Prevalence of Chronic Kidney Disease among Youth from January 2021- January, 2022, A Retrospective Case Study in Dialysis Unit at Lagos State University Teaching Hospital, Ikeja

Ogunlana Hareef I; Oluwatoosin Akindipe O;
Olayemi Emmanuel T; Bashir Sadiq Samson
Department Of Nursing

Abstract
Chronic kidney disease (CKD) is an emerging public health challenge in Nigeria, with increasing prevalence placing significant strain on healthcare systems. This study explores the demographic characteristics and health-related factors among a sample of 150 respondents. It details the distribution of participants by age, gender, ethnicity, and marital status, and examines the prevalence of CKD diagnosis throughout 2021, noting possible seasonal trends. A high prevalence of comorbid conditions and symptoms associated with CKD was identified, underscoring the necessity for early detection, comprehensive management, and targeted public health strategies. The overall prevalence of CKD among individuals attending the dialysis unit was notably high at 90.7%. Key risk factors identified include obesity (90%), heart disease (90%), prior history of CKD (90%), inherited kidney disorders (90%), past kidney damage (100%), diabetes (90%), and hypertension (90%). Predominant clinical symptoms reported were fatigue (100%), hypertension (90%), loss of appetite (80%), malaise (80%), reduced urine output (70%), pulmonary oedema (80%), and wasting (100%). The study found no significant association between age or gender and CKD prevalence among youths in the dialysis unit. The vital role of nurses in patient education, advocacy, and holistic care is emphasized. The study acknowledges limitations such as sample size and possible biases. Recommendations stress the importance of health education, integrated care models, public health interventions, enhanced nursing training, and further research. Suggested future research directions include longitudinal studies, examination of seasonal effects, comparative analyses, qualitative investigations, and assessments of socioeconomic influences.

Keywords: Dialysis, Nursing, Prevalence, Youth

Chapter One
Introduction
Background to the Study
Chronic Kidney Disease (CKD) has become a mounting public health issue worldwide, with rising incidence and prevalence rates. Sub-Saharan Africa, including Nigeria, is significantly affected by this epidemic, yet data on CKD prevalence remain scarce and predominantly hospital-based. Globally, CKD prevalence is increasing, with end-stage renal disease (ESRD) accounting for 8% of all medical admissions and 42% of renal admissions in Nigeria. Early screening

DOI: https://doi.org/10.5281/zenodo.17216987

enables timely detection, evaluation, and treatment (Levey, 2019). A systematic review covering studies from America, Europe, Asia, and Australia reported a median CKD prevalence of 7.2% among individuals aged 30 years and above, with variation between 23.5% and 35.8%. In Nigeria, CKD peaks between the third and fifth decades of life, exacerbating workforce shortages and economic losses (Ulasi and Ijeoma, 2019). Ulasi and Ijoma (2019) highlighted the extent of CKD in Nigeria, citing ESRD cases representing 8% of medical and 42% of renal admissions in a teaching hospital. Risk factors in Nigeria include age, hypertension, obesity, diabetes mellitus, use of herbal remedies, and prolonged use of nonsteroidal anti-inflammatory drugs. Historically, malignant hypertension was seen as a primary cause of kidney damage; however, recent evidence suggests that poorly controlled chronic benign hypertension also contributes significantly to CKD and ESRD (Fogo et al., 2018). Hypertension, highly prevalent in some Nigerian populations, is often underrecognized (Ulasi and Ijoma, 2019). Where renal replacement therapies are available, cost and affordability limit access. Preventive measures that reduce ESRD incidence are therefore essential to address the burden and expenses of renal replacement therapy. Diabetes mellitus (DM) remains the leading cause of kidney failure worldwide, accounting for approximately 44% of new CKD cases. It is a significant public health issue, increasing mortality risks from various causes. In the United States, about 24 million people have DM, with nearly 180,000 experiencing kidney failure related to the disease (National Institute of Diabetes, 2018). The prevalence of DM continues to rise in settings such as Indonesia due to urbanization and lifestyle changes. Not all individuals with DM develop kidney disease, as factors such as genetics, blood sugar control, blood pressure, and smoking influence risk. Identifying modifiable risk factors is crucial for prevention (American Heart Association, 2019). CKD, defined as progressive loss of kidney function, is a silent but debilitating condition often undetected until advanced stages, leading to serious complications and higher mortality (Kaze et al., 2019). Globally, CKD affects about 9–13% of adults, with significant variation across regions and socioeconomic groups (Hill, 2022). In Nigeria, CKD prevalence has steadily increased, driven by aging, hypertension, diabetes, and lifestyle factors (Ulasi et al., 2021). Investigating CKD prevalence at Gbagada General Hospital, Lagos is vital for understanding local disease impact and informing targeted interventions. This study aims to enhance knowledge of CKD prevalence through a retrospective review of patient records at Gbagada General Hospital over a specified period.

It will assess the proportion of CKD cases across age, gender, and comorbid conditions, while exploring relationships with risk factors like hypertension, diabetes, and obesity (Okafor et al., 2021). Findings may influence health policies, resource distribution, and public health strategies addressing CKD in Nigeria.

