

ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF MEDICAL SURGICAL NURSING POSTGRADUATE PROGRAM

HEALTH SYSTEM BARRIERS TO CHRONIC KIDNEY DISEASE SCREENING AND REFERRAL IN PRIMARY HEALTH CARE SETTINGS, ADDIS ABABA, ETHIOPIA, 2026: A QUALITATIVE STUDY

BY:
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A THESIS SUBMITTED TO THE DEPARTMENT OF MEDICAL-SURGICAL NURSING, SCHOOL OF NURSING AND MIDWIFERY, COLLEGE OF HEALTH SCIENCES, ADDIS ABABA UNIVERSITY IN PARTIAL REQUARIMENT FOR DEGREE OF MASTER IN ADULT HEALTH NURSING.

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ABBREVIATIONS AND ACRONYMS

AAU	Addis Ababa University
APOL1	Apolipoprotein lipoprotein one
ASCVD	Atherosclerotic Cardiovascular Disease
CKD	Chronic Kidney Disease
DALYs	Disability-Adjusted Life Years
DM	Diabetes Mellitus
eGFR	Estimated Glomerular Filtration Rate
FGD	Focus Group Discussion
GFR	Glomerular Filtration Rate
HIV	Human Immunodeficiency Virus
HSTP II	Health Sector Transformation Plan II
IRB	Institutional Review Board
ISN	International Society of Nephrology
KDIGO	Kidney Disease: Improving Global Outcomes
NCD	Non-Communicable Disease
OPD	Outpatient Department
PCP(s)	Primary Care Physician(s)
PHC	Primary Health Care
PI	Principal Investigator
PKD	Polycystic Kidney Disease
SBP	Systolic Blood Pressure
UACR	Urine Albumin-to-Creatinine Ratio
WHO	World Health Organization

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ABSTRACT

Background: Chronic kidney disease (CKD) is increasing public health concern globally. Chronic kidney disease is asymptomatic in its early stages, leading to delayed diagnosis, late presentation, and late referral. Despite the high prevalence of chronic kidney disease, early screening and timely referral practices at the primary health care (PHC) level remain limited in Ethiopia.

Objective: This study aims to explore the health system related barriers of chronic kidney disease screening and referral practices in PHC settings, 2026.

Methods: A descriptive qualitative study was conducted in selected public health centers of Addis Ababa from January to March 2026. A total of 24 in-depth interviews were conducted with healthcare providers and managers selected purposively, along with 2 focus group discussions with high-risk chronic kidney disease patients. Audio-recorded data were transcribed, translated, and analyzed thematically using ATLAS.ti 9.

Result: The study identified six thematic barriers to chronic kidney disease screening and referral. Service delivery barriers included neglected screening, weak referral pathways, and poor continuity of care. Workforce and information system barriers were inadequate chronic kidney disease training, staff shortage, communication challenges: documentation problems, limited awareness of chronic kidney disease both health providers and patients, respectively. Stock out and service interruption were diagnostic challenge. High out-of-pocket costs, and insufficient budget: absence of chronic kidney disease specific guideline, weak referral coordination, were financial and governance challenges.

Conclusion: Chronic kidney disease (CKD) screening and referral are hindered by service delivery, health information system, diagnostic, health work force, finance and administrative barriers. This cause decreased early detection, obstacle for continuity of care. Therefore, if there is no solution, chronic kidney disease will remain underdiagnosed and poorly managed at the primary care level.

Recommendation: Chronic kidney disease-specific guidelines should be developed, staff training should be increased, diagnostic services, and health information systems should be improved. Dedicated financing and stronger referral coordination are essential to ensure equitable access and continuity of chronic kidney disease care

Keywords: Chronic kidney disease; Screening; Referral; Health system barriers; Primary health care; Ethiopia.

1. INTRODUCTION

1.1. Background

Chronic kidney disease (CKD) is defined as kidney damage or glomerular filtration rate (GFR) of <60 mL/min/1.73 m2 for three months or more, regardless of cause. Kidney damage in many kidney diseases can be identified by the presence of albuminuria, defined as albumin-to-creatinine ratio >30 mg/g in at least two of three spot urine specimens (1). There are five stages of CKD based on the level of GFR. Stage 1 and 2(GFR 60-89mL/min/1.73 m2) are mild CKD, characterized by normal or mild decreased GFR with clue of kidney damage. Stage 3(GFR30-59 mL/min/1.73 m2) indicate moderate CKD, in which kidney function is impaired and symptom of kidney failure may begin to appear. Stage 4 and 5 (GFR<30 mL/min/1.73 m2) are severe CKD, with advanced/complete failure (2). The most common causes of CKD include disorders such as hypertension, diabetes mellitus, glomerular disease, polycystic kidney disease (PKD) as well as genetic nephrotic syndrome, focal segmental glomerulosclerosis, APOL1-related kidney disease and atypical hemolytic uremic syndrome) (3). CKD is often asymptomatic in its early stages, awareness is low, and usually unnoticed till advanced stages; therefore, early detection and timely referral in primary health care (PHC) settings are important to prevent progression to end-stage renal disease and associated complications (4).

According to a systematic study of the Global Burden of Disease, approximately 788 million adults aged 20 years and above were affected by chronic kidney disease (CKD) in 2023, which is nearly double compared to 2019, when 378 million people were affected. The global prevalence of CKD was 14.2% in 2023 and 3.5% in 2019. The high prevalence of CKD aligns with global population growth and ageing. In 2023, CKD was the ninth leading cause of death, the twelfth leading cause of disability-adjusted life years (DALYs), and the seventh leading cause of cardiovascular mortality, ranking behind high systolic blood pressure and dietary risks and ahead of high blood glucose and high body mass index, all of which are also risk factors for CKD (5). These data support the World Health Organization's decision to advance kidney disease as a non-communicable disease of increasing global priority, alongside cancer, cardiovascular diseases, diabetes, respiratory diseases, and mental health conditions, which are recognized as major causes of death and disability worldwide (6).

In Africa, the pooled prevalence of CKD was 15.8% in general population, and it was more prevalent in high-risk population such as patients with diabetes, hypertensive and HIV. This suggest that CKD is highly prevalent across Africa, inviting efforts into prevention, early detection and control of CKD in adults living on the African continent, which is particularly important in a resource limited environment (7).

The pooled estimate of chronic kidney disease among patients with chronic illnesses in Ethiopia is 21.71%. In hypertensive patient, the risk of CKD is tripled compared to normotensive individuals (8). More than one-third of diabetic patients have developed CKD (9). The main risk factor of CKD in Ethiopia are being hypertensive, have DM, being male in gender and presence of kidney stone (10).

Primary Health Care is a people-centered and equitable approach to health that addresses the health needs of individuals and communities across the full continuum of care, from health promotion and disease prevention to treatment, rehabilitation, and palliative care. It emphasizes delivering essential health services as close as possible to where people live and work (11).Evidence shows that many health system barriers hinder CKD screening and referral. These obstacles include inadequate laboratory capacity, lack of provider awareness of CKD guidelines, fragmented referral systems, and inadequate incorporation of CKD care into PHC services (12). There are limited studies in Ethiopia, and no qualitative study specifically shows health system barriers to CKD screening and referral. Therefore, this descriptive qualitative study was identified real operational and organizational problems, inform context-appropriate interventions, and support early detection and referral systems in Addis Ababa public health centers, which will improve CKD outcomes in Ethiopia.

1.2. Statement of the problem

According 2024 report, chronic kidney disease affects about 850 million people (nearly 10% of the world's population) globally, making it a major and growing global public health concern (1). It is increase from 788 million cases in 2023 to 850 million in recent estimates, which is attributed to population growth, population ageing, and the rising prevalence of hypertension and diabetes mellitus (5). The burden of this disease is disproportionate higher in developing countries, mainly in Africa, where pooled prevalence of 15.8% in general population (7). In Ethiopia the burden of CKD is high among high risk group(patient with diabetes, patients with hypertension), with 21.71% pooled prevalence (8). It is forecasted that CKD may become the fifth leading cause of years of life lost globally by 2040 (13). These findings stress need of early screening and timely referral in resource-limited settings.

The role of primary care physicians (PCP's) in CKD management is vital and multidimensional, including the entire spectrum from early detection to ongoing management and coordination of care. Early detection of CKD in primary health care level is realistic, as primary care physicians are on the front line and facing many patients with major CKD risk factors like diabetes, hypertension, cardiovascular disease and family history. PCPs also educate patients on lifestyle modifications and ensure timely referrals to nephrologists when advanced CKD or complications arise (14).

Early referrals of CKD patients have many positive sides, including reduced disease progression, better patient outcome and decreased cost of treatment. Strong referral practices can also reduce unnecessary referral of low-risk CKD patients, thereby lessening the load on nephrology services. In contrast, late referral of high risk CKD patient can result accidental dialysis, with its likely harmful consequences (15).

According to mixed methods systematic review reports from sub Saharan Africa, barriers of chronic kidney disease care include capability barriers (such as fatigue and comorbidities), economic barriers (such as Financial constraints, unavailability of drugs, care facility inaccessibility), access related barriers (such as health facility inaccessibility and long distance) and motivational barriers (like Depression and uncertainty) (16). Efforts to scale up CKD screening are still being dragged behind by economic challenges, deprived health seeking behaviors, inadequate knowledge and awareness, work overload, lack of laboratory supplies, lack of guidelines, and poor medical record keeping (17).

Consistently, qualitative study conducted in Ethiopia indicate that patient misconception, low patient and healthcare provider awareness, dearth of health workforce, knowledge gaps among junior healthcare providers, limited resources, high out-of-pocket costs, absence of registries for CKD, weak referral systems, inconsistent access to medicines and diagnostics, lack of structured training, and conflict-related disruptions are barriers of CKD care (13). Late referrals can result in unplanned dialysis, with potentially deleterious consequences. There is a pressing need to make referral criteria universally available to primary care physicians. In addition, the lack of clarity regarding the definition of early referral needs to be resolved, and policies should be developed to tackle late referral (15).

Despite rising burden of CKD, many high-risk patients, mainly those with diabetes and hypertension, remain unscreened until they present with advanced CKD, when therapeutic options are limited, more expensive, and less effective (18). Research shows that a majority of CKD patients are diagnosed only in late stages, leading to increased morbidity, higher mortality, and substantial out-of-pocket financial burden for families in Ethiopia (19).This situation makes tertiary hospitals overloaded. CKD prevalence is high, PHC screening systems are weak, and referral pathways are poorly coordinated, which noted to identify and address health-system barriers to CKD screening and referral in Addis Ababa. Therefore, the aim of this study was to evaluate health system related barriers of chronic kidney disease (CKD) screening and referral practices in primary health care (PHC) settings in Addis Ababa, Ethiopia, 2026.

1.3. Significant of the study

This study was significant because CKD was an increasing public health concern mainly in middle and low-income countries like Ethiopia. Yet early detection and referral systems were not well practiced in PHC settings. It was important to understand the health system barriers that affected CKD screening and referral. Which are used to reduce disease complications, tackle disease in early stage, decrease health care cost and improve patient outcomes. This study offered an inclusive analysis of service delivery gaps, workforce limitations, supply-chain constraints, financing challenges, and governance-related problems that influenced CKD screening and referral, from purposive included study participants.

Practical, context specific factors that affected effective CKD screening and timely referral were the main findings and will be used by policymakers, district health offices, and PHC administrators. They will support early detection of high-risk patients at primary health centers and enhance the use of national NCD strategies. In addition, it improves referral coordination, improves the availability of essential diagnostics, enhance provider training, and develop sustainable health system interventions. Finally, gained insight will guide evidence-based decision-making and resource allocation aimed at decreasing the burden of late-stage CKD, improving patient outcomes, and supporting the advancement of integrated NCD care in Ethiopia.

