

**NUTRITIONAL KNOWLEDGE AND PRACTICE
AMONG PATIENTS WITH NON-COMMUNICABLE DISEASES ATTENDING
MBALE REGIONAL REFERRAL HOSPITAL IN EASTERN UGANDA
A CROSS SECTIONAL STUDY**

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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF PUBLIC
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DECLARATION

I, Nambala Esther, hereby declare that this dissertation is my original work and has not been presented before for any award in any other university or institution.

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DISSERTATION APPROVAL

This dissertation is submitted as partial fulfillment for the award of a master's degree in Public Health of Busitema University with my approval as a supervisor.

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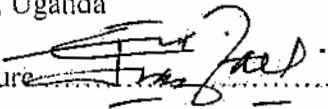
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ABBREVIATIONS AND ACRONYMS

BMI	Body Mass Index
CKD	Chronic Kidney Disease
CNCDs	Chronic Non-Communicable Diseases
CVD	Cardiovascular Disease
DALYs	Disability-adjusted life years
DM	Diabetes Mellitus
HMIS	Health Management Information System
HT	Hypertension
IEC	Information Education Communication
LMICs	Lower Middle-Income Countries
MOH	Ministry of Health
MRRH	Mbale Regional Referral Hospital
NCDs	Non-Communicable Diseases
NK	Nutritional Knowledge
OPD	Outpatient Department
SDGs	Sustainable Development Goals
SSA	Sub Saharan Africa
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Nutrition: Nutrition is the science of how food is ingested, digested, absorbed, and utilized in the body and how it is excreted from the body (Shubhangini A Joshi, 2010).

Nutritional Knowledge: One is said to be nutritionally knowledgeable when they have the right information about what they should be eating and the implications on their health if they eat 'wrong' foods (Munuo, 2014).

Nutrition education is an essential component in improving dietary habits and food choices, in order to reverse the under nutrition and improve the nutritional diagnosis (Wunderlich, 2013b)

Nutritional Support: The supply of foods and liquids to patients necessary to facilitate healing and support health.

Disability-adjusted life years: A measure of overall disease burden, expressed as the number of years lost due to ill health, disability or early death.

ABSTRACT

Background: Non communicable diseases (NCDs) kill 41 million people globally each year. Almost three quarters of NCD deaths occur in low- and middle-income countries. According to Health Management Information System (HMIS) surveillance, the NCD burden in Uganda is on the rise. Non-communicable diseases are linked to high consumption of energy dense foods, and foods processed with added fat, sugar and salt. The major objective of the study was to determine the level of nutrition knowledge and practices among NCD patients attending Mbale Regional Referral hospital (MRRH).

Materials and Methods: A mixed methods cross sectional study of 260 participants was conducted in Mbale Regional Referral Hospital among patients attending the NCD clinic from May to July 2017. Quantitative data were collected through structured administered questionnaires and qualitative data were collected through key informant interviews using an interview guide. Ethical clearance was obtained from the Institutional Review Board of Mbale Regional Referral Hospital. Quantitative data was analyzed at univariate, bivariate and multivariate levels. Chi square test and logistic regression were used to determine the association between nutrition knowledge and its utilization. Qualitative data was coded first and then summarized according to the themes.

Results: Most respondents were female (n= 157, 60.4%) and majority (n=138, 53.1%) were in the age group of 35-59 years. The mean age was 55 years (SD= 14) with a range of 19 to 90 years. Most respondents (n=156, 60%) had a high level of nutrition knowledge, however only 48.8% (n=127) were utilizing the knowledge. Hospital was the main source of nutrition information (n=243, 23.1%), however, only 36% had received information at their last visit. Those with tertiary education had almost 12 times the odds to utilize knowledge on nutrition compared to those who had not gone to school (OR_{adj}11.86 95% 3.46-40.58 p value=0.000). Those with high knowledge level had almost 2 times the odds to utilize the nutrition knowledge compared to those with low knowledge level (OR_{adj}1.98, 95% CI 0.923- 2.868 p value =0.017).

Findings from the qualitative study showed that health workers were not providing nutrition information because of inadequate knowledge on nutrition. In addition, there were inadequate staff and no nutritionist/ dietitian supporting the clinic. The clinic lacked guidelines, policies and information, education and counseling materials.

Conclusions: Level of nutrition knowledge is associated with utilization among patients with non-communicable diseases. Health workers do not provide nutrition information to NCD patients because of inadequate nutrition knowledge. This is due to lack of continuous nutritional education and reference materials and inadequate human resources.

Recommendations: Nutrition education programs targeting health workers and NCD patients should be strengthened in all health facilities in Uganda. The government should recruit more dietitians/nutritionists to work in NCD clinics. Nutrition reference materials should be distributed to all NCD clinics in Uganda.

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DEDICATION

To my husband Nicholas Kasadha and my children Nicole, Nissi, Nichelle and Nathan for the moral, financial and spiritual support during the development of this dissertation.

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Background

Non-communicable diseases (NCDs) are defined as diseases or conditions which are non-transmissible and noninfectious (Embuldeniya, 2018). The 4 main types of non-communicable diseases are cardiovascular diseases, cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes (Embuldeniya, 2018).

The global disease profile is changing at an astonishing rate, with deaths and disabilities from NCDs exceeding those from infectious diseases and nutritional deficiencies (WHO, 2018b; Yaya et al., 2020). They have been proven to be the main causes of adult morbidity and mortality worldwide (Oli et al., 2013).

NCDs kill 41 million people globally each year; 15 million people die from an NCD between the ages of 30 and 69 years. Over 85% of these premature occur in low- and middle-income countries. Each year it is projected that by 2020 NCDs will account, NCDs will account for 27% of mortality in SSA (Bloom et al., 2011; P. A. Juma, Mohamed, et al., 2018). In the past 10 years, the prevalence of NCDs has rapidly increased and currently NCDs are the among the first 25 main causes of DALYs in Uganda (Kumar Aryal et al., 2015; M.O.H, 2014). Hospital-based data from urban centers report an increasing burden of NCDs in Uganda (J I Schwartz et al., 2014) A survey demonstrated that NCDs and their risk factors are a public health problem in Uganda. (Kumar Aryal et al., 2015). Obesity, tobacco use, unhealthy diet, physical inactivity, weight, blood glucose and cholesterol levels are the main and high blood pressure are some of the major modifiable risk factors fueling the escalating NCD epidemic in the world and Uganda (Embuldeniya, 2018).

Modification of known risk factors has been the most tested strategy for dealing with NCDs (Wesonga et al., 2016). Majority of NCDs related deaths can be prevented by addressing the common modifiable risk factor (Yaya et al., 2020).

Dietary and nutritional approaches are major modifiable determinant of non-communicable diseases, with scientific evidence supporting the view that alterations in diet and activity have effects on health throughout life. Non-communicable diseases are linked to high consumption of

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