

## Nutrition Related Chronic Diseases among In-Patients in Federal Medical Center OWO from 2010-2014

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**Abstract:** The hospitalization and the increasing disease burden of nutrition related chronic diseases cannot be overemphasized in the Nigerian population. Hypertension and other cardiovascular diseases are on the rise and are of public health concern. This study was a retrospective study that assessed the prevalence of nutrition related diseases among hospitalized patients in Federal Medical Center (FMC), Owo. This study was a 5-year retrospective from 2010-2014 study which made use of hospital record on admitted patients between 2010-2014 with diagnosis of any form of nutrition related disorder. The research instrument used for this study was hospital registers and clinical notes. The data generated was analyzed using Microsoft excel. Results showed that 43.4% of admitted patients were males, 56.6% were females and 95.4% were alive while 4.6% were dead. Also, 55.8% of the cases were hypertension while other cardiovascular diseases were 26.4%, 51.2% spent 1-9 days on admission and 24.4% (10-19 days). More females were admitted for hypertension (58.1%) and cardiovascular (56.1%) disorders more than their male counterparts. More respondents were admitted for hypertension and cardiovascular related cases. It is therefore important to make provision for effective health management team comprising of dietitians and other health care professional for effective patients care delivery.

**Key words:** Hypertension, Hospitalization, Diseases, Nutrition.

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### I. Introduction

Recent advances have shown nutrition as a major modifiable determinant of chronic diseases as changes in diet have shown both positive and negative influences on disease progression and hospital stay (de Moraes et al., 2014; Mutowo et al., 2016; Okeahialam, Ogbonna, Joseph, Chuhwak, & Isiguzoro, 2015). Hence, diet may not only influence health, but may also determine whether or not an individual will develop disease such as CVDs, diabetes, kidney diseases among others (Oguoma, Nwose, Skinner, Richards, & Bwititi, 2018).

The role of adequate nutrition and its influence on chronic body metabolism cannot be over emphasized. Metabolic disorders that are related to diet and nutrition includes hypertension, diabetes, obesity, cardiovascular diseases (CVDs), cancers, osteoporosis and dental disorders. There are increasing evidences that the trend of chronic diseases is not only in developed countries but in many parts of sub-Saharan Africa; among both rural and urban dwellers (Okeahialam et al., 2015; Onyemelukwe et al., 2017). This trend might have resulted from the marked increase in prevalence of overweight and obesity found in adult population.

Consequently, this trend has not only constituted a great public health challenges in sub-Saharan Africa but has also had serious impact on health costs evidenced by incessant hospital admission and prolonged stay of in-patients observed in hospitals (Ansa et al., 2016; Ogah, Stewart, Falase, Akinyemi, Adegbite, Alabi, Durodola, et al., 2014). Nigeria as well as other countries in sub-Saharan Africa more than any other part of the world, where chronic disease co-exist with high rates of under-five malnutrition, HIV/AIDS, malaria and other infectious diseases leading to increased burden of diseases.

The cost of treating nutrition related chronic diseases surely affect the household economies and budget of patients and their care giver. The cost of hospitalization and treatment of diabetes and hypertension cases estimated retrospectively showed that diabetics had more hospital stay and comorbidities than hypertension, hence, increased health cost. (Mutowo et al., 2016; Obirikorang et al., 2016; Ogah, Stewart, Falase, Akinyemi, Adegbite, Alabi, Ajani, et al., 2014). However, there is potential benefits in the combination of dietary intervention with other medical therapies in improving prognosis and reducing hospital stay. Unfortunately, not all hospitals of secondary and tertiary status can boast of the services of clinical nutritionists and dietitians in Nigeria. With the prevalence of obesity, heart disease, osteoporosis, cancer, and diabetes rise with age, it is important to make provision for and effective health management team comprising of dietitians and other health

care professional to effectively manage these menace. Hence, this study was a retrospective study which sort to provide data on the prevalence of nutrition related chronic diseases hospitalization in a tertiary hospital in Ondo State, Nigeria.

## II. Methods

This study was conducted at Federal Medical CentreOwo, Ondo State. This study was a 5-year (2010-2014) retrospective quantitative study. Ethical approval was sought and obtained from the health research and ethnic committee of the Federal Medical Centre, Owo. Ondo State. The information for the study was retrieved from the admission registersof the hospital during the period under review. Information obtained included date of admission and discharge bio-data, clinical features, socio-economic status of the patients, nutrition related diseases and death or discharge, All adult admitted during the period under reviews above 25years of age between 2010-2014 with diagnosis of any form of nutrition related disorder was reviewed. The research instrument used for this study was hospital register and clinical notes. The data generated was analyzed using Microsoft excel.

## III. Results

The table 1 shows the distribution of the subject based on gender and discharge status. It revealed that majority of the respondents admitted for the period under investigation 2010-2014. 54.3% were females while 45.7% were males. Also, 95.4% of the subject were discharge alive while 4.6% were discharge dead.

**Table 1:**Distribution of the subject based on gender and discharge status

Sex	N	%
Male	66	43.4
Female	86	56.6
<b>Discharge status</b>		
Alive	145	95.4
Dead	7	4.6
Total	151	100.0

The table 2 shows the prevalence of nutrition related disease diagnosed during the period investigated. There was high prevalence of hypertension among the respondents with 55.8%, followed by CVDs (46.4%) while diabetes mellitus was 9.1%. Cancer, goiter and chronic kidney diseases were 2.6%, 1.3% and 5.3% respectively.