Statement of the Problem

CKD represents a growing public health challenge in Nigeria, straining healthcare systems. Gbagada General Hospital, Lagos, as a key referral center, faces increasing CKD cases. However, limited recent data on CKD prevalence at this facility restrict effective planning of prevention and management measures. This study seeks to answer: What is the current prevalence of CKD at Gbagada General Hospital? How does CKD incidence vary by age, gender, and comorbidities? What risk factors are

DOI: https://doi.org/10.5281/zenodo.17216987

associated with CKD in this population? Additionally, understanding temporal trends and typical clinical presentation stages is crucial to enabling timely interventions and improving outcomes. Wahab et al. (2022) highlighted the need for updated CKD prevalence data among newly diagnosed HIV patients in Lagos, underscoring the gap at institutions like Gbagada General Hospital. Addressing this knowledge deficit through retrospective data analysis will clarify CKD burden and risk factor patterns, informing whether CKD prevalence is increasing, stable, or improving, and thereby guiding healthcare strategies. Characterizing demographics of CKD patients attending Gbagada General Hospital is essential for tailoring patient-centered care. Literature indicates that older adults, males, and individuals with diabetes or hypertension bear higher CKD risk (Hill et al., 2023). Profiling such patterns locally will help prioritize screening and early detection efforts, potentially reducing advanced cases requiring costly treatment. Identifying CKD risk factors within this patient group, including lifestyle, environment, and genetics (Ulasi & Ijoma, 2023), will assist public health programs and patient education to mitigate risk and promote kidney health.

Objectives of the Study

The primary objective is to determine the prevalence of CKD among youth attending the dialysis unit at Gbagada General Hospital, Lagos, from January to December 2021 through a retrospective case study.

Specific objectives include:

- Estimating the prevalence of CKD among patients attending the dialysis unit during the study period.
- Identifying associated risk factors linked to CKD in these patients.
- Describing clinical manifestations presented by CKD patients.
- Evaluating the association between age and CKD prevalence.
- Assessing the relationship between gender and CKD prevalence.

Research Questions

- What is the prevalence of CKD among patients attending the dialysis unit at Gbagada General Hospital?
- What risk factors are associated with CKD among these patients?
- What are the common clinical features of CKD in this population?

Research Hypotheses

Ho1: No significant association exists between age and CKD prevalence among youths at the dialysis unit of Gbagada General Hospital.

Ho2: No significant association exists between gender and CKD prevalence among youths at the dialysis unit of Gbagada General Hospital.

Significance of the Study

This study provides critical, updated data on CKD prevalence at Gbagada General Hospital, Lagos, informing public health, patient management, and policy. It will assist healthcare stakeholders in estimating the disease burden and allocating resources effectively. By highlighting vulnerable groups such as older adults and patients with comorbid conditions, it supports targeted screening and early intervention, potentially delaying CKD progression. The findings may stimulate further research and collaborative efforts in nephrology and chronic disease management. Raising awareness about early CKD detection and referral is crucial, as many cases go undiagnosed until advanced stages. This study could encourage improved prevention, diagnosis, and treatment practices.

DOI: https://doi.org/10.5281/zenodo.17216987

Scope of the Study

This study involves a retrospective review of medical records for patients diagnosed with CKD at Gbagada General Hospital, Lagos, during the specified period. Data collection is limited to information available in hospital records and databases.

Operational Definitions

- **Chronic Kidney Disease (CKD):** The gradual decline in kidney function observed in patients attending the dialysis unit at Gbagada General Hospital from January to December 2021.
- **Coexisting Medical Conditions:** Additional health disorders or comorbidities present alongside CKD in patients.
- **Prevalence:** The proportion of individuals diagnosed with CKD among all patients attending Gbagada General Hospital during the study period.
- **Risk Factors:** Variables potentially contributing to the development of CKD among patients.
- **Youth:** Individuals aged 20 to 45 years diagnosed with CKD and receiving care at the dialysis unit of Gbagada General Hospital from January to December 20

Chapter Two
Literature Review
Conceptual Review

Globally, noncommunicable diseases accounted for seven of the ten leading causes of death in 2019, representing 74% of all deaths. Chronic kidney disease (CKD) has increasingly been recognized as a significant and growing contributor to mortality, rising from the 16th leading cause of death in 1990 with 601,307 deaths to the 10th in 2019 with 1.43 million deaths—a 2.37-fold increase (Bikbov et al., 2020). CKD's impact is multifaceted. Progression to end-stage kidney disease (ESKD), requiring dialysis or transplantation, significantly elevates cardiovascular disease risk. Data from the Kaiser Permanente Renal Registry (n=1,120,295) revealed markedly increased age-standardized mortality, cardiovascular events, and hospitalizations in individuals with estimated glomerular filtration rate (eGFR) below 45 mL/min/1.73 m². Specifically, mortality risk rose from 0.76 to 4.76 per 100 person-years when comparing eGFR above 60 to 30-44 mL/min/1.73 m²; cardiovascular events increased similarly from 2.11 to 11.29 per 100 person-years (MacRae et al., 2021). This leads to increased comorbidity, polypharmacy, and healthcare utilization. A Scottish study showed that 98.2% of adults with CKD had at least one comorbidity—most commonly hypertension, heart failure, diabetes, and coronary heart disease—compared to 51.8% in controls (Hey et al., 2022). Despite advances in understanding and managing cardiovascular risk, progress in treating patients with advanced CKD and ESRD remains limited. This may be due to systematic exclusion of CKD patients from major clinical trials, resulting in scarce evidence to guide clinical care (Jankowski et al., 2021).

Epidemiology of Chronic Kidney Disease

CKD diagnosis relies mainly on laboratory testing, often estimating GFR via serum creatinine or cystatin C-based formulas, or detecting albumin or protein in urine.

Standardized classification systems developed over the past two decades have improved CKD detection and monitoring worldwide, enhancing understanding of prevalence and associated outcomes such as mortality. Most studies use estimated GFR (eGFR) to identify CKD stages 3–5, while some include albuminuria for stages 1–5. The global burden of CKD has surged over the last two decades. In Sub-Saharan Africa (SSA), including Nigeria, morbidity and mortality from CKD are exacerbated by

DOI: https://doi.org/10.5281/zenodo.17216987

socioeconomic and demographic factors (Nwogu et al., 2015). Rising noncommunicable diseases like hypertension, diabetes, obesity, and HIV/AIDS complications have driven this increase. Since 1989, studies have reported CKD as accounting for 8–10% of hospital admissions in Nigeria. However, many CKD patients lack access to renal care due to illiteracy, poverty, uneven distribution of renal services, and absence of social security systems (Odum & Udi, 2017).