2. LITERATURE REVIEW

2.1. Burden of chronic kidney disease

According to a chronic disease control report, CKD is common among adults in United States. Greater than 1 out of 7 adults, approximately 15% (37 million), have CKD, of whom 9 in 10 do not know their status. In United States, common causes of CKD in adults are Diabetes and high blood pressure, and regular test and pre learning from primary care doctor or nephrologist is important to better understand treatment options and protect the kidneys (20). A 2017 survey in southern Brazil indicated that prevalence of CKD was 11.4%, with main risk factors of diabetes and hypertension. Early identification and treatment decrease CKD complication. To improve patient outcomes, People-centered, physician-centered, and healthcare institution-centered actions are important. Training should be given for primary care clinicians and nonspecialists to screen and manage high risk patients properly (21).

A Cross sectional study conducted in India showed that the general prevalence of CKD among T2D was 34% and main risk factors were included age ≥ over 60, duration of T2D, SBP, HbA1c, and comorbidities (HF, ASCVD, retinopathy, and neuropathy), tobacco use and a non-vegetarian diet and Macroalbuminuria (22).

A Retrospective, community-based observational study conducted in Australia revealed that prevalence of CKD in general population was 3.1% and there was a comorbid burden in patients, such as coronary heart disease, type 2 diabetes and heart failure by definition number 3, which was two consecutive eGFR measures <60 mL/min/1.73m2 at least 90 days part and/or two consecutive UACR measures ≥ 2.5 mg/mmol for males and ≥3.5 mg/mmol for females at least 90 days apart (23). One systematic review conducted in Africa reported pooled prevalence was 10.1%, 5.6%, 5.6% , 24.7% and 34.5% in general population, patients with HIV , patients with diabetes, patients with hypertension respectively, and which indicate high risk condition with hypertension and diabetes (24). A systematic review and meta-analysis of sub Saharan Africa also indicated that estimated prevalence of CKD among hypertension patients was found to be 29.01% and age above 60 years old, uncontrolled blood pressure, comorbidity with diabetes mellitus, being overweight, and proteinuria were significantly associated with developing CKD among patients with hypertension (25).

Another cross-sectional study conducted in Kenya supported the above studies: from sample size 293 hypertensive patients, 133 had CKD, which was 45.4%, and age, gender, education, and employment status, family history of CKD and difficulty in medication compliance are associated with CKD (26). A cross-sectional study report from Ghana stressed highest prevalence of CKD among patients with both hypertension and diabetes (31.34%), compared to those with only diabetes (15.31%) or hypertension (11.91%). Sixty percent, 30%, 10% of them were living with low-risk factors, mild risk factors, and high-risk factors of CKD respectively. The knowledge level about CKD was generally poor, with about 11% who had not even heard about CKD and as high as 50% having poor knowledge about the functions of the kidneys, and the two main risk factors were obesity and non-compliance with medications (27).

According to recent report of a systematic review and meta-analysis, the estimated pooled prevalence of CKD among patients diabetes mellitus in Ethiopia was 18%, and age ≥ 60 years, rural residence, duration of DM > 5 years, proteinuria, HDL-C level < 40 mg/dL and family history of CKD were factors significantly associated with the prevalence of CKD among patients with DM (28). Another a systemic review and meta-analysis in Ethiopia found that the pooled burden of CKD among patients with diabetes was 18.22% and associated factors were being hypertensive, types of DM and duration of DM. In both analysis, prevalence of CKD among DM was approximately similar (29). Meta-analysis indicated that pooled prevalence of CKD among hypertensive patients in Ethiopia was 21%, with risk factors such as uncontrolled hypertension, age ≥ 60 years, duration of hypertension >=10 years and having diabetes mellitus (30)

2.2. Role of primary health care (PCH) in CKD screening and referral

Primary health care (PHC) is "a whole-of-society approach to effectively organize and strengthen national health systems to bring services for health and wellbeing closer to communities". It emphasizing disease prevention, treatment, rehabilitation, palliative care and works for social equity (31). Despite the high burden of CKD, the KDIGO 2024 report indicates that awareness of kidney disease is low, and globally only 6% of the general population and 10% of the high-risk population are aware of their CKD status. Therefore, CKD should be detected early and managed in the community and primary care settings based on risk stratification to prioritize people, particularly in settings with limited economic resources (1). There should be referral guidelines that use risk prediction tools to

refer CKD patients who truly need specialist care are referred at the right time, while avoiding unnecessary referrals. A clear and widely accepted definition of early referral is needed to make referral decisions more consistent and timely (32). Research has shown early identification of CKD in individuals at risk, quick integrated management between primary and secondary CKD care, and patient participation are included under primary care. Early referral from primary care and consultation with a nephrologist can provide a better chance for different dialysis procedures and minimize the rate of hospitalization and mortality (33).

Proposal developed in the Kingdom of Saudi Arabia indicates that CKD services such as screening the high-risk group(mainly patients with diabetes and hypertension), management of early stages, and referral of advanced stages to secondary hospitals in PCH are important with the ultimate goal of reducing the costs, decreasing morbidity and mortality rate and obtaining favorable the long-term outcomes (34). A Qualitative study conducted in Ethiopia showed that, to improve CKD care, strengthening workforce capacity, awareness, referral systems, and integration into national strategies is necessary (13)

2.3. Health system barriers to CKD screening and referral

2.3.1. Service delivery barriers

CKD screening and referral are limited by service delivery barriers which are affect effective, timely and continuity of care. In developed world such as UK, disjointed care between primary and specialist services, under-diagnosis, and difficulties incorporating CKD-related tests into routine workflows were challenges of primary care services (35). In low-income countries, mainly in sub-Saharan Africa, delivery service barriers such as inadequate facility access and care fragmentation are common. In this area due to resource scarcity in health system patients often experience delays in referral and inconsistent follow-up, which end up with disorganized and uncoordinated CKD services (16).

Evidence from Ethiopia also show timely and continuous CKD care was hindered by weak referral systems, poor diagnostic capacity, and limited availability of structured services. In most of health facilities there were no comprehensive CKD services, including necessary equipment and support tools, which further limit service quality and effectiveness (36).

Overall, effectiveness, quality, and timeliness of CKD care were affected by service delivery barriers such as fragmented care, limited access to diagnostics, weak referral pathways, and insufficient infrastructure.

2.3.2. Health Workforce Barriers

Globally chronic kidney disease screening and referral are hindered by limitation and mal-distribution of work force. The *Global Kidney Health Atlas* reports wide inequities in the availability of trained nephrologists, renal nurses, and allied health professionals across countries. Particularly low- and middle-income countries have inadequate work force, limited training, and lack of opportunity to develop their profession. As a result, primary healthcare providers often lack the skills and confidence required to identify early CKD, stratify risk, and initiate timely referrals to specialist care. This make directly to delayed diagnosis and late presentation of CKD (12).

A systematic review conducted in sub-Saharan Africa indicates lack of skilled healthcare providers, heavy workloads among existing staff, and minimal availability of renal specialists outside major urban centers, significant knowledge gaps among existing healthcare providers, particularly junior staff and primary care professionals, regarding CKD guidelines and management. This all constrain make health workforce barriers of CKD screening and referral (16). Health workforce barrier is still know a day continue a obstacle to effective CKD care, in Ethiopia. Inadequate Pre-service education and in-service training for screening and referral contribute to low provider awareness of CKD risk factors and inconsistent screening practices. In addition, the focus of nephrology services in a few tertiary hospitals strains the limited specialist workforce. Result in delays referral and follow-up for patients from peripheral areas. Together, these factors decrease early CKD detection and cause to late-stage presentation countrywide (13).

2.3.3. Health Information System Barriers

Evidence shows that information related CKD screening is often poorly communicated, inconsistently documented, and inadequately linked to follow-up care. Global review reported weaknesses around documentation and communication of test results, patients were not clearly informed meaning of their kidney test results, inconsistence follow-up, incorrect patient's data recording (35). This all contributes to limited continuity of care, delayed referrals and patients uncertain about their health status and future care needs. In developing countries health information system barriers of CKD early detection are the

absence of functional CKD registries and weak health information infrastructure. Many health setting were relying on paper-based records which lead to loss of information, fragmented patient histories, and difficulty following individuals over time (37). A mixed methods review found that many individuals were unaware they had been screened for kidney disease or did not understand the results when screening occurred. Patients describe even though repeated health facility visit no clear with their health status. This reflects weak information flow within the health system (16).

Study from Ethiopia also report shortage of standardized reporting formats for laboratory results, absence of CKD-specific registers, and limited mechanisms for tracking screened individuals over time. During referral patients' health information is often fragmented which make continuity of care difficult (13). Overall, health information system barriers range from poor communication of screening results to inadequate record-keeping and follow-up mechanisms, and addressing these gaps is essential.

2.3.4. Medical Products, Diagnostics, and Technology Barrier

Study from India showed that early CKD screening was difficult particularly in primary care facilities as a result of lack essential laboratory tests, diagnostic equipment, and a continuous supply of medicines. Delayed referrals and fragmented care were due to investigation was not feasible locally. Patients lack of interest to go far for investigation and result in poor follow-up and late presentation of CKD (38). Consistently A facility-based study in Uganda found that delaying in diagnosis and monitoring of CKD was due to lack of essential kidney function tests, reliable laboratory equipment, and consistent supplies in health facilities. Early confirmation of CKD was challenging in most health facilities, because the laboratory was not available. Patient was not cooperate when asked to seek testing elsewhere lead to delayed care and poor follow-up in CKD management (39).

A broader analysis of renal care in developing settings more validated that scarce diagnostic infrastructure and limited access to essential technologies, including imaging and standardized kidney function testing, remain widespread problems. Dependence on external testing facilities often created uncertainty and anxiety among patients and increased the risk of loss to follow-up (40). Together, these studies show that gaps in medical products, diagnostics, and technology substantially weaken CKD screening and referral pathways

2.3.5. Financing Barriers

In low- and middle-income setting finance was key challenge for CKD screening and referral. According to global review, screening was hindered by the direct costs of kidney function tests, laboratory fees, transportation, and follow-up visits which resulted in delayed diagnosis and missed referral opportunities. Individual avoid pretesting due to financial problem, even though they know risk (37). Similarly, findings from systemic review showed that reduced utilization of CKD services and poor continuity of care related to financial loss. These problems lead to limited preventive screening and follow up in household which lead to late presentation of disease (41). In the same way review of sub-Saharan Africa found cost of diagnostics, medications, and repeated visits remains a major deterrent to CKD screening and referral. Patients consistently reported that free or subsidized screening services would significantly improve their willingness to undergo testing and engage in early CKD care (16).

2.3.6. Leadership and Governance Barriers

The strength of leadership and governance of the country have direct relation with CKD screening and referral. According to a global survey on kidney care policies many countries lack committed national strategies for CKD and kidney disease was not in non-communicable disease frameworks. This lead to indistinct accountability, practice without guide line, and poor coordination between levels of care result in limitation of screening and referral (42).

These governance gaps are more noticeable in low- and middle-income countries. In many countries there were no formal leadership structures, national CKD registries, and monitoring mechanisms, reflecting limited institutional commitment to kidney health (12). In our country study report that absence of robust policy direction, inadequate government focus on CKD and weak regulatory oversight contribute to fragmented services, late referrals, and unfair access to care (13). All findings indicate weakness in leadership and governance undermines the effectiveness and sustainability of CKD screening and referral programs.

2.4. Conceptual framework

The conceptual framework, adapted from the World Health Organization health system building blocks, illustrates how weaknesses in service delivery, health workforce, health

information systems, access to essential medicines and diagnostics, health financing, and leadership and governance contribute to barriers in chronic kidney disease screening and referral at the primary health care level (43).

