

Original Article

Spectrums, Trend and Clinical Outcomes of Medical Admissions into the Medical Wards at Federal Medical Centre, Abeokuta: A 3-year Review

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Abstract

Background: Patterns of hospital admissions are shifting globally with non-communicable diseases (NCDs) emerging as major causes of illness and death in Nigeria. This study examined the spectrum, trends, and outcomes of adult medical admissions at Federal Medical Centre, Abeokuta over three years.

Methods: A retrospective descriptive study was conducted at the Federal Medical Centre, Abeokuta, south western Nigeria, reviewing admissions from January 2022 to December 2024. Data were extracted from the hospital's electronic medical records, including demographics, diagnoses, length of stay, and discharge outcomes. Data analysis was performed with SPSS version 27, with continuous variables summarized as means and standard deviations and categorical variables as frequencies and percentages.

Results: A total of 1,754 patients were admitted, mostly males (51.0%) with a mean age of 50.2 years. The 50–59 year group was most common, and kidney diseases led admissions (34.8%), followed by cerebrovascular accidents and diabetes complications. Nephrology had the highest specialty load. Mean hospital stay was 8.4 days, with most admitted for one to nine days. Discharge rate was 68.9%, mortality 14.3%, and 13.9% left against medical advice.

Conclusion: This review shows a high burden of chronic kidney disease and kidney related ailments other NCDs among adult admissions in Abeokuta, mainly in middle aged and older adults. Mortality was high, especially in nephrology cases, highlighting the need for better prevention, early detection, and management.

Keywords: Medical admissions, hospital outcomes, chronic kidney disease, trends in hospitalization

Introduction

Globally, the pattern of hospital admissions reflects the changing dynamics of disease epidemiology and the evolving health needs of populations (Emorinken et al., 2023; Zhao et al., 2020). Over the last few decades, there has been a marked shift from the dominance of communicable diseases to an increasing prevalence of non-communicable diseases (NCDs). The World Health Organization projected that by 2020, the epidemiological transition would become evident in many developing regions, including sub-Saharan Africa, with non-communicable diseases (NCDs) emerging as a major cause of morbidity and mortality (World Health Organization, 2021). Furthermore, recent assessments indicate that if current trends continue, NCD-related deaths in low- and middle-income countries are expected to surpass those in high-income countries by 2030 highlighting an urgent need for enhanced healthcare strategies in these regions (Chan et al., 2012). Today, cardiovascular diseases, diabetes mellitus, chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD), and cancers account for a growing proportion of hospitalizations and deaths worldwide (Balakumar et al., 2016; Belayneh et al., 2024).

Global studies on hospital admission patterns reveal that NCDs have become the dominant cause of inpatient care in numerous regions (Akpan et al., 2025; Guimarães et al., 2022; Robbins et al., 2021). In Bangladesh, for example, NCDs were responsible for 66.1% of admissions, outnumbering communicable diseases by a ratio of 2:1 (Rahman et al., 2019). In Myanmar, the proportion of NCDs admissions rose from 18.8% to 25.4% over six years, representing a 2.2 fold increase in absolute numbers (Swe et al., 2020). In most Asian countries, except for a few such as Japan, South Korea, Singapore, and Thailand, age adjusted mortality from cardiovascular diseases is higher than in Western nations, with stroke and heart failure being common outcomes of hypertension related disease (Kario et al., 2018; Ohira & Iso, 2013). South Asian populations in India, Pakistan, Bangladesh, Sri Lanka, and Nepal have particularly high rates of cardiovascular disease and premature coronary

artery disease, linked to both genetic predisposition and modifiable risks including hypertension, diabetes, dyslipidemia, and obesity (Goyal & Sanghera, 2021; Sucato et al., 2022; Volgman et al., 2018).