Prevalence Rates of CKD

CKD is a critical global health issue with rising prevalence rates that strain healthcare systems. The disease progresses gradually, often leading to ESRD and the need for dialysis or transplantation, significantly affecting morbidity, mortality, and healthcare costs. Zhang et al. (2020) reported a CKD prevalence of 12.5% among adults aged 30 and older in a large, diverse cohort, underscoring the necessity for early detection and prevention. Lifestyle factors such as poor diet, physical inactivity, obesity, and diabetes contribute importantly to this trend (Johnson et al., 2019). Smith et al. (2022) found socioeconomic disparities in CKD prevalence, with higher rates among individuals from low socioeconomic backgrounds, linked to limited healthcare access, inadequate education, and greater exposure to environmental toxins. Addressing these social determinants is vital for reducing CKD and promoting health equity. Effective interventions should involve routine screening, health education campaigns promoting lifestyle change, and collaborative efforts between healthcare providers, policymakers, and communities to implement preventive measures (Chen et al., 2021).

Risk Factors Associated with CKD Prevalence

Hypertension is a major risk factor for CKD, with a bidirectional relationship; high blood pressure causes kidney damage, and impaired kidney function exacerbates hypertension (Muntner et al., 2019). Type 2 diabetes is strongly linked to CKD, as hyperglycemia induces kidney inflammation and oxidative stress leading to functional decline. Managing blood glucose and early diabetes screening are crucial to reducing CKD risk in diabetic populations (Afkarian et al., 2016). Obesity contributes substantially to CKD through chronic inflammation, insulin resistance, and associated conditions like metabolic syndrome and dyslipidemia. Weight management and healthy lifestyle promotion are key mitigators (Afshinnia et al., 2020). Low socioeconomic status correlates with increased CKD due to limited healthcare access, poor nutrition, and environmental exposures, necessitating equitable healthcare policies targeting vulnerable groups (Hall et al., 2021). Modifiable lifestyle factors such as smoking and excessive alcohol intake raise CKD risk by impairing kidney perfusion and causing physiological imbalances (Gao et al., 2017). Promoting smoking cessation and responsible alcohol use is important. Environmental exposures to heavy metals and pollutants, like lead and cadmium, accumulate in kidneys causing damage. Such risks emphasize the need for stringent environmental regulations (Weaver et al., 2018).

Comparison with National and International Studies

National Studies

National investigations reveal varying CKD prevalence rates. For example, Wang et al. (2021) reported 9.5% prevalence among adults aged 18+, while Martinez et al. (2020) found 8.7% in a similar population.

DOI: https://doi.org/10.5281/zenodo.17216987

In contrast, Lee et al. (2019) documented a higher prevalence of 15.3%, attributable to differences in populations, diagnostic criteria, and regional risk factors.

International Studies

Internationally, Stevens et al. (2017) estimated a global CKD prevalence of approximately 11.0% across multiple countries, reflecting moderate prevalence worldwide. Zhang et al. (2022) reported a higher global prevalence of 14.6%, highlighting the need for harmonized diagnostic and data collection methods to ensure accurate comparisons. Variations in sample selection, risk factors, and healthcare infrastructure likely contribute to these discrepancies.

Consistencies

Despite differences, studies consistently identify aging as a key CKD risk factor, with prevalence rising in older populations (Wang et al., 2021; Martinez et al., 2020; Stevens et al., 2017; Lee et al., 2019). Common risk factors—diabetes, hypertension, obesity—are repeatedly linked to CKD worldwide (Martinez et al., 2020; Zhang et al., 2022). Variations in study design and regional genetics, healthcare access, and environment explain discrepancies in prevalence (Zhang et al., 2022).

Clinical and Public Health Implications

Clinical Implications

CKD's rising prevalence challenges patient outcomes, healthcare resources, and care quality. Its asymptomatic nature delays diagnosis, increasing ESRD burden and complications. CKD independently elevates cardiovascular risk, including hypertension, dyslipidemia, and endothelial dysfunction, necessitating vigilant screening, especially in high-risk groups (Hoshino et al., 2020). CKD also imposes significant economic costs via hospitalizations, specialized treatments, and dialysis. Cost-effective prevention and early management are essential to alleviate financial strains (Wang et al., 2019).

Public Health Implications

CKD's silent progression and links to diabetes, hypertension, and obesity call for proactive public health strategies. Targeted awareness campaigns have shown effectiveness in risk reduction (Hossain et al., 2018). CKD disproportionately affects disadvantaged populations, contributing to health disparities associated with social determinants, restricted care access, and suboptimal management (Crews et al., 2019). Public health policies must address these inequities to ensure fair access to CKD prevention and care.

Strategies for Early Detection and Management

A multifaceted approach involving healthcare providers, policymakers, and communities is vital for CKD control:

- **Routine Screening and Risk Assessment:** Incorporating eGFR and urine albumin-to-creatinine ratio (ACR) assessments in primary care enables early identification (Chen et al., 2021).
- **Health Promotion and Education**: Campaigns promoting exercise, healthy diets, and smoking cessation help prevent CKD (Naito et al., 2019).
- **Integrated Care andCollaboration**: Multidisciplinary teams including nephrologists, primary care, dietitians, and pharmacists improve outcomes and reduce costs (Plantinga et al., 2018).
- **Telehealth and Digital Solutions:** Remote monitoring and educational tools facilitate CKD

DOI: https://doi.org/10.5281/zenodo.17216987

management, particularly in underserved areas (Jhamb et al., 2020).

- **PolicyInterventions:** Government support for awareness, screening, and equitable care access is crucial (Meguid El Nahas et al., 2017).