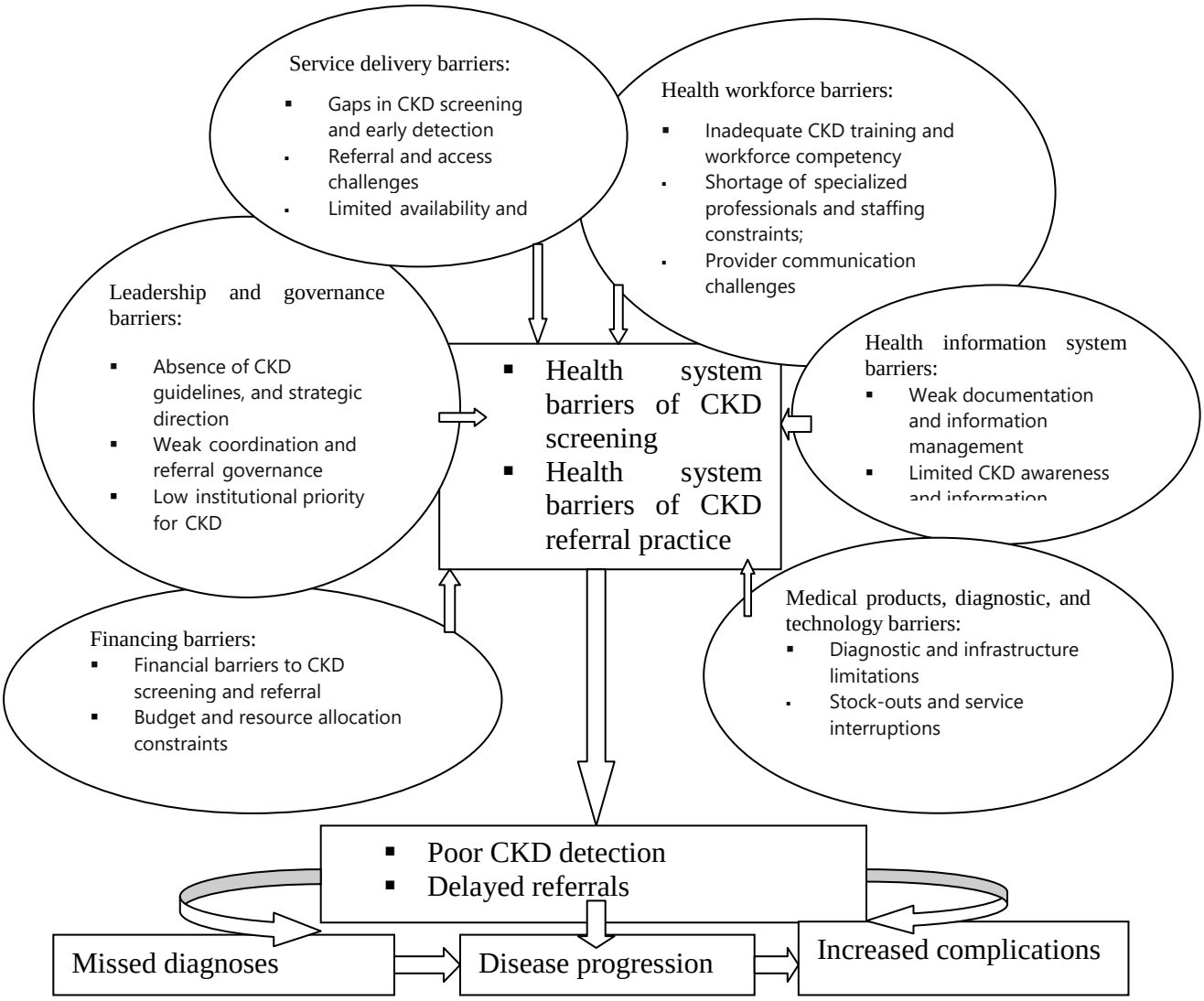


Figure 1 illustrates a conceptual framework based on the WHO health system building blocks, showing how gaps in key system components create barriers to CKD screening and referral practices.

3. OBJECTIVES

3.1. General Objective

The aim of this study was to explore health system related barriers of chronic kidney disease (CKD) screening and referral practices in primary health care (PHC) settings in Addis Ababa, Ethiopia, 2026.

3.2. Specific Objectives

- To explore health system related barriers of chronic kidney disease (CKD) screening in primary health care (PHC) settings in Addis Ababa, Ethiopia, 2026.
- To explore health system related barriers of chronic kidney disease (CKD) referral practice in primary health care (PHC) settings in Addis Ababa, Ethiopia, 2026.

4. METHODS AND MATERIALS

4.1. Study area and study period

The study was conducted in four selected public health centers of Addis Ababa from January to March 2026. Addis Ababa is the capital city of Ethiopia, with estimated population of 8,938,683 in an area of 540 square kilometers (44). This town has latitude 9.03°N and longitude 38.74°E with average elevation of 2400 above sea level. There are 11 sub cities which are further divided in to woredas (districts) in Addis Ababa (45). Public health system of Addis Ababa city is under Addis Ababa City Administration Health Bureau. In Addis Ababa, Primary health care is provided mainly via health centers, which are first entry to health care and referral. The city has over 100 functional public health centers (46).

Four public health centers were purposively selected for this study to represent different sub-cities of Addis Ababa and to capture variations in primary health care settings. With this, Bole Bulbula, Teklehaimanot, Churchill, and Akaki health centers were included.

Bole Bulbula health center is in the bole Sub city and serves the local community with primary health services. It was established in 2004, and is now provides outpatient and basic primary care services typical of Ethiopian health centers (OPD, maternal and child health, immunization, pharmacy (47). Teclehaimanot health center is located on Gaston Guez Street in Addis Ababa. The health center's main services are outpatient care, maternal and child health services, immunizations, disease prevention, basic diagnostics, and referrals to higher-level hospitals when needed (48). Churchill Health center is located Churchill area of Addis Ketema Sub-City serves the surrounding community. It was established by the Addis Ababa City Administration Health Bureau and currently provides outpatient services, maternal and child health care, immunization, basic laboratory services, and pharmacy services. Akaki health center is located in Akaki kalitiy sub city. The health center's main functions are outpatient services, maternal and child health care, immunization, basic diagnostics, and pharmacy services. Addis Ababa city was selected as there is high burden of NCDs in the area (49).

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4.2. Study design

Descriptive qualitative study design was employed to assess health system related barriers to chronic kidney disease (CKD) screening and referral within primary health care (PHC) settings.

4.3. Source of population

The source population of this study was all relevant stakeholders including: PHC providers such as medical doctors, nurses, public health officers and medical laboratory technicians), PHC managers, referral coordinators, and service users including diabetic patients, hypertensive patients and HIV/AIDS patients involved in CKD screening and referral within public primary health care settings in Addis Ababa. The estimated sample size for this study was 30 participants for IDIs and 4 FGDs.

4.4. Study population

The study population for this study was purposely selected stakeholders and service users involved in CKD screening and referral within public primary health care settings in Addis Ababa.

4.5. Sampling and participants recruitment

Participants were selected using purposive sampling method. Eligible participants included PHC providers (nurses, health officers, medical laboratory technicians and general practitioners), PHC managers, referral coordinators as key informants, and high-risk patients attending PHC services in selected health centers (Bole Bulbula, Teklehaimanot, Churchill, and Akaki). High-risk patients were identified based on clinical criteria and referral history. Participants were distributed across all selected PHCs to ensure representation. A total of 24 health providers, PHC managers, and referral coordinators were included, distributed as follows: 9 from Churchill Health Center, 8 from Teclehymanot Health Center, 5 from Akaki Health Center, and 2 from Bulbula Health Center. For the focus group discussions (FGDs), 9 high-risk patients participated in an FGD at Teclehymanot Health Center, and 8 high-risk patients participated in an FGD at Akaki Health Center. Each FGD ensured diversity in age, sex, and referral experience

Recruitment was conducted through multiple strategies. Initial contact was made with PHC managers and district health bureau officials to facilitate access. Participants were invited using formal letters/ posted information sheet and personal communication. High-risk patients were recruited with support from PHC staff during routine visits. All participants received detailed study information and informed consent forms. Sample size adequacy was guided by the concept data saturation

4.6. Eligibility Criteria

4.6.1. Inclusion criteria

- PHC workers including nurses, laboratory technicians, health officers, and general practitioners who work in chronic care services and CKD screening or referral
- Referral coordinators
- PHC managers work at planning, supervision, or management of PHC services and referral systems.
- Patients aged 18 years and older with at least six months of follow-up in the chronic care service.
- High risk CKD patients including hypertensive patients, DM patients, HIV infection based on clinical criteria and referral history.
- Willingness and ability to provide informed consent

4.6.2. Exclusion criteria

- Critically ill patients

4.7. Data collection tools and procedure

Data was collected by using semi structured in-depth interview guides and focus group discussion (FGD) (50). These guides were developed in line with study objectives and the WHO health system building blocks (43). Purposively selected PHC providers, referral coordinators, and PHC managers were in-depth interviews, and high-risk patients were included under FGD. Both questions of interviews and FGD guides focus on service delivery, health workforce, health information systems, medical products and technologies, financing, and leadership and governance. Data collection was carried out by the primary investigator by using audio recorders and field notes. Both interviews and FGD were conducted in Amharic language; data collection was continued until information saturation is achieved. During the interviews, favorable, non-threatening, and relaxed environment

was created. With the participants' permission, the principal investigator recorded and took written notes during the interviews. Field notes were taken on his or her body language and mood, and any informal conversation that took place before or after the interview. The time for audio-record interviews and FDG was ranged from 45-60.

4.8. Data analysis process

The primary investigator was conducting data analysis simultaneously with data collection. Thematic analysis was used to analyze the data obtained from the participants' interview. The data were analyzed by using ATLAS. ti 9.0 software. The analysis was carried out in accordance with the thematic analysis approach developed by Braun and Clark, which includes: familiarization with the data, generating initial codes, searching for themes, reviewing the themes, defining and renaming the themes, producing the final report (51). Therefore, analysis was both a deductive, exploring issues found in previous research, and inductive process, identifying unanticipated issues raised by the participants. All interviews and field notes were transcribed in the Amharic language and translated to English conceptually by the principal investigator. Data was transcribed by PI, read several times, critically evaluated to get the concept and group into themes based on the concept it contains. After familiarization with the data, code was assigned based on the context of the sentence line by line. After assigning code for each data with similar meaning collected to the same to categorize and it forms sub-themes and then major themes were developed.

4.9. Trustworthiness

The rigor of the study was maintained based on Lincoln and Guba's criteria of dependability, credibility, transferability, and confirm ability (52).

4.9.1. Credibility

Credibility can be defined as confidence in the truth of the findings. It was upheld through various measures throughout the research process. Firstly, adequate time was allocated for data collection and analysis. This was ensured that the interviews were thorough and comprehensive, allowing for a more holistic understanding of the participants' experiences. Additionally, this allowed for deeper engagement with the participants, fostering good relationships and building trust. Prolonged engagement in the field, meaning spending an extended duration of time in the research setting, was further enhance credibility. This

immersion allowed the researcher to develop a deeper understanding of the context, participants, and their experiences.

4.9.2. Dependability

Dependability indicates that the findings are consistent and could be replicated by future researchers. To enhance dependability of this study, peer debriefing and feedback from colleagues was used in managing the data and detailed documentation of the research process, including sampling procedures, data collection methods, and analysis techniques, demonstrated.

4.9.3. Transferability

Transferability means that the findings are also applicable in other contexts or generalized (transferred) to other similar contexts or settings or groups. It was ensured by purposefully selecting study participants who meet the inclusion criteria, and the transferability of this study was ensured by clearly and in detail describing the research context, setting, sample, and data collection procedure and assumptions that was central to the research to enable the reader to assess the findings' capability of being transferable. The interviews were conducted with the aid of audio recordings and field notes.

4.9.4. Conformability

Conformability describes the degree of neutrality or, in other words, the extent to which the findings of a study reflect the respondents' opinions and experiences rather than the researchers' biases, motivations, or interests. It was ensured by providing rich quotes from the participants and maintaining an unbiased approach, establishing an audit trail in the process of choosing methods, recording each activity of the participant at the time of the interview, and documenting every procedure of the study such as data analysis and interpretation of results.

4.10. Ethical consideration

Approval was obtained from the Institutional Review Board (IRB) of Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery. Written permission (authorization) was obtained from selected public health centers of Addis Ababa city administration to conduct the study on their premises. The proposed study

insured by obtaining informed consent from each participant. They may need full information about the study including reason they have been chosen to participate, so that brief explanation and objectives of study was given to each participant by researcher and was done on voluntary basis. Confidentiality of the information assured, and privacy of each respondent maintained throughout the data collection process.