In Africa, similar patterns are increasingly evident. Rapid urbanisation, lifestyle changes, and demographic shifts have accelerated the rise in NCDs, leading to a growing burden on healthcare systems that still grapple with infectious diseases. In Ethiopia, NCDs accounted for 68.2% of hospital admissions, with cardiovascular diseases being the most prevalent (Hailu et al., 2023). Comparable findings have been reported in other sub-Saharan African nations, where hypertension, diabetes, chronic respiratory diseases, and cancers are now major drivers of morbidity and mortality alongside residual communicable disease burdens. In Nigeria, the shift is particularly striking. A teaching hospital in the country documented that 86.8% of medical admissions were due to NCDs, while other tertiary centres reported figures ranging from 57.7% to 73% (Abdu et al., 2023; Akpan et al., 2025; Egbi, 2021). This rising burden of NCDs in Nigeria is compounded by limited healthcare resources, late presentation, and the dual challenge of managing persistent communicable diseases alongside the growing wave of chronic conditions. Understanding the spectrum, trends, and clinical outcomes of medical admissions in Nigerian tertiary hospitals is therefore critical for guiding policy, optimizing resource allocation, and improving patient care. Against this backdrop, this study aims to review the patterns and outcomes of medical ward admissions at the Federal Medical Centre, Abeokuta, over a three-year period, providing evidence to inform targeted interventions in similar settings.

Methodology

Study design

This study utilized a retrospective descriptive design to examine patterns of medical ward admissions at the Federal Medical Centre, Abeokuta (FMCA), Nigeria, over a three-year period from January 2022 to December 2024. The

design allowed for the analysis of existing hospital records to identify the distribution of medical conditions, patient demographics, and clinical outcomes over time.

Study setting

The FMCA, is a tertiary referral and teaching hospital located in Ogun State, South West Nigeria. It provides specialized medical services to residents of Ogun State and neighboring states, including Oyo and Lagos. The medical wards admit adult patients aged 15 years and above who require inpatient care for acute and chronic medical conditions across specialties such as cardiology, pulmonology, endocrinology, nephrology, gastroenterology, neurology, infectious diseases, and general internal medicine. The hospital has a bed capacity exceeding 1,500 with approximately one-third allocated to medical admissions.

Study population

The study population included all-patients admitted to the adult medical wards during the study period. Patients admitted primarily for surgical, obstetric, or pediatric care were excluded. Also excluded were patients admitted for elective diagnostic procedures without an acute medical condition.

Data collection

Data were obtained from the hospital's electronic medical records system (EMR), which integrates the Medical Records Department and the Health Information Management System. Relevant sources included ward admission registers, electronic patient case files, discharge summaries, and death registers. Trained research assistants, under the supervision of the investigators, extracted data using a structured data collection form.

Variables

The variables collected comprised patient demographic details including age and sex, the admitting diagnosis along with the dates of admission and discharge, the duration of hospitalization, and the discharge outcome.

Diagnoses were classified using the International Classification of Diseases, to ensure comparability and standardization.

Data analysis

Data were entered into and analyzed using the Statistical Package for the Social Sciences (SPSS) version 27. Continuous variables were summarized as means with standard deviations, while categorical variables including sex, disease category, and outcome were presented as frequencies and percentages.

Ethical considerations

Ethical approval for the study was obtained from the Health Research Ethics Committee of the FMCA. Patient confidentiality was maintained by removing personal identifiers from the dataset before analysis, and data access was restricted to members of the research team.

Results

A total of 1,754 patients were admitted during the study period. As shown in Table 1, males accounted for 51.0% and females 49.0% of admissions, with a mean age of 50.2 ± 17.3 years. The largest age groups were 50–59 years (22.6%), 40–49 years (20.1%), and 60–69 years (16.1%). Most admissions occurred in 2023 (42.0%) and 2024 (38.3%). The majority of patients (68.9%) were discharged, while 14.3% died, and 13.9% left against medical advice.

The mean length of stay was 8.4 ± 6.97 days, with most patients (63.3%) admitted for 1–9 days. According to figure 1, Kidney diseases were the most common diagnosis with 610 cases, followed by CVA with 234 cases and diabetes complications with 157 cases.

Some conditions were unspecified (149). In terms of medical specialties (figure 3), nephrology accounted for the highest proportion of admissions (34.8%, followed neurology (19.3%), gastroenterology/hepatology (11.8%), endocrinology (9.9%) and cardiology (7.6%).

