UNIVERSITI PUTRA MALAYSIA

DETERMINANTS OF OVERWEIGHT AND OBESITY AMONG ADULTS IN EKPOMA, ESAN WEST EDO-STATE, NIGERIA

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By

NMORSI PATIENCE OGECHI

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Master of Science

August 2017

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DEDICATION

I am dedicating this work to my loving parents Prof and Mrs O.P.G Nmorsi who sacrifices a lot to ensure that I have the best opportunities in life and to ALMIGHTY GOD who has been my source of inspiration, whose divine favour in my life will never cease and has made life more worth living for me, who has also given me wisdom, Knowledge and understanding.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

DETERMINANTS OF OVERWEIGHT AND OBESITY AMONG ADULTS IN EKPOMA, ESAN WEST EDO-STATE, NIGERIA

By

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August 2017

Chairman : Suriani Binti Ismail, PhD
Faculty : Medicine and Health Sciences

Introduction: Overweight and obesity is a major cause of weight related health risks linked to morbidity and mortality. In terms of number of deaths, they are rated as the sixth most essential threat issue in the world turning out to be a major public health challenge globally. This epidemic problem is not restricted to only developed countries. It is also one of the major public health problems in developing countries such as Nigeria. Thus, understanding the determinants of overweight and obesity is an imperative requirement for designing appropriate polices and effective health promotion programs aiming at the reduction of overweight and obesity among people in Nigeria.

Aims and objectives: This research aimed to identify the prevalence, factors associated and predictors of overweight and obesity among adult population in Ekpoma Esan West Edo- State, Nigeria.

Methodology: This was a cross-sectional study among adult community from an urban area in Edo state, Nigeria. A self-administered and researcher-administered questionnaire was used, consisting of seven sections namely: socio-demography, cultural perception of weight, psychological, perceived environment, frequency of eating outside, physical activity and height and weight measurements for calculation of body mass index. Data was analysed by descriptive, bivariate and multivariate analysis using SPSS statistical software application.

Results: The study had a total number of 445 respondents with a response rate of 99.8%. It was observed that among the respondents 32.8% were overweight and 27.9 % were obese. Most of the respondents were between the age group of 18-44

(69.2%), female were more among respondents (51.2%), (50.8%) were single, it was also noted that (72.1%) of respondents originated from Edo ethnic group and majority of respondents had tertiary level of education (81.8%). Age, gender, marital status, ethnicity, occupation, monthly income, cultural perception of weight and perceived environment were significantly associated with overweight and obesity ($P<0.05$). The predictors of overweight and obesity were marital status (AOR = 0.238, 95% CI = 0.143-0.398), occupation (AOR = 2.694, 95% CI = 1.619-4.483) and cultural perception of weight (AOR = 0.520, 95% CI = 0.332-0.814).

Conclusion: The findings of this study revealed that majority of the respondents in Ekpoma community had high prevalence of overweight and obesity. Marital status, occupation and cultural perception of weight were the significant predictors of overweight and obesity, which signifies their importance. The determinants identified in this study if accompanied with quality of health care services can serve as additional information to aid in the interventions that would help in the reduction of overweight and obesity.

Keywords: Determinants, overweight, obesity, adults.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

PENENTUAN BERAT BADAN BERLEBIHAN DAN OBESITI DALAM KALANGAN ORANG DEWASA DI EKPOMA, BARAT NEGERI ESAN WEST EDO, NIGERIA

Oleh

NMORSI PATIENCE OGECHI

Ogos 2017

Pengerusi : Suriani Binti Ismail, PhD
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Pengenalan: Berat badan berlebihan dan obesiti adalah punca utama risiko kesihatan berkaitan dengan berat badan dikaitkan dengan morbiditi dan kematian. Mereka dinilai sebagai isu ancaman paling penting keenam dari segi jumlah kematian di dunia beralih kepada satu cabaran kesihatan awam yang utama di peringkat global. Masalah epidemik ini tidak terhad kepada hanya negara maju. Ia juga merupakan salah satu masalah kesihatan awam yang utama di negara-negara membangun seperti Nigeria. Oleh itu, memahami penentu berat badan berlebihan dan obesiti menggunakan teori ekologi adalah satu keperluan yang penting bagi mereka bentuk dasar yang sesuai dan program promosi kesihatan berkesan yang bertujuan untuk pengurangan berat badan berlebihan dan obesiti dalam kalangan masyarakat di Nigeria.