5. RESULTS

5.1. Socio-demographic Characteristics of Participants

A total of 24 healthcare providers participated in the in-depth interviews, with participants ranging from 25 to 55 years of age. The majority (83.3%) were aged 25-35 years. Males constituted 66.7% of the sample. Participants included medical doctors, health officers, nurses, medical laboratory, referral liaison officers, and medical directors from the four public health centers in Addis Ababa. In addition, two focus group discussions were conducted with high-risk CKD patients.

Table: 1 Demographic and professional characteristics of study participants in public health centers in Addis Ababa, 2026.

Participant code	Professional	Gender	Age category
P1	Medical doctor	Male	25-35
P2	Medical doctor	Male	25-35
P3	Health officer	Female	25-35
P4	Health officer	Male	25-35
P5	Medical laboratory technician	Male	25-35
P6	Nurse	Female	25-35
P7	Nurse	Female	25-35
P8	Medical director	Male	36-45
P9	Liaison officer	Male	25-35
P10	Medical doctor	Male	25-35
P11	Medical doctor	Female	25-35
P12	Health officer	Male	25-35
P13	Medical laboratory technician	Male	25-35
P14	Liaison officer	Male	25-35
P15	Medical director	Male	36-45
P16	Nurse	Male	25-35
P17	Nurse	Female	46-55
P18	Health officer	Male	25-35
P19	Medical laboratory technician	Male	36-45
P20	Medical doctor	Female	25-35
P21	Nurse	Male	25-35
P22	Liaison officer	Female	25-35
P23	Health officer	Male	25-35
P24	Medical doctor	Male	25-35
FDG 1	Mixed chronic disease patient	Not specified	Not specified
FDG 2	Mixed chronic disease patient	Not specified	Not specified

5.2. Thematic Analysis

We analyzed the data using Braun and Clarke's six-step method. It is mixing deductive and inductive approaches. The WHO's six building blocks guided the initial coding, and we also let new ideas come up from what participants said. From the 24 interviews and 2 focus groups, six main themes emerged regarding screening CKD: service delivery, workforce, information systems, medical products, financing, and leadership barriers. Each theme had several sub-themes that together show what gets in the way of CKD screening. Under referral barriers, three sub-themes under themes are additionally identified.

Table: 2 Barriers of CKD screening and referral at PHC

Themes	Sub-themes for CKD screening	Sub-themes for referrals
Service Delivery Barriers	1. Gaps in CKD screening and early detection. 2. Limited availability and continuity of CKD services.	1. Referral and access challenges
Health Workforce Barriers	1. Inadequate CKD training and workforce competency. 2. Shortage of specialized professionals and staffing constraints. 3. Provider communication challenges.	1. Inadequate information regarding referrals 2. Limited Provider communication regarding diagnosis, test and outcomes.
Health Information System Barriers	1. Weak documentation and information management. 2. Limited CKD awareness and information dissemination.	
Essential Medical Products and Technologies Barriers	1. Diagnostic and infrastructure limitations 2. Stock-outs and service interruptions.	
Health Financing Barriers	1. Financial barriers to CKD screening Budget and resource allocation constraints.	1. Financial barriers to referral cases
Leadership and Governance Barriers	1. Absence of CKD policies guidelines and strategic direction. 2. Low institutional priority for CKD.	1.Weak coordination and referral governance

5.3. Service Delivery Barrier

Many problems of CKD screening and referral were identified under this barrier in selected PHC. These were screening ignorance, poor referral services and transportation related problems. Gaps in CKD screening and early detection, referral and access challenges, and limited availability and continuity of CKD services are three sub-themes identified.

5.3.1. Gaps in CKD Screening and Early Detection

In selected primary health care settings many gaps of CKD screening and early detection. CKD screening was neglected, with inadequate screening practices and little attention given to early identification among high-risk groups. In one of the responses, it has said as:

> *"I think kidney disease screening is generally ignored."* (p23, Health Officer)

The asymptomatic state of CKD was another challenge. Due to CKD patients' haves no symptoms during the early stages, reducing opportunities for timely diagnosis and referrals. A medical doctor from one of the healthcare settings said:

> *"To tell you the truth, early detection is not common. It is not common to detect early because a CKD patient is asymptomatic in the early stages."* (P24)

CKD was commonly identified incidentally during investigations for another condition rather than through organized screening programs. Although some facilities had screening services, participants noted that these services were poorly utilized for early CKD detection. A medical laboratory professional included in this study said:

"Availability but underutilization... the decisive thing is Creatinine. As long as we have Creatinine and ultrasound, it is sufficient." (P13)

5.3.2. Limited Availability and Continuity of CKD Services

Most of the participants reported limited availability of CKD-related services within primary health care settings. It was explained clearly that CKD screening, and follow-up services were not adequately available at most of the health centers included. This created difficulties for the patients seeking care. Health care providers included in the study stressed the need for accessible local CKD screening services and expansion of specialized

services at the health center level. In responses discussed by participant of the study, it has been said clearly:

> *"If the government makes what is needed available at every health facility, if many 'referrals out' are not required... there is no reason they won't come here."* (P1, Medical doctor)

> *"If all treatments were here, meaning if there were no referrals... because when there is a referral, there will be crowding when they go there."* (FGD)

The findings also showed a perceived lack of local CKD diagnostic services and shortage of dedicated CKD health care professionals. Participants from the FGD said:

> *"I don't believe CKD diagnostic services are fully available at this health center."* (FGD)

Participants further described limited kidney-related services and lack of organized kidney care within primary health care facilities. A laboratory technician discussed regarding service availability in his/her health center as:

> *"Regarding the service... currently, there might not be people who are treated permanently as kidney patients in this compound because the facility is a health center."* (P5)

5.3.3. Referral and Access Challenges

Participants described several challenges related to referral processes and access to CKD screening and diagnostic services. Most explained that there were problems particularly when services were unavailable within primary health care facilities and patients had to seek care elsewhere. One of the participants of the study told us:

> *"When the patient returns... they blame that they haven't got any service at that referral site... they tell me the hospital sends them after giving them blood pressure medicine"* (p23, Health Officer)

Participants said out their dissatisfaction with referral services outside their facilities. Medical doctor included in this interview explained:

> *"I send them to private centers for investigations. This requires a lot of money."* (P2)

Some reported poor service and negative experiences at referral hospitals, which reduced trust in the referral system and affected continuity of care for patients requiring CKD screening and follow-up. In one of the FGD, the participants agreed that there were challenges as stated commonly as:

> "*There is a lot of trouble, especially at Beijing, regarding the hospitality (service); there is a big problem... I've seen a lot of exhaustion."* (FGD 2)

Transportation-related problems were there during referral to better hospitals. Participants from one of FGD discussed the encounter they faced with referral as:

> *"Since the available ambulance is only one, it is not proportional to the number of patients; so many people go on referral on foot."* (FGD 2)

5.4. Health Workforce Barriers

This theme focuses on human resource issues that hinder CKD screening. Under this theme we get three sub-themes. These were inadequate CKD training and workforce competency, shortage of specialized professionals and staffing constraints, and provider communication challenges.

5.4.1. Inadequate CKD Training and Workforce Competency

This sub-theme focuses on the training challenges that make early kidney disease detection not adequate. Most health-care providers who work at NCD face a absence of formal and CKD-specific training. A medical doctor included in this study clearly said:

> *"There has been no training provided so far for specific CKD screening."* (P2)

Another nurse working in the area of NCD follow up clinic has also said:

> *"I don't think so; it's not there, there is a gap... specifically for CKD, I don't know of any training that came specifically for CKD."* (P17)

There was knowledge gap in between health providers working at NCD. One of the respondents said that he/she did not know the interpretation:

> *"The interpretation of estimated GFR and such needs a little bit of... I don't know how much the facility health care staff is trained in that."* (P10, medical doctor)

5.4.2. Shortage of CKD trained professionals and general staffing constraints

Under this theme we focus on human resource deficiencies and staff shortage.

> *"There are no specialists or trained healthcare providers of CKD. Since this is a health center, when we need specialists or trained providers, we refer patients to better health facility such as Black Lion specialized Hospital."* (P1, Medical doctor)

Another study participant added that health care provider turnover is affecting NCD care and related problems such as CKD care as it is discussed as:

> *"There are a lot of professional turnovers. For example, in our NCD clinic, it's run by two GPs and a nurse. GPs usually stay for about six months to a year."* (P23, Health officer)

Healthcare providers' turnover is creating workload. However, fellow is much higher as hypertensive and diabetes conditions rising in the community. The study participants claimed the shortage of health care providers. The health care providers say was supported by participants included in the FGD as follows:

> *"There is also a shortage of professionals. At the health center level, there is a shortage of professionals and a shortage of doctors."* (P13, Medical laboratory technician)
>
> *"The number of staff and the number of people served are not proportional. One person cannot serve a hundred people."* (FGD 1)
>
> Patients also experience extreme compounding delays including standing in lines for over an hour and making multiple frustrating trips just to retrieve medical records. One FGD participant said:
>
> *"We come in the morning, get the treatment, but because of the payment process, our time is wasted and we return home exhausted."* (FGD 1)

5.4.3. Provider Communication Challenges and/or Limited information

Participants' unclear communication about referral, diagnosis, tests and outcomes from healthcare providers considered as a significant barrier affecting both CKD screening and referral services in primary health care settings. FGD participants discussed clearly that there was limited communication about CKD screening, and it has been said:

"Most of the time, the talk is about pressure and sugar. I have never even heard about kidney matters. (FGD 2)

On the other hand, both FGD participants reported receiving limited explanations about the reasons for referral, the referral process, and the meaning of laboratory test results, which created confusion and reduced understanding of their condition and required follow-up care.

Participants also noted that unclear communication from doctors often leave patients uncertain about their diagnosis treatment pathways and final outcomes. It has been said clearly:

"They say/do something for a certain amount of time... However, we don't understand it; we don't have the knowledge." (FGD)

In addition, problems related to recording and sharing patient information were commonly mentioned, as incomplete documentation and failure of staff to share clinical information during referrals disrupted continuity of care and forced patients to repeatedly explain their medical history at different facilities. Medical doctor from one of the centers said:

"Sometimes it gets lost. Sometimes it might be forgotten; they might even forget that it came stapled; if it's like that, it can get lost; that's true." (P1, Manager).

5.5. Health Information System Barriers

Here we focus on problems with patient records and health information management. Facilities still rely on paper-based records that get lost or damaged. No educational materials about CKD. Two sub-themes were identified. These were weak documentation and information management, and limited CKD awareness and information dissemination.

5.5.1. Weak documentation and information management

Weak documentation and information management were barriers to effective CKD screening within primary health care settings. Facilities rely on paper face challenges in the recording and transferring of patient information during screening and referral processes. One health center leader said:

"Patient information can sometimes be lost because it is paper based. Secondly, they come in a hurry, and because of redundancy... new cards are issued, so the previous history might be lost." (P7, Manager).

Human errors in record keeping including incomplete documentation and challenges of multi-stage paper recording were identified. One of the respondents' discussions, it has been said:

"In recording, everyone's state is not equal; they might not record correctly." (P5, Laboratory).

The physical degradation and loss of paper records were happened .

"Sometimes what happens is results get lost; results are not properly attached inside the card." (P5, Laboratory).

5.5.2. Limited CKD awareness and information dissemination

CKD screening and referral services in primary health care settings are affected by loss of awareness about CKD and lack of full health information. There was no enough educational and awareness materials related to CKD. For example, one of the respondents said:

"I don't know if anything related to CKD has been posted. But there are posters and interventions that focus on DM and Hypertension; however, I am not sure if there is anything regarding CKD there." (P1, Medical doctor)

Existing health education materials primarily focused on other communicable and non-communicable diseases. The need for accessible awareness materials to improve understanding of CKD is discussed.