According to figure 2, most patients were discharged (68.9%). DAMA accounted for 13.9%, deaths for 14.3%, and referrals for 3.0% (52 cases).

As depicted in table 2, the highest proportion of admissions occurred in the 50–59 year age group with 22.6% of patients, followed by the 40–49 year group with 20.1% and the 60–69 year group with 16.1%. The least represented age group was 90–99 years with 0.3% of admissions.

In 2022, admissions ranged from 16 in December to 44 in January, with no pronounced seasonal peaks. The year 2023 recorded the highest monthly admission of the entire period in October with 117 cases (figure 4), while the lowest was in February with 18 cases. In 2024, admissions peaked in May at 92 and were lowest in March with 18 cases.

According to table 3, nephrology had the highest admissions with 252 females and 358 males (34.8%), followed by Neurology followed with 166 females and 165 males (18.9%) And Gastroenterology/Hepatology recorded 84 females and 123 males (11.8%).

In table 4, admissions were mostly concentrated in the 40–69 age range across specialties. In 2022 (Figure 5), there were 345 admissions, with 13.1% discharged, 3.5% leaving against medical advice, 2.6% deaths, and 0.4% referred. In 2023, out of 737 admissions, 29.2% were discharged, 4.7% left against medical advice, 6.6% died, and 1.6% were referred.

In 2024, among 672 admissions, 26.6% were discharged, 5.6% left against medical advice, 5.1% died, and 1.0% were referred. Figure 5 shows that most patients were discharged, mainly from nephrology (22.6%), neurology (12.9%), gastroenterology/hepatology (8.7%), and cardiology (5.6%). Deaths were highest in infectious diseases (5.5%) and nephrology (4.2%). DAMA was most common in nephrology (7.2%), while referrals were rare across all specialties.

Table 1: Sociodemographic characteristics, admission year, and outcomes of patients admitted to the medical wards at FMC Abeokuta from 2022 to 2024 (n=1,754)

	Frequency	Percent
Gender		
Female	860	49.0
Male	894	51.0
Age		
10-19	78	4.4
20-29	179	10.2
30-39	213	12.1
40-49	353	20.1
50-59	396	22.6
60-69	283	16.1
70-79	188	10.7
80-89	58	3.3
90-99	6	0.3
Mean ± SD	50.2 ± 17.3	
Year		
2022	345	19.7
2023	737	42.0
2024	672	38.3
Duration of admission (days)		
0	50	2.9
1-9	1111	63.3
10-19	474	27.0
20 and above	119	6.8
Mean ± SD	8.4 ± 6.97	