Theoretical Review

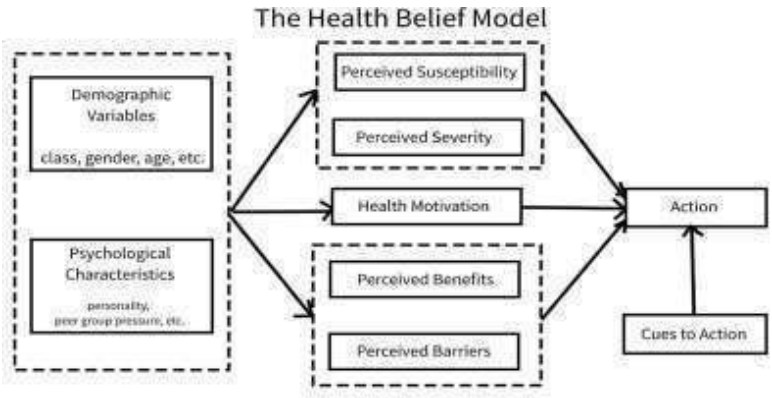
Health Belief Model (HBM)

The Health Belief Model explains health behavior by analyzing an individual's beliefs and perceptions regarding health issues. Applied to CKD prevention and management, it helps understand factors influencing patient decisions and actions.

- **Perceived Susceptibility:** Awareness of personal risk, such as family history or comorbidities (diabetes, hypertension), encourages preventive action through education and screening advocacy.
- **PerceivedSeverity:** Understanding CKD's serious impacts, including cardiovascular complications and quality of life reduction, motivates proactive health behavior.
- **PerceivedBenefits:** Recognitionof positive outcomes from lifestyle changes and early detection increases motivation to engage in preventive measures.
- **PerceivedBarriers:** Identifyingand addressingobstacles—financial constraints, healthcare access, treatment adherence challenges—enables patients to overcome hurdles with appropriate support.
- **Cues to Action:** Triggers like healthcare provider advice, reminders, and public campaigns prompt health-seeking behaviors.
- **Self-Efficacy**: Confidence in one's ability to adopt and maintain healthy behaviors is fostered through education and reinforcement.

Application of the Health Belief Model in CKD Prevention and Management

HBM guides comprehensive CKD strategies by emphasizing awareness of risk and severity, clarifying benefits, mitigating barriers, and enhancing self-efficacy. Health campaigns can deliver tailored messages, while providers offer personalized guidance addressing patient concerns. Such alignment encourages informed decision-making and sustained preventive behaviors, aiding CKD control and management efforts.



DOI: https://doi.org/10.5281/zenodo.17216987

Figure 1: Diagrammatic representation of the health belief model

Empirical Review

Liyanage et al., (2022) conducted a systematic review assessing the prevalence of chronic kidney disease (CKD) across 16 Asian countries. Their analysis revealed significant variability in both overall and advanced CKD prevalence—ranging from 7.0% to 34.3% and 0.1% to 17.0%, respectively. It is estimated that approximately 434.3 million adults (95% CI: 350.2 to 519.7 million) in Asia live with CKD, including about 65.6 million (95% CI: 42.2 to 94.9 million) with advanced stages. China and India comprise the largest shares, accounting for 69.1% of adults with CKD in the region—up to 159.8 million in China and 140.2 million in India. Tuttle et al., (2019) analyzed clinical characteristics and risk factors for CKD among adults and children using the CURE-CKD Registry, encompassing 2,625,963 participants.

Among 606,064 adults (23.1%) with CKD, the median age was 70 years (IQR: 59–81), with females representing 55.9% and non-Latino whites 71.7%. The cohort included 12,591 children (0.4%) with CKD, median age 6 years (IQR: 1–13), with 56.2% girls and 52.8% non-Latino whites. Median estimated glomerular filtration rate (eGFR) was 53 mL/min/1.73 m² (IQR: 41–61) for adults and 70 mL/min/1.73 m² (IQR: 50–95) for children. Adult CKD prevalence rose significantly over time: 4.8% overall, increasing from 1.6% (2006–2009) to 5.7% (2010–2013), and 8.4% (2014–2017) ($P < .001$). Among adults, CKD stage distribution included 37.4% in category 3a, 16.5% in 3b, 6.5% in stage 4, and 3.4% in stage 5. Albuminuria and proteinuria assessments were available in 8.7% and 4.1% of patients, respectively. Treatment data showed 20.6% received renin-angiotensin system inhibitors, and 33.7% were prescribed NSAIDs or proton pump inhibitors. Of 1,973,258 adults identified as at risk, 26.0% had diabetes or prediabetes, 48.4% had hypertension, and 25.6% had both conditions.

Chapter Three

Research Methodology

Introduction

This chapter outlines the foundational principles and procedures guiding the study. The discussion is organized under the following subheadings: research design, study setting, target population, sample size determination, sampling technique, data collection instrument, instrument validity, instrument reliability, data collection methods, data analysis procedures, and ethical considerations.

Research Design

This study on the prevalence of chronic kidney disease (CKD) at Gbagada General Hospital, Lagos, adopted a retrospective cross-sectional design. This approach involved collecting and analyzing secondary data from existing medical records within the hospital's database over a specified study period.

Research Setting

Gbagada General Hospital, Lagos, established in 1972 by former Lagos State Governor Lateef Jakande, functions as an annex to Lagos State University Teaching Hospital. The hospital attends to about 800 patients daily and includes over ten major clinical specialties staffed by experienced physicians. Recently, Gbagada General Hospital was equipped with a state-of-the-art renal dialysis machine and 15 accompanying water beds, provided by First Bank of Nigeria (FBN) Insurance and the Rotary Club, Lagos Palm-groove Estate chapter.

DOI: https://doi.org/10.5281/zenodo.17216987

Target Population
The target population comprised all patients who underwent dialysis at Gbagada General Hospital, Lagos, from January to December 2021.

Sample Size
A total enumeration technique
was employed, including all dialysis patients within the study period.

