challenge to the referral system. Similarly, findings of studies conducted in developing countries indicated that Poor communication between health centers and the receiving hospital could negatively affect the smooth transfer of patients (20, 22). In the current study, reluctance and poor staff motivation were reported to hamper referral service. Studies indicate that provision of regular and frequent supportive supervision for staff while they are on their duty improves service provision and also poor staff motivation might have emerged when a personal need remained unfulfilled and affects the willingness of healthcare workers to provide effective health care services (21, 37).

7. Strengths and limitations of the study

This study has some limitations. The study was conducted during the COVID-19 pandemic that limited the free movements of data collectors and participants due to physical distancing. The prevention methods of the pandemic: physical distancing, using a face mask, and gloves may affect the quantity and quality of data generation. On the other hand, this study has identified and presented themes that are highly relevant for the target city, with a better chance that the recommendations may apply for other urban centers, which have similar demographic characteristics. Furthermore, this study focused on investigating the implementation challenges of the referral system through assessing perspectives of the patients/caretakers, and therefore our

findings are within the service utilizer. The sequential mixed method for implementation and challenges systematically helped for the triangulation of evidence generated.

8. Conclusion

The implementation status of the referral system among health centers was low. Health centers did not have all important structures and inputs for referral especially consultation and situational analysis mechanisms. In addition to that, the referral paper sent to the hospital was mainly non-compliance with the national implementation standard and the proportion of feedback to health centers was very low. This low implementation status of the referral at the health centers pose challenges to the referral system as verified by the service utilizers qualitatively. The majority of the identified challenges are related to the entire existing referral system and have occurred at the implementation level.

9. Recommendation

Addis Ababa's health bureau should improve communication infrastructure, while sub-city health offices strengthened in-service training, supportive supervision, and motivational activities.

Health centers should establish consultation mechanisms and conduct situational analysis periodically.

Health professionals should not be Reluctant to implement the standard operating procedures and national implementation guidelines for referral. And they are expected to communicate patient's information at the time of referral as it is essential to high quality and safe patient care. Both primary and higher-level physicians should value this information exchange for a shared patient.

Researchers should focus on quantifying the challenges of the referral system for further studies.

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Annexes

Addis Ababa University, College of health science, School of public health

Annex 1 English Consent Form

English Consent Form

My name is Teklemariam Mikre, a Master of Public Health student at Addis Ababa University. Now I am collecting data from our referred patients for the research being conducted to assess the implementation and challenges of the referral system in public health centers of Addis Ababa. You are selected as one of the participants purposely. I would like to talk to you about your experiences in the referral system. The interview should take less than an hour. I will be taping the session because I don't want to miss any of your comments.

We believe that the findings of this study will have paramount importance for the identification of implementation challenges of the referral system of health centers to work to improve it. To achieve these purposes your genuine participation in answering the question with truth feeling detailed information is very important and you are highly encouraged to do so. I would like to assure you, your name will not be written or recorded and all the information gathered will be kept strictly confidential. you have full right to refuse, to take part in, or to interrupt at any time. But the information that you give us is quite useful to bring change in the referral system of the health center. If you have any questions about this study you may ask me or the principal investigator.

Are you willing to let your information be utilized for this study? Yes No

1. If yes, proceed to the interview
2. If no, thank the person and go to the next participant.

Telephone = 09 17 10 23 55

E mail = teklemikre@yahoo.com



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Annex 2 Observation checklist for compliance of structure and inputs of health centers with the national standard

Code for health center: _____

If the document is present circle YES =1 in front of each item and NO =2 if it is absent

Code	components of national standard	Response		Comments
		YES=1	NO=2	
D1	Personnel trained on referral services	1	2	
D2	Referral format	1	2	
D3	Consultation format	1	2	
D4	Assigned referral coordinator	1	2	
D5	Mechanisms for tracking referrals	1	2	
D6	Referral& consultation registers	1	2	
D7	Written protocols and guidelines of referral	1	2	
D8	Referral directory list of facility	1	2	
D9	Presence of communication channels	1	2	
D10	Situation analysis conducted	1	2	
D11	Availability of transportation	1	2	



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Annex 3: Socio-demographic characteristics of study subjects

Code for study subject: _____

age	sex	Educational status	Occupation	Profession

Annex 4 Observation checklist for the content of standard referral paper

Circle YES =1 in front of each item if it is written and NO =2 if it is absent

Code	Contents of referral paper	Response		Comments
		YES=1	NO=2	
D12	Name of Health Center	1	2	
D13	Name of Hospital	1	2	
D14	Medical record number	1	2	
D15	Age of Patient	1	2	
D16	Sex of A Patient	1	2	
D17	Clinical findings	1	2	
D18	Diagnosis	1	2	
D19	Investigation result	1	2	
D20	Management/treatment	1	2	
D21	Reason for Referral	1	2	
D22	Name and signature of Referring Professional	1	2	
D23	Date of Referral	1	2	



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Annex 5 Observation checklist for Component of referral feedback

Code for study subject: _____

D24: Did the patient get access to a higher level of care According to the referral letter? 1. Yes, 2. No.

D25: Did the facility receive referral feedback? 1. Yes, 2. No.

If yes, assess component of the feedback letter

Circle YES =1 in front of each item if it is written and NO =2 if it is absent

Code	Component of referral feedback	Response		Comments
		YES=1	NO=2	
D26	Name of health center/hospital	1	2	
D27	Name of the patient	1	2	
D28	Medical record number	1	2	
D29	An investigation has done at a hospital	1	2	
D30	Diagnosis is done at a hospital	1	2	
D31	Management/treatment at hospital	1	2	
D32	Name and profession of the health professional	1	2	
D33	Signature of the health professional	1	2	
D34	Date	1	2	



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Annex 6 Interview guide for Socio-demographic and challenges of referral system.

Code for participant: _____

Date of interview	age	sex	Marital status	Educational status

1. You were referred to _____ hospital, have you gone and accessed care?
2. What pathways did you go through in the process of referral?
3. Did you get information from the health center about; where the hospital is, readiness, the reason for referring to, cost, and care at the hospital?
4. Have you provided with transportation? (if it is an emergency case)
5. Can we talk about your experience in the referral system?
6. What are the challenges you have faced in the referral system of the health center?
7. What are the challenges you have faced on the way to the hospital?
8. Can you tell me a success story related to referrals?
9. Can you tell me a story that you do not forget and that makes you sad/uncomfortable/about the outcomes related to referrals?
10. What are the items that you recommend to be changed in the referral system?