DAMA, discharged against medical advice; SD: Standard deviation

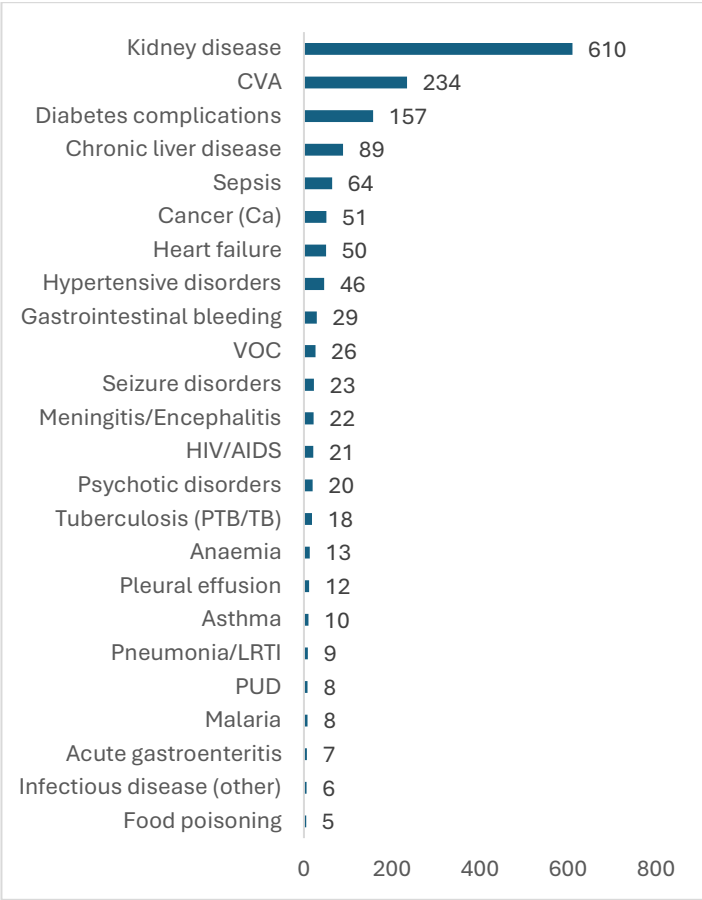


Figure 1: Most frequent primary diagnoses among patients admitted to the medical wards at FMC Abeokuta from 2022 to 2024

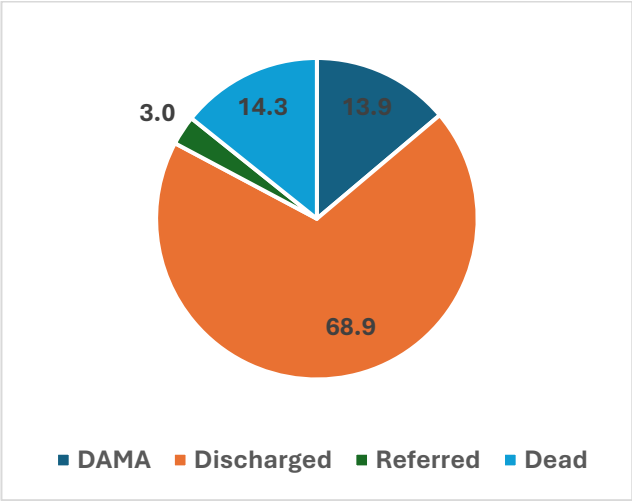


Figure 2: Outcome of admission for patients in the medical wards

Table 2: Age and sex distribution of patients admitted to the medical wards at Federal Medical Centre Abeokuta from 2022 to 2024

Age range	Female n (%)	Male n (%)	Total n (%)
10-19	45 (2.6)	33 (1.9)	78 (4.4)
20-29	92 (5.2)	87 (5.0)	179 (10.2)
30-39	113 (6.4)	100 (5.7)	213 (12.1)
40-49	170 (9.7)	183 (10.4)	353 (20.1)
50-59	195 (11.1)	201 (11.5)	396 (22.6)
60-69	125 (7.1)	158 (9.0)	283 (16.1)
70-79	89 (5.1)	99 (5.6)	188 (10.7)
80-89	28 (1.6)	30 (1.7)	58 (3.3)
90-99	3 (0.2)	3 (0.2)	6 (0.3)
Total	860 (49.0)	894 (51.0)	1754 (100.0)

Table 3: Distribution of medical admissions by specialty and sex

Specialty	Female n (%)	Male n (%)	Total n (%)
Cardiology	73 (4.2)	60 (3.4)	133 (7.6)
Dental	2 (0.1)	2 (0.1)	4 (0.2)
Dermatology	1 (0.1)	0 (0.1)	1 (0.1)
Endocrinology	103 (5.9)	71 (4.0)	174 (9.9)
Gastroenterology	84 (4.8)	123 (7.0)	207 (11.8)
Hematology	23 (1.3)	15 (0.9)	38 (2.2)
Infectious	57 (3.2)	39 (2.2)	96 (5.5)
Psychiatric	15 (0.9)	8 (0.5)	18 (1.0)
Nephrology	252 (14.4)	358 (20.4)	610 (34.8)
Neurology	166 (9.3)	165 (9.4)	331 (18.9)
Oncology	46 (2.6)	9 (0.5)	455(3.1)
Orthopedics	5 (0.3)	7 (0.4)	12 (0.7)
Pulmonology	19 (1.1)	34 (1.9)	53 (3.0)
Rheumatology	4 (0.2)	0 (0.0)	4 (0.2)
Urology	2 (0.1)	2 (0.1)	4 (0.2)