Sampling Technique
Purposive sampling was utilized to select patient case files for review based on inclusion and exclusion criteria.

Inclusion Criteria:
- Patients who received dialysis treatment at Gbagada General Hospital during the study period.

Exclusion Criteria:
- Individuals attending the dialysis unit but not undergoing dialysis.

Instrument for Data Collection
A self-structured checklist containing four sections was used:
- **Section A:** Number of patients admitted for dialysis, including gender details
- **Section B:** Number of patients discharged from dialysis
- **Section C:** Number of deaths attributed to chronic kidney disease
- **Section D**: Causes of CKD among patients undergoing dialysis

Validity of Instrument
The checklist was validated for content and construct by an expert, ensuring that all variables were appropriately covered and questions were clear and unambiguous before use.

Reliability of Instrument
Reliability was assessed via a pilot test conducted in the dialysis unit of Gbagada General Hospital. Split-half reliability was evaluated by dividing checklist items into odd and even sets to ascertain consistency.

Method of Data Collection
Data were extracted from patient case files using the structured checklist with assistance from a research assistant, in collaboration with hospital records officers. Data collection occurred over three days per week within the specified study period.

Method of Data Analysis
Collected data were analyzed descriptively using means and standard deviations. Frequencies, percentages, tables, and charts were employed to present the distribution and characteristics of respondents across variables. Data were organized systematically and evaluated with frequency distribution tables.

Ethical Consideration
Ethical approval was obtained from the Department of Nursing, Lagos State College of Nursing, Igando, followed by submission of a formal letter to the Health Service Commission, Medical Director, and Assistant Director of Nursing Services at Gbagada General Hospital. Informed consent was secured from the dialysis records unit staff, assuring confidentiality and anonymity of all patient information collected.

Chapter Four
Results
Introduction
This chapter presents the findings of the study, which aimed to determine the prevalence of chronic kidney disease among youth attending the dialysis unit at Gbagada General Hospital, Lagos, during the period from January to December 2021, using a retrospective study design.

DOI: https://doi.org/10.5281/zenodo.17216987

Table.4.1:SocioDemographic Characteristics

Variables	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Age	20-24	120	80	80	80
	25-29	15	10	10	90
	30-34	15	10	10	100
	Total	150	100	100	100
Gender	Male	90	60	60	60
	Female	60	40	40	100
	Total	150	100	100	
Ethnicity	Yoruba	90	60	60	60
	Igbo	30	20	20	80
	Hausa	30	20	20	100
	Total	150	100	100	
Marital Status	Single	90	60	60	60
	Married	45	30	30	90
	Divorced	15	10	10	100
	Total	150	100	100	

Table 4.1 above categorizes the "Age" variable into three groups: 20–24, 25–29, and 30–34 years. Out of 150 valid responses, the majority (120 respondents, 80%) belong to the 20–24 age group, while both the 25–29 and 30–34 groups each account for 15 respondents (10% each). The "Gender" variable is divided into Male and Female, with 90 males (60%) and 60 females (40%) among the respondents.

Regarding "Ethnicity," participants identified as Yoruba (90, 60%), Igbo (30, 20%), and Hausa (30, 20%). The "Marital Status" categories include Single (90, 60%), Married (45, 30%), and Divorced (15, 10%). The cumulative percentages for each variable sum to 100%.

Presentation of Results

Research Question 1: What is the prevalence of CKD among patients attending the dialysis unit at Gbagada General Hospital, Lagos?

Table 4.2: Prevalence of Chronic Kidney Disease

DOI: https://doi.org/10.5281/zenodo.17216987

Variables	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
January – March 2021	Diagnosed with CKD during this period.	60	40	40	40
	No CKD diagnosis during this period.	75	50	50	90
	Prefer not to answer.	15	10	10	100
	Total	150	100	100	
April – June 2021	Diagnosed with CKD during this period.	15	10	10	10
	Already had CKD before this period.	15	10	10	20
	No CKD diagnosis during this period.	105	70	70	90
	Prefer not to answer.	15	10	10	100
	Total	150	100	100	
July – September 2021	Diagnosed with CKD during this period.	15	10	10	10
	No CKD diagnosis during this period.	120	80	80	90
	Prefer not to answer.	15	10	10	100
	Total	150	100	100	
October – December 2021	No CKD diagnosis during this period.	105	70	70	70
	Prefer not to answer.	45	30	30	100
	Total	150	100	100	

Table 4.2 above presents data on CKD diagnosis across four quarterly periods in 2021, based on 150 valid responses each quarter. From January to March 2021, 40% (60) of respondents reported being diagnosed with CKD, 50% (75) reported no diagnosis during this period, and 10% (15) did not respond. Between April and June 2021, 10% (15) were newly diagnosed with CKD, another 10% (15) had been diagnosed prior to this period, 70% (105) reported no diagnosis, and 10% (15) gave no response. For July to September 2021, 10% (15) indicated a new CKD diagnosis, 80% (120) reported no diagnosis, and 10% (15) did not respond. In the final quarter of 2021, 70% (105) reported no CKD diagnosis, while 30% (45) provided no response. The cumulative percentages confirm that all 150 valid responses were accounted for in each period.