"Banners, like the ones we post for cardiovascular disease, if we had CKD banners to post, it would remind you as you go, so I think that would be better."(P4, Health officer)

5.6. Essential Medical Products and Technologies Barriers.

Infrastructure, supplies and diagnostic tool shortages are all included in this theme. Power failures frequently disrupt laboratory services, health centers lack basic equipment, and

reagents run out for months. Infrastructure and diagnostic challenges, as well as stock-outs and service disruptions, become two sub-themes.

5.6.1. Diagnostic and Infrastructure Limitations

Participants described diagnostic and infrastructure limitations affect effective CKD screening and referral services in primary health care settings. The limited availability of advanced diagnostic technologies made it difficult to identify CKD early and refer patients appropriately at the primary care level. As one doctor states:

> *"Regarding diagnosis, it's only in our country... when pathology biopsy is taken; most Ethiopian health facilities don't have it."* (P1, Medical doctor)

Participants also reported that many facilities did not have kidney-related services, treatment infrastructure, or adequate space and resources to support CKD care. Health officer from selected study participants said as:

> *"It's primary health care; it's not very advanced. The things required for CKD won't be there. I don't think it's sufficient."* (P12, Health officer)

One of the study participants also noted that the absence of local diagnostic services all times and needs work on this.

> *"Kidney is a sensitive thing now. Therefore, more than any equipment, if kidney equipment were found here"* (FGD2)

5.6.2. Stock-outs and Service Interruptions

There is stock-outs which result in service interruption in primary health care settings.

Participants described stock-outs and service interruptions as common challenges affecting CKD screening and referral services in primary health care settings. Many explained that shortages of laboratory supplies, and diagnostic materials frequently occurred. One nurse from the study participants described as:

> *"There will be stock out; it's not that there isn't. But it might stay for a month or two."* (P6)

Delayed in laboratory services due to restricted testing schedules, and long waiting times. It was occurred most of the time during busy morning hours. From FGD participants one client noted as: one FGD participant said:

> *"In the diabetes lab, we diabetic patients get hungry. At that time, they don't attend to us quickly in the morning."* (FGD)

Due to limited laboratory capacity and supply chain problems patients to seek services from other facilities. Health profession explains it as:

> *"Reagents are what can be interrupted. If that is interrupted, it's a problem. Because we can't provide the type of care we want."* (p21, Nurse)

Power interruptions were identified problem, because it affected laboratory investigations and delayed service delivery. FGD participant said:

> *"Another problem is that the power goes out. Then they say the system has stopped."* (FGD1)

5.7. Health Financing Barriers

Under this sub-theme financial constraints at both patient and facility levels was identified. These were out-of-pocket costs and no dedicated budget for CKD activities. Two sub-themes including financial barriers to CKD screening and referral, and budget and resource allocation constraints were identified.

5.7.1. Financial Barriers to CKD Screening and Referral

Participants described financial barriers as a key constraint to accessing CKD screening and referral services in primary health care settings. The findings indicated that many patients faced economic limitations that restricted their ability to seek timely screening and follow-up care. One medical doctor participant described the situation as:

> *"Most people living around here in the shanty areas... They don't have the capacity. When you tell them the cost, they say they don't have money."* (P2, Medical doctor)

Essential monitoring services and diagnostic tests were often unavailable within health centers. Because of these challenges the patients expose to external services, which was high price. One medical doctor and one FGD participant shared as:

> *"Even if they are covered by health insurance... these things are not tests available here; they are tests from outside... many patients don't have money, so there is a challenge there."* (P1, Medical doctor) *"If it is ordered outside, we spend 'over' an excessive amount... it is a heavy burden."* (FGD1)

Many patients experienced financial problems, which limited their ability to pay investigation or complete recommended referrals. It is described by one of the liaison officers and one FGD participants as follows:

> *"The issue of cost itself, financially if that person doesn't have the financial cost for the expenses of the investigation that can be a barrier for them"* (P9, Liaison officer), *"It has a cost, and it is very high. You become exposed to other expenses."* (FGD 2)

Low socioeconomic status was also contributing factor to unequal access, with affordability varying widely among patients. In one the FGD the participants discussed clearly as:

> *"Still, there are fellow citizens who cannot even afford 30 (thirty) birr for a card. There are many fellow citizens who want to be treated but leave without being treated."* (FGD2).

5.7.2. Budget and Resource Allocation Constraints

Participants described budget and resource allocation constraints as important barriers to CKD screening and referral services in PHC. They reported that there was no specific budget allocated for CKD activities, which hinder early screening and referral services.

> *"I don't have CKD specific finance, but as a facility, these inputs are required not just for CKD but in general."* (P20, Medical doctor)

CKD services were also seen as receiving limited attention within the broader non-communicable disease funding structure, resulting in inadequate and inconsistent allocation of financial and material resources. One participant explained it as:

> *"If we compare them, it is not sufficient. The budget is allocated to infectious things."* (P9, Liaison officer)

Participants explained that this shortage of dedicated funding affected the availability of basic inputs and reduced the capacity of health facilities to strengthen CKD-related services. One of the respondents has stated her/his says as:

> *"Among communicable diseases... TB and HIV have their own programmed drugs... Organizations like WHO and CDC provide support... there is no organization working on NCDs, and there are no resources specifically coming for them."* (P12, Health officer)

5.8. Leadership and Governance Barriers

This theme focuses on guideline and referral coordination problems. There are no CKD-specific guidelines. Referral coordination is weak with no feedback from hospitals, and CKD is not a priority for the government. Sub-themes under theme include absence of CKD specific guidelines, weak coordination and referral governance, and low institutional priority for CKD.

5.8.1. Absence of CKD specific guideline, and strategic direction

Participants described the absence of CKD-specific guidelines, and strategic direction as a key barrier to effective CKD screening and referral services in primary health care settings. One doctor said as:

> *"There is no specific budget just for CKD."* (P2, Medical doctor)

CKD-specific guidelines and registry systems were not available. Their discussion reflected in the following quotes:

> *"There are no guidelines specifically for CKD."* (P1, Medical doctor)
> *"We do not have a separate register specifically for CKD."* (P4, Health officer)

Absence of CKD-specific training was mentioned. The study participants' explanation is:

> *"I haven't taken training on that manual... I haven't done training on that manual."* (P3, Health Officer) *"There is nothing updated; it's the old guideline. It is almost from 2021, a guideline from five years ago."* (P12, Health officer)

5.8.2. Weak Coordination and Referral Governance

Weak coordination and referral governance were identified as a key barrier to effective referral services in PHC settings. A deficient referral feedback system, where health centers rarely received timely feedback from referral hospital. One leader explains it as:

> *"There is a gap in feedback, which is a challenge raised by many institutions at meetings. Feedback is not being received to the extent it should be."* (P15, Medical director)

Poor coordination between health facilities and weak inter-facility communication were identified. It is stated as:

> *"I wouldn't know that because we give them the paper and send them. We don't have information on whether they arrived or not; there is no communication with Tikur Anbessa like that."* (P2, Medical doctor)

Two-way communication failures and Lack of cross-level patient tracking systems were mentioned. One medical doctor noted it as:

> *"After we refer to the patient, we don't track them. We have handed over that patient to the next facility. They don't come back to us."* (P20)

Limited understanding of referral coordination processes among staff. One medical doctor said:

> *"We don't have that kind of system. Such a system should probably be prepared, but once they are referred to, it is that hospital that follows up with them."* (P1).

5.8.3. Low Institutional Priority for CKD

Low institutional priority for CKD was stated as a barrier to effective screening and referral services in primary health care settings. One laboratory technician said

> *"The government focuses on communicable diseases. This is the country's policy."* (P19)

CKD was considered a non-emergency condition. No follow-up for CKD patients at primary care level. It is clearly stated in one of the responses as:

> *"CKD cases are not... since they are chronic kidney disease, they are not emergency cases. If it is advanced CKD, they do not follow up here. We send them to the hospital. Additionally, patients with CKD... are not found much."* (P1, Medical doctor)

6. DISCUSSION

The study looked at what gets in the way of CKD screening and referral at primary health centers in Addis Ababa. We found six main themes of screening barriers that match up with the WHO health system building blocks: service delivery, workforce, information systems, medical products, financing, and leadership. Four sub-themes regarding referral pathways under the same themes. The next section will discuss both CKD screening and referral challenges under identified themes.

6.1. Service Delivery Barriers

This study found that CKD screening was often neglected and that early detection was not common because CKD patients are asymptomatic in the early stages. This finding is supported by a study conducted in the UK, which reported that difficulties incorporating CKD-related tests into routine workflows were challenges of primary care services(35). This similarity may be because high patient loads, limited consultation time and prioritization for acute infectious diseases leave little opportunity for screening of asymptomatic conditions like early-stage CKD. This study also reports that incidental identification of CKD during investigations for other conditions rather than through organized screening programs. This finding is consistent with literature from low-income countries mainly in sub-Saharan Africa, which reported inadequate facility access and care fragmentation as common service delivery barriers (16). The consistency may be because most of the low-income countries there are no nationally organized CKD screening protocols, and providers rely on opportunistic case findings when patients present with other complaints such as hypertension or diabetes. Some facilities had screening services such as creatinine testing and ultrasound, but these were poorly utilized. This finding differs from literature from Ethiopia, which reported poor diagnostic capacity and limited availability of structured services (36). This difference may be explained by the fact that the current study was conducted in Addis Ababa city administration, where basic laboratory equipment was available, possibly because it is the capital city where get more government support and external donations are received, whereas the other Ethiopian study may have included facilities with limited government support and external donations.

Decrease services at referral hospital, dissatisfaction with referral services, and negative experiences at referral hospitals were identified. These findings are in line with sub-

Saharan African studies, which reported that patients often experience delays in referral and inconsistent follow-up, leading to disorganized and uncoordinated CKD services (16). This similarity may be due to the fact that in many sub-Saharan African health systems, referral pathways are poorly formalized, and communication between primary and referral facilities is weak, with overcrowded hospitals. This was also found by another study from Ethiopia, which reported weak referral pathways and insufficient infrastructure (36). This is due to reality that most Ethiopian primary health care settings have only one ambulance serving a large catchment area. In this study, CKD screening, diagnostic and follow-up services were not adequately available at health centers, and there was a lack of organized kidney care within primary health care facilities, indicates limited availability and continuity of CKD services. This is similar to study done in Ethiopia, which reported that in most health facilities lacked comprehensive CKD services (36). This similarity is may be because most Ethiopian health care settings, mainly in PHC, have not fully incorporated CKD services. This study also found a shortage of dedicated CKD health care professionals and that patients were not treated permanently as kidney patients at health centers because the facility was a health center. This finding is consistent with study done in UK, which reported disjointed care between primary and specialist services (35).

Furthermore, Local availability of services increases patient attendance, whereas referrals make receiving hospitals crowded. These findings are similar to study done sub-Saharan Africa, which described care fragmentation and uncoordinated CKD services (16).This similarity reflects the reality that patients prefer local, accessible care because the receiving hospitals become overcrowded**.**

6.2. Health Workforce Barriers

No formal training focused specifically on CKD was reported. This lack of training creates a gap in managing the disease. This finding is similar to study done in Ethiopia, which reported limited CKD in pre-service education and inadequate in-service training as contributors to low provider awareness of CKD risk factors and inconsistent screening practices (36). This similarity may be due to the fact that CKD is not being included in national training curricula for primary care providers, and no dedicated CKD training programs have been implemented at this level. Difficulties in interpreting estimated GFR were reported. This finding is consistent with the Global Kidney Health Atlas, which reported that primary healthcare providers in low- and middle-income countries often lack

the skills and confidence required to identify early CKD and initiate timely referrals to specialist care (12). This may be the result of limited training of health care provider and no structured continuing education to compensate. Primary health centers lack specialized professionals and patient' who need specialist care are referred. Another study in Ethiopia also found that the concentration of nephrology services in a few tertiary hospitals strains the limited specialist workforce and delays referral and follow-up for patients from peripheral areas (36). This similarity exists because Ethiopia's health policy concentrates specialist training and placement only at teaching and tertiary hospitals.