Matlamat dan objektif: Kajian ini dijalankan untuk mengenal pasti prevalens, faktor-faktor berkaitan dan peramal berat badan berlebihan dan obesiti menggunakan rangka kerja teori ekologi dalam kalangan populasi dewasa di Ekpoma Esan Negeri Edo Barat, Nigeria.

Metodologi: Ini merupakan satu kajian keratan rentas dalam kalangan masyarakat dewasa dari kawasan bandar di negeri Edo, Nigeria. Satu set soal selidik yang diisi sendiri telah digunakan, yang terdiri daripada tujuh bahagian iaitu: sosio-demografi, persepsi budaya mengenai berat badan, hubungan sosial (kemurungan, kebimbangan dan tekanan), persekitaran binaan, pengambilan kalori (pengambilan makanan segera), aktiviti fizikal dan ukuran ketinggian dan berat badan untuk pengiraan

indeks jisim badan. Data dianalisis dengan analisis deskriptif, bivariat dan multivariat menggunakan aplikasi perisian statistik SPSS.

Keputusan: Kajian ini mempunyai seramai 445 responden dengan kadar respons sebanyak 100%. Adalah diperhatikan bahawa dalam kalangan responden adalah 32.8% berat badan berlebihan dan 27.9% adalah obes. Umur, jantina, status perkahwinan, persepsi budaya mengenai berat badan, etnik, tahap pekerjaan, pendapatan bulanan dan persekitaran mempunyai hubungan yang signifikan dengan berat badan berlebihan dan obesiti ($P<0.05$). Peramal berat badan berlebihan dan obesiti adalah status perkahwinan (AOR = 0.238, 95% CI = 0.143-0.398), pekerjaan (AOR = 2.694, 95% CI = 1.619-4.483) dan persepsi budaya mengenai berat badan (AOR = 0.520, 95% CI = 0.332-0.814).

Kesimpulan: Dapatan kajian menunjukkan bahawa majoriti daripada orang dewasa dalam masyarakat Ekpoma mempunyai prevalens berat badan berlebihan dan obesity yang tinggi. Status perkahwinan, pekerjaan, persepsi budaya adalah peramal signifikan berat badan berlebihan dan obesiti, yang menunjukkan kepentingan mereka. Penentu yang dikenal pasti dalam kajian ini jika disertai dengan kualiti perkhidmatan penjagaan kesihatan melalui dasar-dasar kerajaan yang lebih baik boleh berfungsi sebagai maklumat tambahan untuk membantu dalam campur tangan yang akan membantu dalam pengurangan berat badan berlebihan dan obesiti.

Kata kunci: Penentu, teori, berat badan berlebihan, Obesiti, dewasa.

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I certify that a Thesis Examination Committee has met on 4 August 2017 to conduct the final examination of Nmorsi Patience Ogechi on her thesis entitled "Determinants of Overweight and Obesity Among Adults in Ekpoma, Esan West Edo-State, Nigeria" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
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LIST OF ABBREVIATIONS

BMI	Body mass index
WHO	World health organization
%	Percentage
>	Greater-than
<	Less-than
≥	Greater-than or equal to
≤	Less-than or equal to
IOTF	International obesity task force
=	Equal to
CVDs	Cardiovascular diseases
NIDDM	Non-insulin dependent diabetes mellitus
CM	Centimetre
NCDs	Non-communicable diseases
ETF	Ecological theoretical framework
AOR	Adjusted odds ratio
OR	Crude odd ratio
CI	Confidence interval
Kg	kilogram
M	Meters square
IPAQ	International physical activity questionnaire
PANES	Physical activity neigbourhood environment scale
DASS	Depression anxiety and stress scale
#	Naira
OSA	Obstructive sleep apnoea

CHAPTER 1

INTRODUCTION

This chapter focused on the following; motivation behind its proposition, background of study, problem statement, significance of study, research aim and objectives, research questions and hypothesis respectively.