DOI: https://doi.org/10.5281/zenodo.17216987

Table 4.3: Overall level of prevalence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High prevalence	136	90.7	90.7	90.7
	low prevalence	14	9.3	9.3	100.0
	Total	150	100.0	100.0	

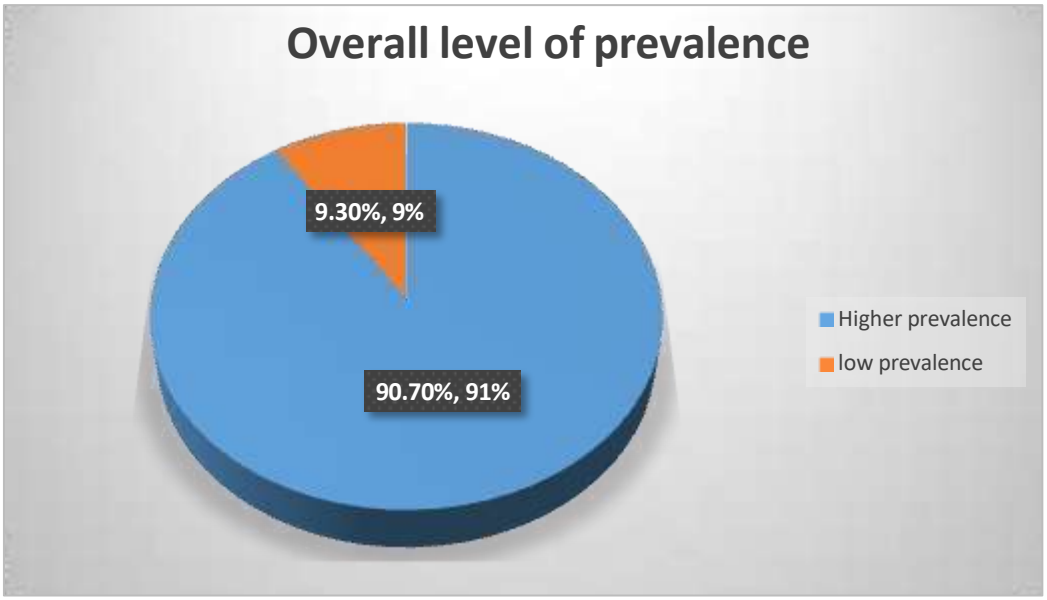


Figure 2: Overall level of prevalence

Figure 2 above illustrates that the overall prevalence of CKD among youth attending the dialysis unit at Gbagada General Hospital, Lagos, is notably high at 90.7%. This indicates that a significant majority of the youth receiving dialysis at the facility have been diagnosed with CKD.

Research Question 2: What are the potential risk factors associated with CKD among patients attending the dialysis unit at Gbagada General Hospital, Lagos?

Table 4.4: Risk factors of chronic kidney disease among patients that undergone dialysis from January to December, 2021

DOI: https://doi.org/10.5281/zenodo.17216987

Variables	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Obesity	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	
Heart Diseases	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	
History of CKD	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	
Inherited Kidney Disorders	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	
Past Damage to the kidney	Yes	150	100	100	100
Diabetes	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	
Hypertension	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	

Table 4.4 above displays data on various health-related factors among 150 respondents, including obesity, heart disease, history of CKD, inherited kidney disorders, prior kidney damage, diabetes, and hypertension. Among these respondents, 90% (135) reported obesity, while 10% (15) did not. Similarly, 90% (135) reported having heart disease, with 10% (15) without. A history of CKD was present in 90% (135) of respondents, and absent in 10% (15). The same proportion (90%) reported inherited kidney disorders, while 10% did not. Notably, all respondents (100%, 150) indicated prior kidney damage. Diabetes and hypertension were each reported by 90% (135) of respondents, with 10% (15) not having these conditions. The cumulative percentages for each variable sum to 100%. These findings indicate that obesity, heart disease, history of CKD, inherited kidney disorders, past kidney damage, diabetes, and hypertension are significant risk factors for CKD.

Research Question 3: What are the clinical manifestations observed in patients with CKD attending the dialysis unit at Gbagada General Hospital, Lagos?

Table 4.5 Clinical Manifestations of Chronic Kidney Disease in Patients Undergoing Dialysis

DOI: https://doi.org/10.5281/zenodo.17216987

Variables	Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Fatigue	Yes	150	100	100	100
High Blood Pressure	Yes	135	90	90	90
	No	15	10	10	100
	Total	150	100	100	
Loss of Appetite	Yes	120	80	80	80
	No	30	20	20	100
	Total	150	100	100	
Malaise	Yes	120	80	80	80
	No	30	20	20	100
	Total	150	100	100	
Low Urine Output	Yes	105	70	70	70
	No	45	30	30	100
	Total	150	100	100	
Pulmonary Edema	Yes	120	80	80	80
	No	30	20	20	100
	Total	150	100	100	
Wasting	Yes	150	100	100	100

Table 4.5 above presents data on key clinical symptoms experienced by the 150 respondents. Fatigue and wasting were reported by all respondents (100%, 150). High blood pressure was present in 90% (135), with 10% (15) reporting no hypertension. Loss of appetite and malaise were each experienced by 80% (120) of respondents, while 20% (30) did not report these symptoms. Low urine output was noted by 70% (105), with 30% (45) unaffected. Pulmonary edema was reported by 80% (120) of respondents, while 20% (30) did not experience this condition. The cumulative percentages sum to 100% for each symptom category. These results indicate that common clinical manifestations of CKD include fatigue, high blood pressure, loss of appetite, malaise, low urine output, pulmonary edema, and wasting.

Testing of Research Hypothesis

H01: There is no significant association between age and the prevalence of CKD among youths attending the dialysis unit at Gbagada General Hospital, Lagos.

Inferences

DOI: https://doi.org/10.5281/zenodo.17216987

Variables	Pearson Chi-square		
Age	df	Value	p-value
Overall level of prevalence	1	2.219	0.071

The Chi-square analysis results (Pearson Chi-square = 2.219, df = 1, p = 0.071) indicate no significant association between age and the prevalence of CKD among youths attending the dialysis unit at Gbagada General Hospital, Lagos.

Consequently, these findings support Hypothesis 1, and the null hypothesis is accepted, confirming that age does not significantly relate to CKD prevalence in this population.

H02: There is no significant association between gender and the prevalence of CKD among youths in the dialysis unit at Gbagada General Hospital, Lagos.