High professional turnover and workload pressures were also main problems. These findings were consistent with a systematic review from sub-Saharan Africa, which reported heavy workloads among existing staff and minimal availability of renal specialists outside major urban centers (16). The consistency may be due to the fact that GPs in Ethiopian public health centers often use these positions as temporary posts before they find better options, diabetes and hypertension are the most common NCDs seen in primary care across sub-Saharan Africa, and the patient-to-provider ratio is extremely high.

Poor communication from healthcare providers was reported as a significant barrier. This finding is similar to study in the Amhara region, which reported low provider awareness of CKD risk factors and inconsistent screening practices (13). This similarity may be because of providers focus health education on conditions they are trained to manage. Limited explanations about reasons for referral, the referral process, unclear communication from doctors and the meaning of laboratory test results created confusion and reduced patient understanding. This is supported by the Global Kidney Health Atlas report, which stated that primary healthcare providers lack the confidence required to initiate timely referrals to specialist care and that there are significant knowledge gaps among existing healthcare providers regarding CKD guidelines and management (12). This is may be because when providers themselves are uncertain about CKD, they cannot confidently explain referral reasons or lab results to patients, leading to minimal information sharing**.**

6.3. Health Information System Barriers

Weak documentation and information management hinder CKD screening and referral. In paper-based systems patient information is lost as new cards are frequently issued due to redundancy; previous medical history is routinely lost. Similar findings came from studies in middle-income and low-income countries, where paper-based records remain common

and lead to lost information, fragmented patient histories, and difficulty tracking individuals over time (37). This pattern persists because electronic health information systems are not yet fully implemented at primary care level in most low-resource settings. Human errors in record keeping were also common. A global review reports the same issues, including incorrect patient data recording and poor documentation of test results (35). Similarity is may be due to the fact that multi-step paper-based recording creates multiple opportunities for error at each stage and health workers under heavy patient loads often rush through paperwork.

Physical degradation and loss of paper records further compromised patient follow-up and referral continuity. This matches what has been documented in Ethiopia, where fragmented patient information during referral makes continuity of care difficult (13), and in other developing countries , where paper-based systems routinely result in lost information (37). The efficiency and coordination of CKD screening and referral are hindered by weak documentation and poor information management. This aligns with a global review noting weaknesses around documentation and communication of test results, patients were not clearly informed of meaning of their kidney test results, inconsistent follow-up, incorrect patient's data recording (35). Incompleteness of patient information can affect decisions about follow-up or referral. Limited CKD awareness and poor information dissemination were appeared as important barriers. There was a lack of educational materials for CKD in health facilities. Studies from Amhara region and a mixed reviewed of Sub-Saharan Africa were reported similar findings: a shortage of standardized reporting formats and limited mechanisms for tracking screened individuals: many people did not even know they had been screened for kidney disease or could not understand their results respectively (13,16). This gap may be because national NCD programs in Ethiopia and across sub-Saharan Africa have historically prioritized hypertension and diabetes over CKD. The existing health education materials mainly focus on other diseases. This is supported by a mixed reviewed of Sub-Saharan Africa describing patients who, even after repeated health facility visits, had no clear understanding of their health status, reflecting weak information flow within the health system (16). This gab may be because national NCD programs in Ethiopia and across sub-Saharan Africa have historically prioritized hypertension and diabetes over CKD.

Awareness materials and evidence-based information are required to enhance understanding for both patients and providers. These ideas are consistence with the studies from Amhara region and a mixed reviewed of Sub-Saharan Africa which reported the absence of CKD-specific registers and limited mechanisms for tracking screened individuals over time and that patients were often not clearly informed about what their kidney test results meant, leading to uncertainty about their health and future care needs respectively (13,16).

6.4. Essential Medical Products and Technologies Barriers.

Diagnostic and infrastructure limitations obstruct CKD screening and referral. In most Ethiopian health facilities, even pathology biopsy is unavailable. The same problem appears in other low-resource settings. Studies from India and Uganda found that primary care facilities there also lack essential laboratory tests, diagnostic equipment and basic kidney function tests, and reliable equipment were missing, respectively, making early CKD screening and diagnosis delayed (38,39). What ties these findings together is the way primary health care is designed in low- and middle-income countries. In primary health care settings insufficiently advanced and lack essential resources remains. This is similar with analysis in low resource settings, which found that scarce diagnostic infrastructure and limited access to essential technologies like imaging and standardized kidney function tests remain widespread problems (40). This may be due to limited resources and prioritization of basic services.

People were discouraged that local diagnostic services don not exist. This statement is supported by studies in India and Uganda describing: when investigation is not feasible locally, patients lose interest in going far away for testing, and patients refuse to cooperate when asked to seek testing elsewhere respectively (38,39). Stock-outs and service interruptions were everyday challenges. Shortages of laboratory supplies and diagnostic materials disturb screening and referral. This statement is supported by studies in India and Uganda describing: a lack of continuous medicine supply makes early CKD screening difficult, and inconsistent supplies delay both diagnosis and monitoring of CKD respectively (38,39). The common thread here is weak supply chain systems. In many low-resource settings procurement is unreliable and inventory management is poor.

Laboratory delays and slow service delivery during busy morning hours were common. It makes patients frustrated. The broader analysis of renal care in developing settings

similarly noted that depending on external testing facilities creates uncertainty and anxiety for patients, which increases the risk that they will not come back for follow-up (40). Limited laboratory capacity and supply chain problems also forced patients to seek services elsewhere. The Uganda study found that patients did not cooperate when asked to go elsewhere for testing (39), and the India study reported that patients lost interest when investigations were not feasible locally (38). When a health center cannot run a test because of a stock-out or broken equipment, the only option is to tell the patient to try another facility. System is disrupted by laboratory function issues with power interruptions. The Uganda study reported that reliable laboratory equipment was lacking (39).

6.5. Health Financing Barriers

Financial barriers exist due to the community low socioeconomic status. A global review reports the same findings: direct costs of kidney function tests, lab fees, transport, and follow-up visits delay diagnosis and cause missed referrals. People avoid testing even when they know they are at risk (37). This happens because in low-income settings, patients pay most healthcare costs out of pocket, and CKD testing is rarely covered by insurance. The health centers lack essential tests and forcing patients to go elsewhere. But the patients cannot afford else where's prices. These findings are consistent with a systematic review which found financial loss leads people to use fewer CKD services, upsets continuity of care, and means patients show up late with advanced disease (16). When public health centers lack basic diagnostic equipment, patients have no choice but to pay private labs or hospitals, where fees are much higher.

Completing the referral process and laboratory investigations was hindered by financial challenges. A review of sub-Saharan Africa confirms this, which identified that the price of diagnostics, medications, and repeated visits keeps people away from screening and referral (16). This pattern is common across the region because no universal coverage exists for CKD diagnostics, and repeated visits for testing. Socioeconomic disparity causes unequal health access. The sub-Saharan Africa review and the global review both report that were cost deters people from screening, and those with the least money are the most likely to avoid testing, which is consistent with our findings (16,42). Even small fees become impossible for the poorest patients and these individuals simply drop out of care.

No specific budget exists for CKD activities. The global review and the sub-Saharan Africa review both highlight financial constraints at the health system level as major(16,42). CKD gets very little attention within the broader funding structure for non-communicable diseases. The global review and a systematic review both report financial barriers at individual and system levels, with limited funding leading to poor preventive screening and follow-up (37,41). This may be due to the fact that international donors and national programs have long focused their money to infectious diseases.

6.6. Leadership and governance barriers

Absence of CKD-specific guidelines and strategic direction existed in PHC settings. A global survey on kidney care policies supports this with finding noting that many countries lack committed national strategies for CKD and kidney disease is often not included in non-communicable disease frameworks (42). Guidelines and registry systems are not available too. Studies from Literature from low- and middle-income countries and the Amhara region both reports similar gaps which were no formal leadership structures, no national CKD registries, no monitoring mechanisms and no robust policy direction and inadequate government focus on CKD respectively (12,13). There is also problem with training. No formal training, outdated or unavailable guidelines and Poor staff preparation. The global survey and Amhara region findings both confirm that practice often happens without any guidelines and weak regulatory oversight and inadequate government focus (13,42).

Weak coordination and poor Communication is there between health centers and referral hospitals. Health centers rarely get timely feedback from referral hospitals and communication between facilities is weak too. The global survey and Amhara region both support our finding which were poor coordination between levels of care due to governance gaps, which limits screening and referral and weak regulatory oversight leads to fragmented services and late referrals (13,42). These coordination and governance challenges affect continuity of care and reduce the effectiveness of CKD screening and referral. The global survey confirms governance gaps limit screening and referral (42). The Ethiopian study concludes that weak leadership and governance weaken the effectiveness and sustainability of CKD screening programs. Leadership and governance are the foundation of any health service (13). When that foundation is weak for CKD, everything other is compromised. Low institutional priority for CKD came through as a essential

barrier. Participants explained that infectious diseases have always gotten more attention, while CKD and other NCDs receive very little focus. The Ethiopian study found the same inadequate focus on CKD (13). The global survey reports that kidney disease is often excluded from non-communicable disease frameworks (42).The lack of a preventive health culture and low institutional priority for CKD weaken early detection efforts. They also block the development of structured screening and referral systems. The global survey found that a lack of committed national strategies limits screening and referral (42). The Ethiopian study concludes that inadequate government focus contributes to fragmented services and late referrals.

6.7. Strengths and limitation of the study

Including participants from multiple health centers, professional backgrounds and focus group discussions of patient's provided a broad perspective that enriched the findings. The focus on primary health care is important. Because this area is the level where early detection should occur but is often neglected. The limitations of the study include the following things. The first is research was conducted only in Addis Ababa, so findings may not represent rural areas or other Ethiopian regions. The next is scope is limited to screening and referral, not long-term CKD management. Lastly no comparison with rural settings or other cities was made.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. CONCLUSIONS

The study explored barriers to chronic kidney disease (CKD) screening and referral within primary health care settings in Addis Ababa, Ethiopia. Service delivery, health workforce, diagnostic, health information system, health financing, and leadership and governance barriers were identified as a theme. Different sub-themes identified under both CKD screening and referral pathway. CKD screening and referral in Addis Ababa's primary health care settings were undermined by multiple interconnected barriers. Without a coordinated national strategy that prioritizes CKD at the primary care level, early detection will remain rare, and most patients will continue to be diagnosed late.

7.2. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed.

For Policy Makers:

- National primary healthcare CKD screening and referral guidelines should be developed.
- A dedicated CKD budget for primary care should be allocated.
- A national CKD registry and mandated referral feedback mechanisms should be established.
- Paper or electronic record-keeping systems should be strengthened.
- Referral CKD diagnostic tests should be covered under health insurance.
- Donor funding for NCDs should be advocated.

For Practitioners:

- A referral tracking system and feedback mechanism should be established.
- CKD educational materials should be available for both health care providers and patients.
- Staff should be trained on clear patient communication about referrals and lab results.
- Health centers should be equipped with on-site diagnostics to avoid costly private labs.

For Educators:

- Regular CKD training for primary providers should be provided.
- CKD educational materials should be available for both health care providers and patients.

For Researchers:

- Large scale mixed method studies on the barriers of CKD across Ethiopian regions should be considered.
- Medical record audits should be conducted as part of monitoring and evaluation

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9. ANNEXES

Annex 1: Consent statement

My name is…… I am from Addis Ababa University College of health sciences department medical-surgical nursing. We would like to know health system barriers of CKD screening and referral in your setting. The information you provide will be useful to draw some conclusions, get lessons and possible recommendations to improve the practices of CKD screening and referral in study area and in Ethiopia. Your kind cooperation with honest responses to the questions will be vital for the overall success of the study.

You have been selected to participate in this study because you are a [healthcare provider/facility manager/policy maker working in this setting and high risk patient**.** To answer the interview questions, it may take about 45 minutes and discussion group take 1 hour of your time. We will audio-record the interview or group discussion with your permission and also take notes to make sure we capture your responses accurately. There are no physical risks linked to taking part. However, some questions might cause slight discomfort or prompt you to reflect on challenges you face in your work, so you are free to skip any question or stop participating at any time. You will not receive any direct personal benefit from this study, but your involvement will help generate evidence that can inform improvements to CKD screening and referral policies and practices in Ethiopia.