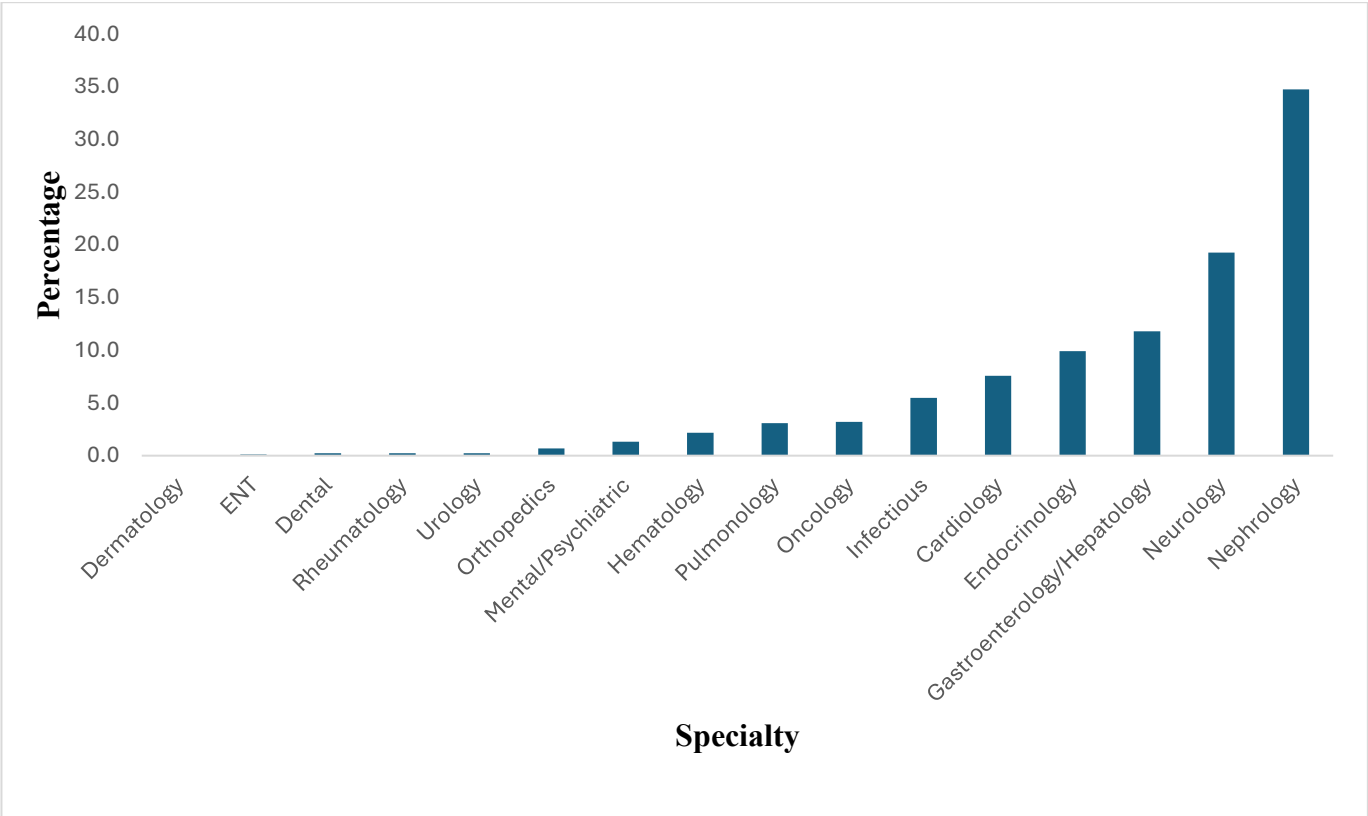


Figure 3: Case Distribution by Specialty

Table 4: Distribution of medical admissions by specialty and age group

Specialty	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Total
Cardiology	6 (0.3)	9 (0.5)	14 (0.8)	23 (1.3)	35 (2.0)	25 (1.4)	15 (0.9)	5 (0.3)	1 (0.1)	133 (7.6)
Dental	0 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)	1 (0.1)	2 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.2)
Dermatology	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.1)
Endocrinology	5 (0.3)	8 (0.5)	11 (0.6)	37 (2.1)	49 (2.8)	38 (2.2)	20 (1.1)	5 (0.3)	1 (0.1)	174 (9.9)
Gastroenterology	12 (0.7)	27 (1.5)	37 (2.1)	42 (2.4)	44 (2.5)	29 (1.7)	12 (0.7)	4 (0.2)	0 (0.0)	199 (11.8)
Hematology	7 (0.4)	12 (0.7)	2 (0.1)	4 (0.2)	4 (0.2)	2 (0.1)	7 (0.4)	0 (0.0)	0 (0.0)	38 (2.2)
Infectious	7 (0.4)	9 (0.5)	15 (0.9)	18 (1.0)	21 (1.2)	9 (0.5)	12 (0.7)	4 (0.2)	1 (0.1)	96 (5.5)