1.1 Background of the Study

Overweight and obesity constitute important public health problem globally both in developed and developing regions. However, they are escalating and leading into an increase of non-communicable diseases. Rosiek, Maciejewska, Leksowski, Rosiek-kryszewska and Leksowski (2015) identified obesity as the sixth essential threat issues in the world, and this were deduced from the number of deaths. Overweight and obesity were publicly declared to be long-lasting conditions if not treated, considering the associated morbidity and mortality. It has been reported that higher Body Mass Index (BMI) and the associated disease conditions such as; cardiovascular diseases, respiratory disorder and diabetes have caused more than 2.5 million deaths on each year, and this figure is likely to double by 2030. These conditions now occur in several parts of the globe and in extensive proportion that many may refer to it as an epidemic (WHO, 2000).

Obesity and overweight are conditions caused by the gross accumulation of body fat in adipose tissue, which escalates to the level that affected the health and wellbeing of human being (WHO, 2000). This can be ascertained through several factors leading to high prevalence of overweight and obesity within an environment that created circumstances we encountered daily that leads us towards fatness (Rolfes, Pinna and Whitney, 2006). Furthermore, these factors leads to the reduction of energy expenditure by promoting sedentary lifestyle and cultural standard (Mokhtar et al., 2001; Proper, Cerin, Brown and Owen, 2007), through declining of physical activity where by individuals depends more on personal and public vehicles such as cars, buses and motorcycles to move around within the shortest of distance and the availability and accessibility of amenities such as neighbourhood or environment infrastructures (Kimani and Okwemba, 2007; Oyeyemi et al., 2012; Bourdeaudhuij et al., 2015). Also, there has been a shift to an elevated caloric content diet and at present the environment exposes people to an abundance of high fat foods that are readily available, relatively inexpensive, heavily advertised and reasonable tasty. The frequency of eating outside has increased as results of fast foods are available everywhere all the time and this is being served in larger qualities or sizes (Belue et al., 2009). Weight reduction is difficult especially in an environment that does not support changes. Furthermore, there is a need to focus on various factors that influencing the reduction of overweight and obesity prevalence rate.

Overweight or obese contributed expensively towards the morbidity and mortality rates in diverse countries around the world. For that reason, the general aim of this research was to determine the current epidemiological information on the prevalence of adult overweight and obesity especially in Esan ethnicity, Nigeria. The determinants such as socio-demographic and economic, cultural perception of weight, psychological, perceived environmental and behaviour associated with these conditions were ascertained.

1.2 Problem statement

In several parts of the world, overweight and obesity have been on the rapid increased, and these problems was not restricted to only developed country, but also affected the developing country as well and which resulted to an increased chronic non-communicable diseases (NCDs) that is considered the leading cause of mortality worldwide (WHO, 2011). In Nigeria, the burden of NCDs was vast and conspicuous (Ekpenyong, Udokang, Akpan and Samson, 2012). NCDs have been reported to account for about 24% of total deaths (7% for cardiovascular diseases, 2% for diabetes, 1% for chronic respiratory diseases, 3% for cancer and 11% for obesity and other NCDs) within the country (WHO, 2014). WHO (2002) predicted that by 2016 overweight and obesity will rise from 30% - 41% and other studies alongside WHO also revealed that the prevalence of overweight and obesity was between 28% - 64% from 2008 – 2016 (Desalu, Salami, Oluboyo, and Olarinoye, 2008; Ekpenyong et al., 2011; Mwuese and Okpara, 2013; Omoleke, Oyeyemi, Umar and Oyeyemi, 2013; Adebayo et al., 2014; Akarolo-Anthony, Willett, Spiegelman and Adebamowo, 2014; WHO, 2016). This further proved that Nigeria is among the countries with high trend of overweight and obesity level but not with the highest trend in the world.

However researchers have studied the determinants or associated factors on overweight and obesity among adult in Nigeria using terms like determinants of adult overweight and obesity, prevalence of adult overweight and obesity, factors associated with adult overweight and obesity (Akarolo-Anthony et al., 2014; Adebayo et al., 2014; Ekpenyong et al., 2011; Desalu et al ., 2008; Omoleke et al., 2013; oyeyemi et al., 2012) which further indicates that there are limited studies on interconnected determinants that affect overweight and obesity among adult in Sub-Sahara Africa that could influence this disease positively or negatively.