Your participation in the study is voluntary, and you will not be affected in any way if you decide not to participate. If you agree to participate, you can skip any question you do not want to answer without any consequence. You may also withdraw from the study at any time without any penalty or loss of benefits to which you are otherwise entitled.

Your responses will be kept completely confidential and any personal identifying information will not be used in any of the dissemination materials that will be produced under this study. The data collected and results drawn from the study will not be used for any other reason than the study's purpose. We will protect the anonymity and confidentiality of respondents in this study. If you have any questions or concerns regarding the study and the interview, we welcome you to contact Simbo Tafa via email: simbotafa5@gmail.com or phone: 0917463785

Annex 2: Interview Guide: Health System Barriers to CKD Screening and Referral in PHC

Date: _____/_____/_____ Name of research assistant: _____

Item Code: _____ Name of health institution: _____

Socio-demographic characteristics

Instructions: Provide responses as per the item raised to you during the interview. For each open ended question provide freely your response, and your responses will be audio-recorded for better understanding your say. We are trying to understand what makes it easier or harder for people to get screened for kidney disease. Your experiences are very important, and there is no right or wrong answers.

s.n	item	response
1	Institution	
2	Age	-----years
3	Gender as observed	1 male 2 female
4	Educational status	
5	Profession	

Part I: Service Delivery

1. What do you think about the burden of CKD on high-risk patients (DM, HTN) in your health facility? Probes: Do you often see patients with advanced kidney disease? Do you think that early detection is common in patients who are at high risk?
2. How important do you think early screening and timely referral are for CKD management? Probes: What benefits do you see in early detection for the high-risk patients?
3. How do you describe the referral process for patients suspected or confirmed of CKD in your facility? What barriers affect smooth referral? Probes: Costs, distance, poor communication, limited capacity at referral centers?

Part II: Health workforce

1. Are your facility's healthcare staffs well-trained to do CKD screenings and understand the results? Probes: Do they know how to use urine dipsticks and interpret creatinine/eGFR?
2. Have you or your colleagues received any specific training or updates on the guidelines for CKD? Probes: When did you last get training?
3. What challenges do health workers face in providing CKD screening and making referrals? Probes: Staff shortage, heavy workload, lack of confidence, lack of specialists?

Part III: Health Information Systems

1. How are CKD cases recorded and reported in your facility? Probes: Paper-based? Electronic?
2. Is there a reliable system for tracking patients across referral levels? Probes: Do patients get lost in the system? Are referral forms returned?
3. What challenges do you face in documenting and sharing patient information? Probes: Missing forms, lack of IT systems, no feedback from hospitals?

Part IV: Medical Products, Diagnostics, and Technologies

1. What diagnostic tools and laboratory services are available in your facility for CKD screening? Probes: Urine dipstick, serum creatinine, eGFR calculators, ultrasound? Are these tools consistently available and functional? Probes: Frequent stock outs? Lack of reagents?
2. How adequate is your facility's infrastructure to support CKD screening and referral? Probes: Lab capacity, equipment?

Part V: Financing

1. How are CKD-related services financed in your facility? Probes: Government, insurance, out-of-pocket?
2. Are there financial barriers (for patients or facilities) that hinder CKD screening and referral? Probes: Cost of tests?
3. How do resource allocation decisions affect the availability of CKD services? Probes: Do NCDs get fewer budgets compared to infectious diseases?

Part VI: Leadership and Governance

1. Are there national guidelines for CKD screening and referral available in your facility? Probes: Printed copies, posters, digital guidelines?

2. How well are these guidelines being followed in practice? Probes: Do staff know them? Do they use them?
3. What challenges make it difficult to implement CKD guidelines? Probes: Lack of awareness, unrealistic recommendations, workload, lack of support?
4. What policies, leadership support, or administrative issues influence CKD service delivery? Probes: Role of f managers, district health office, Ministry of Health?

Part VII: Recommendations

1. In your opinion, what changes or improvements are needed in the health system to strengthen CKD screening and referral in PHC? Probes: Infrastructure, workforce, supply chain, financing, training?
2. What strategies could make CKD screening and referral more sustainable? Probes: Integration with other NCD programs, community education, policy change?

Annex 3: Focused group discussion with high-risk patients screened for CKD.

Hello: My name is……I am research data collector for AAU researchers. My role here is to facilitate and record your discussion on health system barrier on CKD screening. Your participation is subject to your personal choice. Participants: High-risk patients (e.g., those with hypertension, diabetes, family history of CKD, HIV, or older adults).

s.n	WHO Health System Building Block	Interview Guide Questions and its Probes
1	Service delivery	Have you ever been screened for kidney disease at your health center? What was your experience? Are CKD tests (urine, blood pressure, creatinine) available at your nearest facility? What challenges do you face in getting these services (distance, waiting time, lack of tests)?
2	Health workforce	Do health workers explain CKD risks and screening to you? Have you noticed health workers being too busy or unavailable for CKD checks?
3	Health information system	How do you usually receive health information (health workers, community meetings, and media)? Have you ever been told about CKD screening test results clearly? How do you feel about your health information record and being followed properly?
4	Medical products, diagnostics, and technology	Were all the tests you needed for kidney functions available at your facility? Did you face delays due to lack of equipment, supplies, or lab services? How do you feel when you are told to get tested for CKD outside the facility?
5	Financing	How much does CKD screening and related services cost for you? Do you or others avoid testing because of high expenses (transport, lab fees, follow-up)? Would free or subsidized screening make a difference in your willingness to test?
6	Leadership and Governance (referral system)	Have you ever been referred to another facility for CKD care? What challenges did you face during referral (unclear directions, paperwork, and transport)? Do you feel there is good coordination between your health facility and referral hospital?
7	Closing	What would make CKD screening and referral easier for you and others in your health facility?

I have finished my questions. Let me give you a chance if you have anything you want to add that you did not mention before closing our discussion. I greatly appreciate your willingness to help with this research. Thanks so much for taking the time to talk with me.

አባሪ 1፡ የፈቃደኝነት መግለጫ (Consent Statement)

ስሜ _____ ይባላል። የመጣሁት ከአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ የአዋቂዎች ጤና ነርሲንግ ክፍል ነው። በእርስዎ ተቋም ውስጥ ያለውን የኩላሊት በሽታ (CKD) ምርመራ እና የሪፈራል ሂደት ላይ ያሉ የጤና ሥርዓት እንቅፋቶችን ለማወቅ እንፈልጋለን። እርስዎ የሚሰጡት መረጃ የተወሰኑ ድምዳሜዎች ላይ ለመድረስ፣ ትምህርቶችን ለመቅሰም እና በጥናት አካባቢውም ሆነ በኢትዮጵያ የኩላሊት ምርመራ እና የሪፈራል አሰራርን ለማሻሻል የሚረዱ ምክረ-ሃሳቦችን ለማቅረብ ጠቃሚ ይሆናል። ለጥያቄዎቹ የሚሰጡት ታማኝ ምላሽ እና የእርስዎ ቅን ትብብር ለጥናቱ አጠቃላይ ስኬት ወሳኝ ነው።

ለቃለ-መጠይቁ ጥያቄዎች ምላሽ ለመስጠት 45 ደቂቃ ያህል፣ ለውይይት ቡድኑ ደግሞ 1 ሰዓት ያህል ጊዜ ሊወስድ ይችላል። በጥናቱ ላይ መሳተፍ ሙሉ በሙሉ በራስዎ ፈቃድ ላይ የተመሰረተ ነው፤ ለመሳተፍ ባይፈልጉ በማንኛውም መንገድ አይጎዱም። ለመሳተፍ ከተስማሙ፣ መመለስ የማይፈልጉትን ማንኛውንም ጥያቄ ያለ ምንም ቅድመ ሁኔታ ማለፍ ይችላሉ። የእርስዎ ምላሽ ሙሉ በሙሉ በሚስጥር ይጠበቃል፤ ማንኛውንም ግለሰብ የሚለይ መረጃ በዚህ ጥናት ስር በሚዘጋጁ የጥናት ውጤት ማሳወቂያዎች ላይ ጥቅም ላይ አይውልም። በጥናቱ የተሰበሰቡ መረጃዎች እና የተገኙ ውጤቶች ከጥናቱ ዓላማ ውጭ ለሌላ ለማንኛውም ምክንያት ጥቅም ላይ አይውሉም። የዚህ ጥናት ተሳታፊዎችን ማንነት እና ሚስጥራዊነት እንጠብቃለን። ስለ ጥናቱ ወይም ስለ ቃለ-መጠይቁ ማንኛውም ጥያቄ ወይም ስጋት ካለዎት ሲምቦ ታፋን (Simbo Tafa) በኢሜይል፡ **simbotafa5@gmail.com** ወይም በስልክ፡ **0917463785** ማግኘት ይችላሉ።

አባሪ 2፡ የቃለ-መጠይቅ መመሪያ፡ በጤና ጣቢያዎች የኩላሊት በሽታ ምርመራ እና ሪፈራል ላይ ያሉ የጤና ሥርዓት እንቅፋቶች

ቀን፡ //____ **የምርምር ረዳት ስም፡** _____

የመለያ ኮድ (Item Code)፡ _____ **የጤና ተቋሙ ስም፡** _____

ማህበራዊ እና ስነ-ህዝባዊ መረጃዎች

መመሪያ፡ በቃለ-መጠይቁ ወቅት ለሚነሱ ጥያቄዎች ምላሽ ይስጡ። ለእያንዳንዱ ክፍት ጥያቄ ምላሽዎን በነፃነት ይግለጹ፤ ምላሽዎ በተሻለ ሁኔታ ለመረዳት ሲባል በድምፅ የተቀረጸ ይሆናል። ሰዎች ለኩላሊት በሽታ ምርመራ እንዲያደርጉ የሚያመቻቹ ወይም እንቅፋት የሚሆኑ ነገሮችን

ለመረዳት እየሞከርን ነው። የእርስዎ ተሞክሮ በጣም አስፈላጊ ነው፤ ትክክል ወይም ስህተት የሚባል መልስ የለም።

ተ.ቁ	ንጥረ-ነገር	መልስ
1	የተቋም ስም	
2	ዕድሜ	----- ዓመት
3	ፆታ እንደተገለጸ	1 ወንድ 2 ሴት
4	የትምህርት ደረጃ	
5	ሙያ	

ክፍል 1፡ የአገልግሎት አሰጣጥ (Service Delivery)

1. በጤና ተቋማችሁ ውስጥ ከፍተኛ ተጋላጭ በሆኑ ታካሚዎች (የስኪር ህመም፣ የደም ግፊት) ላይ ያለው የኩላሊት በሽታ (CKD) ጫና ምን ይመስላል?
    - **ጥልቀት ያላቸው ጥያቄዎች (Probes):** የላቀ ደረጃ ላይ የደረሰ የኩላሊት በሽታ ያለባቸውን ታካሚዎች በብዛት ያያሉ? ከፍተኛ ተጋላጭ በሆኑ ታካሚዎች ላይ በሽታውን አስቀድሞ መለየት የተለመደ ነው ብለው ያስባሉ?
2. አስቀድሞ ምርመራ ማድረግ እና በወቅቱ ሪፈር ማድረግ ለኩላሊት በሽታ አያያዝ ምን ያህል አስፈላጊ ይመስልዎታል?
    - **Probes:** ለከፍተኛ ተጋላጭ ታካሚዎች በሽታውን አስቀድሞ መለየት ምን ጥቅሞች አሉት?
3. በተቋማችሁ ውስጥ የኩላሊት በሽታ እንዳለባቸው ለተጠረጠሩ ወይም ለተረጋገጠባቸው ታካሚዎች የሪፈራል ሂደቱን እንዴት ይገልጹታል? ለስላሳ የሪፈራል ሂደት ላይ እንቅፋት የሚሆኑት ምንድን ናቸው?
    - **Probes:** ወጪ፣ ርቀት፣ ደካማ የመገናኛ ዘዴ፣ በሪፈራል ማዕከላት ያለው ውስን አቅም?