Psychiatry	0 (0.0)	8 (0.5)	3 (0.2)	4 (0.2)	3 (0.2)	1 (0.1)	4 (0.2)	0 (0.0)	0 (0.0)	23 (1.3)
Nephrology	18 (1.0)	64 (3.6)	87 (5.0)	147 (8.4)	128 (7.3)	92 (5.2)	56 (3.2)	17 (1.0)	1 (0.1)	610 (34.8)
Neurology	13 (0.7)	21 (1.2)	27 (1.5)	50 (2.9)	85 (4.9)	73 (4.2)	49 (2.8)	18 (1.0)	2 (0.1)	338 (19.3)
Oncology	5 (0.3)	3 (0.2)	9 (0.5)	12 (0.7)	17 (1.0)	5 (0.3)	4 (0.2)	0 (0.0)	0 (0.0)	55 (3.1)
Orthopedics	0 (0.0)	2 (0.1)	1 (0.1)	5 (0.3)	1 (0.1)	1 (0.1)	1 (0.1)	1 (0.1)	0 (0.0)	12 (0.7)
Pulmonology	3 (0.2)	8 (0.5)	5 (0.3)	10 (0.6)	7 (0.4)	10 (0.6)	7 (0.4)	3 (0.2)	0 (0.0)	53 (3.0)
Rheumatology	0 (0.0)	3 (0.2)	0 (0.0)	0 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.2)
Urology	1 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)	4 (0.2)

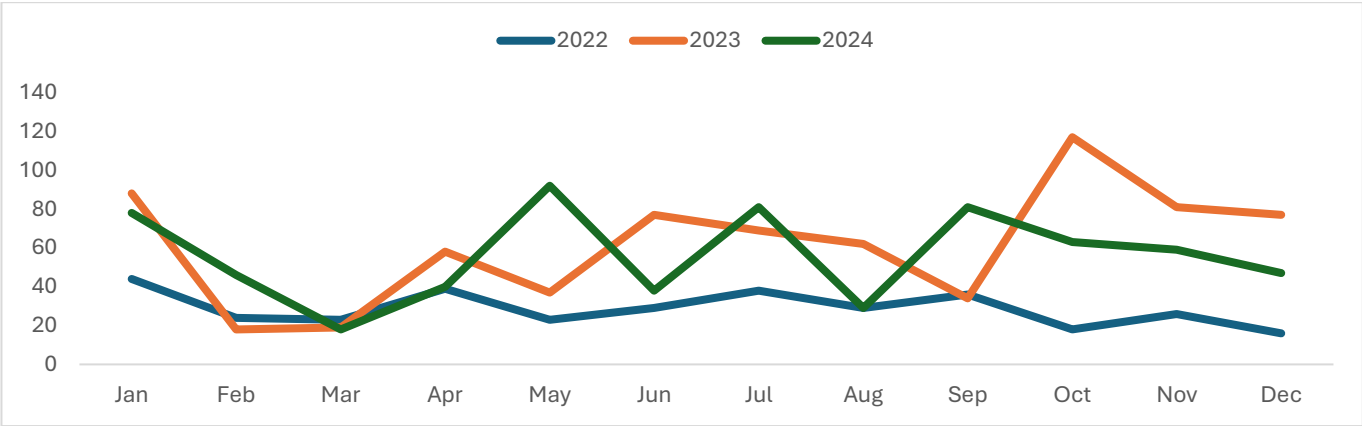


Figure 4: Monthly distribution of medical admissions at Federal Medical Centre Abeokuta, 2022 - 2024