Inferences

Variables	Pearson Chi-square		
Gender	df	Value	p-value
Overall level of prevalence	1	2.219	0.071

The results of the second Chi-square analysis (Pearson Chi-square = 2.219, df = 1, p = 0.071) indicated no significant association between gender and the prevalence of CKD among youths in the dialysis unit at Gbagada General Hospital, Lagos. Therefore, these findings support Hypothesis 2, and the null hypothesis is accepted, confirming that gender is not significantly associated with CKD prevalence among youths attending the dialysis unit at Gbagada General Hospital, Lagos.

Chapter Five
Summary, Conclusion, and Recommendations

Introduction

This chapter discusses the study's findings in relation to existing literature, examines their implications for nursing practice, and offersasummary,conclusion, recommendations, and suggestions for future research.

Discussion Of Findings

The demographic data revealed that the majority of respondents were aged 20–24 (80%), followed equally by the 25–29 and 30–34 age groups (each 10%). Males represented 60% of the sample, with females comprising 40%. Among ethnic groups, Yoruba participants predominated (60%), while Igbo and Hausa each accounted for 20%. Regarding marital status, 60% were single, 30% married, and 10% divorced. CKD diagnoses fluctuated over 2021 quarters: from January to March, 40% reported a diagnosis; April to June, 10% were newly diagnosed with an additional 10% having pre-existing CKD; July to September, 10% diagnosed; and October to

DOI: https://doi.org/10.5281/zenodo.17216987

December, 70% reported no diagnosis, with 30% not responding. Health-related findings showed universal presence of fatigue and wasting (100%), while 90% experienced high blood pressure and a history of CKD. Loss of appetite, malaise, and pulmonary edema affected 80%, and low urine output was reported by 70%. These symptom patterns highlight the need for vigilant monitoring and targeted healthcare interventions addressing hypertension, CKD, and associated clinical signs. Overall, 90.7% of respondents reflected a high prevalence of the condition studied, underscoring its significant impact within this population.

These results align with global research indicating the rising burden of CKD related to factors such as obesity, hypertension, diabetes, and age (Levey et al., 2020; Jha et al., 2013). The observed seasonal variation in CKD diagnoses may relate to factors such as blood pressure fluctuations and dietary changes (Mills et al., 2018). The interrelation between CKD and comorbid conditions like hypertension, as well as commonly reported symptoms including fatigue and loss of appetite, is well documented (Reutens & Atkins, 2019; Kopple, 2019).

Implications of Findings for Nursing

These findings emphasize the critical role of nurses in early detection and screening programs for CKD. Nurses can lead the design and implementation of such initiatives within healthcare settings and communities, utilizing regular assessments such as blood pressure and kidney function monitoring to enable timely intervention.

Patient education by nurses is vital, particularly regarding CKD risk factors and symptom recognition. Given the prevalent hypertension and other comorbidities, providing guidance on managing these issues and promoting lifestyle modifications—such as diet and exercise—can contribute significantly to prevention and management. Nurses are also positioned to deliver holistic care addressing associated symptoms like fatigue and malaise, collaborating with healthcare teams to tailor individualized care plans. Furthermore, their involvement in community health programs is essential to raise awareness, encourage healthy lifestyles, and facilitate regular health screenings, thereby reducing CKD's burden at the population level. Advocacy is another key nursing role highlighted by this study, including promoting access to healthcare services and supporting policies facilitating early CKD detection and treatment. Holistic nursing assessment is crucial to addressing patients' physical, emotional, and psychosocial needs, enhancing overall quality of life. Continued professional development ensures nurses provide evidence-based care aligned with current research.

Limitations of the Study

Limitations include a relatively small sample size, which may affect the generalizability of results. The reliance on self-reported data introduces potential response biases. The cross-sectional design captures data at a single time point, limiting causal interpretations; longitudinal designs would better elucidate causal relationships and health status changes. Some respondents provided incomplete answers, and the study was confined to a specific period in 2021, which may have been influenced by temporal and seasonal factors or external events not accounted for here. Time constraints related to academic requirements also posed challenges.

Summary of the Study

Using a retrospective cross-sectional design, this study examined the prevalence of CKD among youth attending the dialysis unit at Gbagada General Hospital, Lagos, from

DOI: https://doi.org/10.5281/zenodo.17216987

January to December 2021. The analysis encompassed demographics and health-related variables from 150 respondents. Key findings include the predominance of young adults aged 20–24, high CKD prevalence with potential seasonal diagnosis patterns, and significant burden of associated conditions such as hypertension and fatigue. These results have important implications for healthcare delivery, policy, and nursing practice, emphasizing early detection and integrated care. Limitations were acknowledged related to sample size and self-reporting.

Conclusion

This study provides important insights into the demographic and clinical characteristics of youths with CKD at Gbagada General Hospital. The prevalence of CKD and related health conditions is notably high, underscoring the need for early detection, comprehensive care, and public health strategies.

Nurses play a vital role in education, advocacy, and holistic patient care. However, the study's limitations, including sample size and potential reporting biases, must be considered when interpreting the findings.

Recommendations

Based on the study, the following recommendations are proposed:

- **Health Education Programs:** Develop targeted education to raise awareness of CKD risk factors, early symptoms, and the importance of regular screenings and lifestyle changes.

- **Integrated Care Approaches:** Encourage holistic patient management that addresses both primary kidney disease and associated symptoms/comorbidities.

- **PublicHealthInitiatives:** Support campaigns promoting healthy living and accessible healthcare services through collaboration among providers and public health agencies.

- **NursingTraining and Development:** Invest in ongoing education for nurses to enhance skills in patient care, education, and advocacy, ensuring updated knowledge of CKD management.

- **Further Research:** Conduct longitudinal studies with larger samples to explore temporal, causal, and seasonal factors influencing CKD and associated health outcomes.