ክፍል 2፡ የጤና የሰው ኃይል (Health workforce)

1. የተቋማችሁ የጤና ሰራተኞች የኩላሊት ምርመራ ለማድረግ እና ውጤቱን ለመረዳት በቂ ስልጠና አላቸው?
    - **Probes:** የሽንት ምርመራ (dipstick) እንዴት እንደሚጠቀሙ እና የክሬቲኒን ($creatinine/eGFR$) ውጤትን እንዴት እንደሚተረጉሙ ያውቃሉ?
2. እርስዎ ወይም የስራ ባልደረቦችዎ ስለ ኩላሊት በሽታ መመሪያዎች (guidelines) የተለየ ስልጠና ወይም ማሻሻያ አግኝታችኋል?
    - **Probes:** ለመጨረሻ ጊዜ ስልጠና ያገኙት መቼ ነው?
3. የጤና ሰራተኞች የኩላሊት ምርመራ ሲያደርጉ እና ሪፈራል ሲጽፉ ምን አይነት ተግዳሮቶች ያጋጥሟቸዋል?
    - **Probes:** የሰራተኛ እጥረት፣ ከፍተኛ የስራ ጫና፣ በራስ መተማመን ማጣት፣ የልዩ ባለሙያዎች እጥረት?

ክፍል 3፡ የጤና መረጃ ሥርዓት (Health Information Systems)

1. በተቋማችሁ የኩላሊት በሽታ ተጠቂዎች መረጃ እንዴት ይመዘገባል እና ሪፖርት ይደረጋል?
    - **Probes:** በወረቀት ላይ የተመሰረተ? በኮምፒውተር (Electronic)?
2. ታካሚዎችን በተለያዩ የሪፈራል ደረጃዎች ለመከታተል የሚያስችል አስተማማኝ ስርዓት አለ?
    - **Probes:** ታካሚዎች በሂደቱ ውስጥ ይጠፋሉ? የሪፈራል ቅጾች ተሞልተው ይመለሳሉ?
3. የታካሚዎችን መረጃ በመመዝገብ እና በማጋራት ረገድ ምን አይነት ተግዳሮቶች ያጋጥሙዎታል?
    - **Probes:** የቅጾች መጥፋት፣ የኢንፎርሜሽን ቴክኖሎጂ (IT) ስርዓት እጥረት፣ ከሆስፒታሎች ግብረ-መልስ አለማግኘት?

ክፍል 4፡ የሕክምና ውጤቶች፣ የምርመራ መሣሪያዎች እና ቴክኖሎጂዎች (Medical Products, Diagnostics, and Technologies**)**

1. ለኩላሊት ምርመራ በተቋማችሁ ምን አይነት የምርመራ መሣሪያዎች እና የላቦራቶሪ አገልግሎቶች ይገኛሉ?

- **Probes:** የሽንት ምርመራ (Urine dipstick)፣ የሴረም ክሬቲኒን (serum creatinine)፣ የ $eGFR$ ስሌቶች፣ አልትራሳውንድ? እነዚህ መሣሪያዎች ሁልጊዜ ይገኛሉ እና ይሠራሉ?
- **Probes:** ተደጋጋሚ የግብዓት እጥረት (stock outs)? የኬሚካሎች (reagents) እጥረት?

2. የተቋማችሁ መሠረተ-ልማት የኩላሊት ምርመራን እና ሪፈራልን ለመደገፍ ምን ያህል በቂ ነው?
    - **Probes:** የላቦራቶሪ አቅም፣ መሣሪያዎች?

ክፍል 5፡ ፋይናንስ (Financing)

1. በተቋማችሁ ከኩላሊት በሽታ ጋር የተያያዙ አገልግሎቶች እንዴት በገንዘብ ይደገፋሉ?
    - **Probes:** በመንግሥት፣ በጤና መድን (insurance)፣ ከታካሚው ኪስ (out-of-pocket)?
2. የኩላሊት ምርመራን እና ሪፈራልን የሚያደናቅፉ የገንዘብ ነክ እንቅፋቶች (ለታካሚዎች ወይም ለተቋሙ) አሉ?
    - **Probes:** የምርመራዎች ዋጋ?
3. የሀብት ድልድል ውሳኔዎች በኩላሊት አገልግሎት አቅርቦት ላይ እንዴት ተጽዕኖ ያሳድራሉ?
    - **Probes:** ተላላፊ ካልሆኑ በሽታዎች (NCDs) ይልቅ ተላላፊ በሽታዎች ከፍተኛ በጀት ያገኛሉ?

ክፍል 6፡ አመራር እና አስተዳደር (Leadership and Governance)

1. ብሔራዊ የኩላሊት ምርመራ እና የሪፈራል መመሪያዎች በተቋማችሁ ይገኛሉ?
    - **Probes:** የታተሙ ቅጂዎች፣ ፖስተሮች፣ ዲጂታል መመሪያዎች?
2. እነዚህ መመሪያዎች በተግባር ምን ያህል እየተተገበሩ ነው?
    - **Probes:** ሰራተኞች ያውቋቸዋል? ይጠቀሙባቸዋል?
3. የኩላሊት መመሪያዎችን ተግባራዊ ለማድረግ ምን አይነት ተግዳሮቶች አሉ?
    - **Probes:** የግንዛቤ ማነስ፣ ከእውነት የራቁ ምክረ-ሃሳቦች፣ የስራ ጫና፣ የድጋፍ እጥረት?

4. የትኞቹ ፖሊሲዎች፣ የአመራር ድጋፎች ወይም የአስተዳደር ጉዳዮች በኩላሊት አገልግሎት አሰጣጥ ላይ ተጽዕኖ ያሳድራሉ?
    - **Probes:** የአስተዳዳሪዎች፣ የወረዳ ጤና ጽሕፈት ቤት፣ የጤና ጥበቃ ሚኒስቴር ሚና?

ክፍል 7፡ ምክረ-ሃሳቦች (Recommendations)

1. በእርስዎ አስተያየት፣ በጤና ጣቢያዎች የኩላሊት ምርመራን እና ሪፈራልን ለማጠናከር በጤና ሥርዓቱ ውስጥ ምን ዓይነት ለውጦች ወይም ማሻሻያዎች ያስፈልጋሉ?
    - **Probes:** መሠረተ-ልማት፣ የሰው ኃይል፣ የአቅርቦት ሰንሰለት፣ ፋይናንስ፣ ስልጠና?
2. የኩላሊት ምርመራን እና ሪፈራልን ዘላቂ ለማድረግ ምን ዓይነት ስልቶች ሊኖሩ ይችላሉ?
    - **Probes:** ከሌሎች ተላላፊ ካልሆኑ በሽታዎች (NCD) ፕሮግራሞች ጋር ማቀናጀት፣ የማህበረሰብ ትምህርት፣ የፖሊሲ ለውጥ?

አባሪ 3፡ የኩላሊት ምርመራ ካደረጉ ከፍተኛ ተጋላጭ ታካሚዎች ጋር የሚደረግ የትኩረት ቡድን ውይይት (FGD)

ሰላም፡ ስሜ _____ ይባላል። እኔ ለአዲስ አበባ ዩኒቨርሲቲ ተመራማሪዎች የመረጃ ሰብሳቢ ነኝ። የእኔ ሚና የኩላሊት ምርመራ ላይ ስላሉ የጤና ሥርዓት እንቅፋቶች የምታደርጉትን ውይይት ማመቻቸት እና መቅዳት ነው። ተሳትፎዎ በግል ምርጫዎ ላይ የተመሰረተ ነው።

ተሳታፊዎች፡ ከፍተኛ ተጋላጭ የሆኑ ታካሚዎች (ለምሳሌ የደም ግፊት፣ ስኳር፣ የቤተሰብ የኩላሊት በሽታ ታሪክ ያላቸው፣ ኤች.አይ.ቪ (HIV) ያለባቸው ወይም አረጋውያን)።

ተ.ቁ	የWHO የጤና ስርዓት ስርሀተ አካል	የቃለ መጠይቅ ጥያቄዎች እና ጥንካሬ ጥያቄዎች
1	አገልግሎት አቀማመጥ	በጤና ማዕከሉ ውስጥ የኩላሊት በሽታ (CKD) ምርመራ አድርገው ያውቃሉ? ልምድዎ ምን ይመስል ነበር? በቅርብ በሚገኘው የጤና ተቋም የCKD ምርመራዎች (የሽንት፣ የደም ግፊት፣ የክሬቲኒን) አሉ? እነዚህን አገልግሎቶች ለማግኘት ምን ዓይነት ችግሮች ያጋጥሙዎታል? (ርቀት፣ የጥበቃ ጊዜ፣ የምርመራ እጥረት)

2	**የጤና ባለሙያዎች (Health Workforce)**	የጤና ባለሙያዎች ስለ CKD ስጋቶች እና ምርመራ አስፈላጊነት ያብራሩልዎታል? የጤና ባለሙያዎች በሥራ ብዛት ምክንያት ወይም በሌላ ምክንያት ለCKD ምርመራ እንደማይገኙ አስተውለዋል?
3	**የጤና መረጃ ሥርዓት (Health Information System**	የጤና መረጃዎችን አብዛኛውን ጊዜ የሚያገኙት በምን መንገድ ነው? (ከጤና ባለሙያዎች፣ ከማህበረሰብ ስብሰባዎች ወይስ ከሚዲያ?) የCKD ምርመራ ውጤትዎ በግልጽ ተነግሮዎት ያውቃል? የጤና መረጃዎ አያያዝ እና ክትትል የሚደረግበት ሁኔታ እንዴት ይሰማዎታል?
4	የሕክምና ምርቶች፣ አይነት ምርመራዎች እና ቴክኖሎጂ	ለኩላሊት ሥራ ምርመራ የሚያስፈልጉ ሁሉም ግብዓቶች በተቋሙ ውስጥ ይገኛሉ? በመሣሪያ፣ በግብዓት ወይም በላቦራቶሪ አገልግሎት እጥረት ምክንያት መዘግየት አጋጥሞዎት ያውቃል? የCKD ምርመራውን ከተቋሙ ውጭ (ሌላ ቦታ) እንዲያደርጉ ሲነገሩ ምን ይሰማዎታል?
5	ፋይናንስ	ለCKD ምርመራ እና ለተያያዙ አገልግሎቶች ምን ያህል ወጪ ያወጣሉ? በከፍተኛ ወጪ (የትራንስፖርት፣ የላቦራቶሪ ክፍያ፣ የክትትል ወጪ) ምክንያት ምርመራውን የማይያደርጉ ሰዎች አሉ? አገልግሎቱ በነፃ ወይም በቅናሽ ቢቀርብ ለመመርመር ያለዎት ተነሳሽነት ይጨምራል?
6	አመራርና መንግስት አስተዳደር	ለCKD ሕክምና ወደ ሌላ ተቋም ተልከው (ሪፈር ተባለው) ያውቃሉ? በሪፈራል ሂደት ወቅት ምን ዓይነት ችግሮች አጋጥመውዎታል? (ግልጽ ያልሆነ መመሪያ፣ የሰነድ ዝግጅት፣ ትራንስፖርት) በጤና ተቋሙ እና በሪፈራል ሆስፒታሉ መካከል ያለው ቅንጅት ምን ይመስላል?
7	መዝጊያ	በጤና ተቋምዎ ውስጥ የCKD ምርመራ እና የሪፈራል ሂደቱን ቀላል ለማድረግ ምን ቢደረግ ይሻላል ይላሉ?

ጥያቄዎቼን ጨርሻለሁ። ውይይቱን ከመዝጋታችን በፊት ቀደም ብለው ያልጠቀሱት ነገር ካለ የመናገር ዕድል ልስጥዎት። ለዚህ ጥናት ላደረጉት የእርዳታ ፈቃደኝነት በጣም አመሰግናለሁ። ከእኔ ጋር ለመነጋገር ጊዜ ስለሰጡኝ በጣም አመሰግናለሁ።