Table 5: Distribution of patient outcomes by medical specialty at Federal Medical Centre Abeokuta

	DAMA	Discharged	Referred	Dead
Cardiology	13 (0.7)	99 (5.6)	2 (0.1)	19 (1.1)
Dental	0 (0.0)	4 (0.2)	(0.0)	(0.0)
Dermatology	(0.0)	1 (0.2)	(0.0)	(0.0)
Endocrinology	17 (1.0)	127 (7.2)	10 (0.6)	20 (1.1)
ENT	17 (1.0)	127 (7.2)	10 (0.6)	20 (1.1)
Gastroenterology/Hepatology	18 (1.0)	152 (8.7)	5 (0.3)	32 (1.8)
Hematology	5 (0.3)	28 (1.6)	1 (0.1)	4 (0.2)
Infectious	15 (0.9)	67 (3.8)	3 (0.2)	11 (0.6)
Mental/Psychiatric	2 (0.1)	18 (1.0)	1 (0.1)	2 (0.1)
Nephrology	127 (7.2)	397 (22.6)	12 (0.7)	74 (4.2)
Neurology	29 (1.7)	227 (12.9)	14 (0.8)	68 (3.9)
Oncology	4 (0.2)	38 (2.2)	4 (0.2)	9 (0.5)
Orthopedics	3 (0.2)	9 (0.5)	0 (0.0)	0 (0.0)
Pulmonology	7 (0.4)	39 (2.2)	0 (0.0)	7 (0.4)
Rheumatology	0 (0.0)	1 (0.1)	0 (0.0)	3 (0.2)
Urology	1 (0.1)	3 (0.2)	0 (0.0)	0 (0.0)

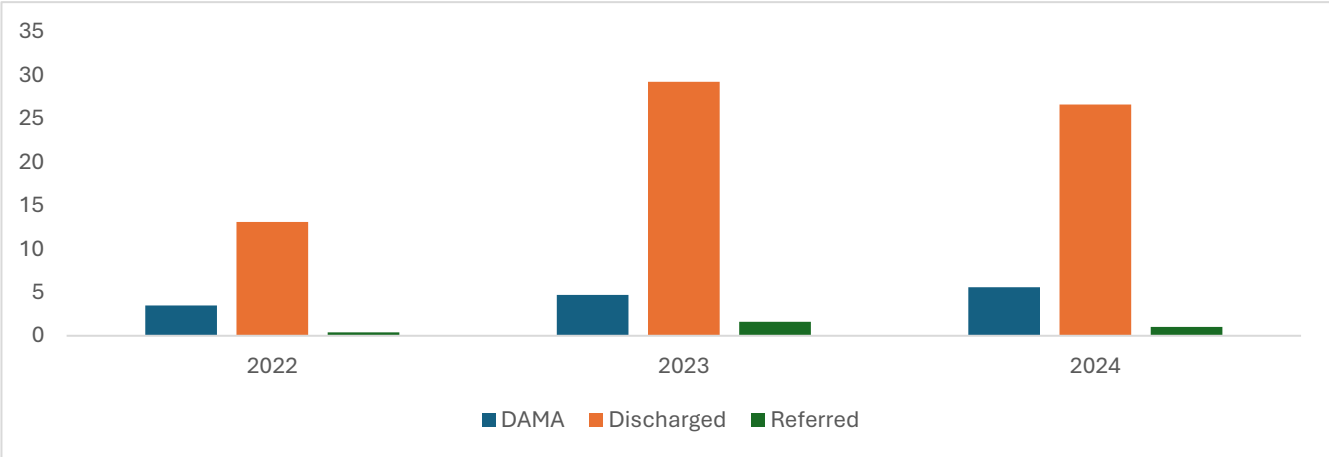


Figure 5: Distribution of patient outcomes by year at FMC Abeokuta from 2022 to 2024