**Table 2:**Nutrition related disease diagnosed by year

Diagnosis	HBP	DM	Cancer	Goiter	CKD	CVD
Year	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
2010	30 (19.5)	5 (3.3)	1 (0.65)	-	-	14 (9.1)
2011	29 (18.8)	4 (2.6)	1 (0.65)	-	1 (0.65)	13 (8.4)
2012	26 (16.9)	4 (2.5)	2(1.3)	2 (1.3)	4 (2.6)	8 (5.2)
2013	0 (0)	1 (0.65)	0 (0)	0 (0)	0 (0)	3 (2)
2014	4 (2.6)	0 (0)	0 (0)	0 (0)	0 (0)	3 (2)
Total	89 (55.8)	14(9.1)	4(2.6)	2(1.3)	5(3.3)	41(26.4)

Table 3shows the nutrition related disease and the number of days spent in hospital bed before discharge majority of the hypertensive patients (67.4%) were discharge within first 9days of admission into the hospital. While most diabetes patient were discharge within 3weeks of admission (50%). Chronic kidney disease and some CVD patients' discharge from the hospital took a larger time of greater than 50days.

**Table 3:**Nutrition of related diseases and duration of hospital stay

Diagnosis	1-9days	10-19days	20-29days	40-49days	50days	Dead
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Hypertension	58(67.4)	19 (22.1)	6 (7)	0(0)	1 (1.2)	2 (2.3)
Diabetes	5 (35.7)	7 (50.0)	0(0)	1 (7.1)	0(0)	1 (7.1)
Goiter	100%	0(0)	0(0)	0(0)	0(0)	0(0)
Cancer	0(0)	2 (50)	0(0)	0(0)	0(0)	2 (50)
CKD	0(0)	0(0)	0(0)	3 (66.7)	0(0)	2 (40)
CVD	21 (51.2)	10 (24.4)	5 (12.2)	0(0)	5 (12.2)	0(0)

Table 4 describes the distribution of diseases within the gender, 58.1% of females were hypertensive while 41.9% of the males were found hypertensive. CVD was found more in females (56.1%) than in males (43.9) while diabetes was evenly distributed within gender.

**Table 4:**Disease distribution by gender

Diagnosis	HBP	DM	Cancer	Goiter	CKD	CVD	Total
Gender	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Male	36 (41.9)	7 (50)	1 (25)	0(0)	4 (80)	18 (43.9)	66 (43.4)
Female	50 (58.1)	7 (50)	3 (75)	2 (100)	1 (20)	23 (56.1)	82 (56.6)

#### IV. Discussion

The role of diet and nutrition as determinant of chronic disease is well documented in literatures(Daoud, Scheede-bergdahl, & Bergdahl, 2014; Oguoma et al., 2018; Rotimi Oluyombo, Olamoyegun, Olaifa, Iwuala, & Babatunde, 2015).This study reveals a high prevalence of nutrition related diseases among females thanmales for the period under review. This high prevalence of chronic diseases among female might be related to overweight and obesity which is usually found more in females than in males(Commodore-Mensah, Ukonu, Cooper, Agyemang, & Himmelfarb, 2018; Obirikorang et al., 2016). Obesity is the door way to a large spectrum of various nutrition related chronic diseases.

Also, the trend of the nutrition related diseases diagnosed in the hospital showed more admission in patients with hypertension and other cardiovascular diseases. Unfortunately, this trend was said to be rare among Africans decades ago (Akinkugbe, 1969) but the prevalence in recent times call for urgent concern and pragmatic attention (Akinlua, 2015; Amadi et al., 2018). Hypertension was the most prevalence disease among the subjects investigated and predominant among the female subjects, followed by other CVDs. This is in sync with several other studies in Nigeria showing increasing prevalence both in facility and community based studies (Oguoma et al., 2018; Onyemelukwe et al., 2017; Ukpabi & Uwanurochi, 2017).

Other nutrition related disease found in this study were cancer, kidney diseases among others recent studies are showing increasing trends in the prevalence of renal diseases (Nalado et al., 2016; Sani et al., 2014) although, this trend is yet not receiving the due attention . Unfortunately, this may not be a true representation of the prevalence in the Nigeria population due to various religious beliefs and lack of adequate awareness of these diseases (Oyewusi, Obembe, Arulogun, & Olugbayela, 2016; Oladepo, Yusuf, Akinola, & Arulogun, 2009; Oluyombo et al., 2016). Also,therising prevalence of diabetes in African and especially Nigeria needs utmost attention because of the debilitating effect of these chronic diseases on patients and the drain on their relatives(Young, Okafor, Iroezindu, & Agbalu, 2016). The number of cases in this study may not sufficiently reflect the prevalence in the population because most of the patient do not present early until there are obvious complications resulting from lack of glycemic control (Oluyombo et al., 2016). Furthermore, it is very surprising to see cases of goiter in this study. This may imply that there is need to evaluate the salt iodization programme to ascertain its effectiveness and efficiency in eradicating iodine deficiency disorders. The practice among consumers should also be looked into.

The hospitalization and duration of stay in hospital bed of these patients is an indication that shows the need to pay some attention to health and nutrition literacy of the Nigerian population. This is because these diseases can be prevented by dietary behavior and will need the service of dietitians for effective management and reduction in hospital stay.

#### V. Conclusion

In conclusion based on the findings of this study, there was high prevalence of hypertension especially among the females, other disease such as diabetes, cardiovascular disease were also prevalent, however, goiter and cancer were the leastobserved. The study has confirmed a high prevalence of nutritional related disease among hospitalized patients.

#### VI. Recommendation

It is important to make provision for and effective health management team comprising of dietitians and other health care professional to effectively manage these menace.

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