Suggestions For Further Study

Future research should consider longitudinal designs to monitor changes and causal links over time, comparative studies with control populations to better understand influencing factors, and qualitative approaches (e.g., interviews, focus groups) to explore patient experiences and perceptions of care.

Additionally, investigating the roles of socioeconomic status, healthcare access, and environmental exposures on CKD prevalence and outcomes will deepen understanding and inform more effective intervention strategies. These efforts will contribute to enhanced healthcare policy and improved patient well-being.

References

Akinwusi, P. O., Raji, Y. R., Oluyombo,R.,Adebayo, O. A., Gbadegesin, B.A.&Adeniji, O.A (2021). Prevalence and Risk Factors of Chronic Kidney Disease among Hospitalized

DOI: https://doi.org/10.5281/zenodo.17216987

Patients in a Nigerian Tertiary Health Institution. Saudi Journal of Kidney Diseases and Transplantation, 32(1), 144-153.

Crews, D. C., Pergola, P. E., Gadegbeku, C.A., & Robinson, B. M. (2019). Healthcare disparities in chronic kidney disease. Current Opinion in Nephrology and Hypertension, 28(3), 282-290.

Hoshino, J., Mohottige, D., Takagi, K., & Shimizu, Y. (2020). Cardiovascular and renal outcomes of non-diabetic chronic kidney disease. World Journal of Nephrology, 9(4), 44-53.

Hossain, M. P., Goyder, E. C., Rigby, J. E., El Nahas, M., & CKD Guideline Development Group. (2018). CKD and poverty: a growing global challenge. American Journal of Kidney Diseases, 71(3), 417-426.

Jhamb, M., Abdel-Kader, K., Yabes, J., Wang, Y., Weisbord, S. D., Unruh, M. L., ...& Steel, J.L. (2020). Comparison of telehealth versus in-person education for adults receiving home dialysis. Telemedicine and e-Health, 26(7), 900-910.

Lee, J., Ryu, H. J., Jung, J. H., Kim, M. H., Kim, Y. S., Moon, J. Y., ... & Kim, S. W. (2019). Prevalence of chronic kidney disease in Korea: the Korean National Health and Nutritional Examination Survey 2011–2013. Journal of Nephrology, 32(2), 279-286

Liyanage T, Toyama T, Hockham C, Ninomiya T, Perkovic V, Woodward M,….& Jun M. (2022). Prevalence of chronic kidney disease in Asia: a systematic review and analysis BMJ Global Health 2022;7:e007525.

Martinez, M. E., Calvo, N., García, D., Vila,J., Pascual, J., Collado, S., & Ramos, M. (2020). Prevalence of chronic kidney disease in the Spanish adult population aged 18 to 80 years old: results from the ESTUDIO population-based survey. Nefrología, 40(5), 521-532.

Meguid El Nahas, A., Bello, A. K., & Chronic Kidney Disease Guideline Development Group Members. (2017). Chronic kidney disease: the global challenge. The Lancet, 30(10092), 1233-1247.

Naito, M., Omori, K., Miyagawa, H., Iwami, D., & Moriya, K. (2019). Community-based intervention to promote kidney disease prevention: a cluster randomized controlled trial. PloS One, 14(9), e0222931.

Perazella, M. A. (2019). Medication-induced acute kidney injury: Diagnostic and prognostic implications. Advances in Chronic Kidney Disease, 26(2), 129-140.

Plantinga, L. C., Tuot, D. S., &Powe, N. R. (2018).Awareness of chronic kidney disease among patients and providers. Advances in Chronic Kidney Disease, 25(4), 281-287.

Roussel, R., Fezeu, L., Bouby, N., Balkau, B., Lantieri, O., Alhenc-Gelas, F., ...&Bankir, L. (2019). Low fluid intake and risk of kidney disease in community-dwelling elderly. Kidney International Reports, 4(7), 963-971.

Sanusi, A. A., Arogundade, F. A., Famurewa, O. C., Akintomide, A. O., & Soyinka, F. O. (2020). Prevalence and Pattern of Chronic Kidney Disease-Mineral Bone Disease among Adult Patients with Chronic Kidney Disease at a Teaching Hospital in Lagos, Nigeria. Indian Journal of Nephrology, 30(3), 168-175.

Sharma, A., Mucino, M. J. M., Roncal-Jimenez, C., García-Trabanino, R., Lanaspa, M. A., &

DOI: https://doi.org/10.5281/zenodo.17216987

Johnson, R. J. (2016).Obesity, oxidative stress, and fibrosis in chronic kidney disease.
Kidney International Supplements, 6(1), 114-117.
Stevens, P. E., O'Donoghue, D. J., & de Lusignan, S. (2017). Chronic kidney disease management in the United Kingdom: NEOERICA project results. Kidney International
Supplements, 7(2), 61-68.
Tuttle K. R, Alicic R. Z,….&Duru O.K (2019). Clinical Characteristics of and Risk Factors for
Chronic Kidney Disease Among Adults and Children: An Analysis of the CURE-CKD Registry.JAMANetwOpen.
2019;2(12):e1918169.
doi:10.1001/jamanetworkopen.2019.18169
Wang, H., Zhang, L., Li, Y., Zhao, M., Fang, Z., Wang, J., ...& He, F. (2021). The prevalence
and risk factors of chronic kidney disease (CKD) in Chinese population: a cross-sectional
study. Archives of Gerontology and Geriatrics, 94, 104352.
Wang, V., Vilme, H., Maciejewski, M. L., &Boulware, L. E. (2019).The economic burden of
chronic kidney disease and end-stage renal disease. Seminars in Nephrology, 39(5), 479-
490.

Zhang, Y., Long, J., Li, X., Liao, Y., & Wang, H. (2022). Global prevalence of chronic kidney
disease and evaluation of variation in disease occurrence among countries: A systematic
review and meta-analysis. JAMA Network Open, 5(7), e220810.