Discussion

This study examined the spectrum, trends, and clinical outcomes of medical admissions at FMCA. The combined analysis of demographic characteristics, admission patterns, specialty distribution, length of stay, and patient outcomes provides insight into a tertiary care facility managing both the growing burden of chronic diseases and the persistent challenge of acute illnesses. A slight male predominance was observed, consistent with other hospital-based studies from southern Nigeria (Agomuoh & Unachukwu, 2007; Eze et al., 2013). The mean age of 50.2 years indicates that admissions were concentrated among middle-aged and older adults, with the largest age groups being 50 to 59 years, 40 to 49 years, and 60 to 69 years. This distribution reflects a disease burden largely driven by chronic conditions that increase with age. Comparable mean ages were reported in a Bauchi study (50.8 ± 19.2 years) (Abdu et al., 2023), with similar trends observed in studies from Irrua (National Center for Health Statistics, 1997), Enugu (Ezeala-Adikaibe et al., 2014), and Ado Ekiti (Adeoti et al., 2015) in southern Nigeria, as well as from northern (Hailu et al., 2023) and southwest Ethiopia (Ali & Woldie, 2010).

The 610 cases of kidney disease recorded in this study highlight a substantial burden of chronic kidney disease within the catchment area. This trend is likely driven by the combined effects of poorly controlled hypertension and diabetes, delayed presentation, limited access to early nephrology services, and low availability of renal replacement therapy. Strikingly, young adults in their productive age groups were affected (Table 4). Abdu et al. (2023) reported that the most common specific disease entities admitted were heart failure, severe malaria, diabetes and its complications, cerebrovascular diseases, and chronic kidney disease, in that order. Our findings align closely with those from Northern Ethiopia (Hailu et al., 2023) and Enugu in Southeast Nigeria (Ezeala-Adikaibe et al., 2014), as well as with results from Kano in Northwest Nigeria, where cerebrovascular disease was the leading cause of admission (Saidu, 2018). However, our results differ from those of

AlGhamdi and Bin Abdulhak (2018) in Saudi Arabia, where acute coronary syndrome accounted for the largest proportion of admissions (16%), while cerebrovascular disease and heart failure each contributed 7%.

The mean length of stay was 8.4 days, with most patients staying between one and nine days. This moderate length of stay has implications for bed turnover and capacity planning. It was lower than the findings of Abdu et al. (2023), who reported a mean hospital stay of 11.6 ± 8.0 days, and also lower than the 11 ± 10 days reported in Northern Ethiopia (Hailu et al., 2023). Mortality was highest in nephrology and neurology cases, with nephrology-related deaths likely reflecting advanced kidney disease, complications such as uremia, and limited access to dialysis. The overall mortality rate in this study was 14.3%, which was similar to the 14.7% reported by Abdu et al. (2023) and comparable to findings from other studies (Ali & Woldie, 2010; Emorinken et al., 2022; Hailu et al., 2023; Saidu, 2018). However, it was lower than the 21.4% and 22.6% reported in Osogbo (Okunola et al., 2012) and Abia (Nkpozi et al., 2020) respectively, but higher than rates from other countries such as India (Bishnu et al., 2016), Sudan (Noor et al., 2015), and Saudi Arabia (AlGhamdi & Bin Abdulhak, 2018). There is thus a need for subsidizing the cost of dialysis care and improving early screening strategies.

Limitations

This study had several limitations. First, its retrospective design relied on existing hospital electronic medical records, which may be incomplete, inaccurate, or inconsistently documented, potentially introducing information bias. Second, diagnoses were based on recorded clinical and laboratory assessments without independent verification, and some cases were classified as “unspecified” due to inadequate diagnostic details. Third, as a single-center review from a tertiary referral hospital, the findings may not be generalizable to the wider community or to lower-level health facilities, as referral bias could result in overrepresentation of more severe and complex cases.

Conclusion

This three-year review revealed a predominance of non-communicable diseases, particularly chronic kidney disease, stroke, and diabetes-related complications, with admissions concentrated among middle-aged and older adults. The findings highlight the urgent need for targeted prevention, early detection, and timely management of chronic diseases, alongside sustained investment in renal care and stroke services. Strengthening primary healthcare systems, improving access to diagnostic and treatment facilities, and enhancing patient education could reduce the high burden and poor outcomes associated with NCDs in this setting.

Authors' contributions: This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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