This also implied that the issues have not been well investigated on the different factors leading to poor understood as a result of inadequate in comprehensive analysis. These combined determinants could affect individuals at a particular period and making it difficult to weight loss (Scott, Ejikeme, Clottey and Thomas, 2012). These combined associated factors contributed to the development of overweight and obesity such as; socio-demographic and economic factors, cultural perception of weight, psychological factors, perceived environmental factor and behaviour factor. Thus, this knowledge gap is a serious setback for the advancement of public health as regards to adequate analysis of overweight and obesity due to the lack of

operational policy or strategy to reduce overweight and obesity in Nigeria (WHO, 2016).

1.3 Significance of the Study

The goal of this study was to ascertained the prevalence and obtain a better understanding on the determinants of overweight and obesity. The findings of this study will be helpful to the health sector in enhancing the mobilization and allocation of resources for effective monitoring, control and prevention of obesity and overweight conditions. However, this study looks at socio-demographic and economic, cultural, psychological, environmental and behavioural factors respectively. This has provided crucial information on the need for multidisciplinary intervention, in order to overcome the increased trend of overweight and obesity. By publishing the findings of this study, which could be compared with other researches to improve the efforts to overcome the overweight and obesity problems.

1.4 Research questions

1.4.1 What is the prevalence of overweight and obesity among adult population in Ekpoma Esan west Edo State Nigeria?

1.4.2 Is there an association between socio-demographic characteristics such as; age, gender, marital status, ethnicity and overweight and obesity among adult population in Ekpoma, Esan west Edo State Nigeria?

1.4.3 Is there an association socio-economic factors such as; education level, occupations, monthly income and overweight and obesity among adult population in Ekpoma, Esan west Edo State Nigeria?

1.4.4 Is there an association between cultural perception of weight such as; cultural perception towards fat women, men and overweight and obesity among adult population in Ekpoma, Esan west Edo State Nigeria?

1.4.5 Is there an association between psychological factor such as; depression, anxiety, stress and overweight and obesity among adult population in Ekpoma, Esan West EdoState Nigeria?

1.4.6 Is there an association between perceived environmental factor such as; perceived access, safety and overweight and obesity among adult in Ekpoma, Esan West Edo State Nigeria?

1.4.7 Is there an association between behaviour factor such as; frequency of eating outside, physical activity and the overweight and obesity among adult population in Ekpoma, Esan West Edo State Nigeria?

1.4.5 What are the predicting factors of overweight and obesity among adult population in Ekpoma, Esan west Edo State Nigeria?

1.5 Study Objectives

1.5.1 General Objective

The purpose of this study is to identify the prevalence and determinants of overweight and obesity among adult population in Ekpoma, Esan West Edo- State, Nigeria.

1.5.2 Specific Objectives

The specific objectives of this study are:

(i) To determine the prevalence of overweight and obesity among adult population in Ekpoma Esan West Edo-State, Nigeria.

(ii) To examine the distribution of respondents according to socio-demographic characteristics, socio-economic factor, cultural perception of weight, psychological factor, perceived environmental factor, behaviour factor and obesity and overweight among adult population in Ekpoma Esan West Edo-State, Nigeria.

(iii) To determine the association between the socio-demographic characteristics such as; age, gender, marital status, ethnicity and overweight and obesity among adult population in Ekpoma Esan West Edo-State, Nigeria.

(iv) To identify the association between socio-economic factors such as; educational status, occupations, monthly income and the overweight and obesity among adult population in Ekpoma Esan West Edo-State, Nigeria.

(v) To determine the association between the cultural perception of weight such as; cultural perception towards fat women, men and overweight and obesity among adult population in Ekpoma, Esan West Edo State Nigeria

(vi) To determine the association between psychological factor such as; depression, anxiety, stress and overweight and obesity among adult population in Ekpoma Esan West Edo State Nigeria

(vii) To determine the association between perceived environmental factor such as; perceived access, safety and the overweight and obesity among adult population in Ekpoma Esan West Edo State Nigeria

(viii) To determine the association between the behaviour factor such as; frequency of eating outside, physical activity and overweight and obesity among adult population in Ekpoma Esan West Edo State Nigeria

(vi) To determine the predictors of overweight and obesity among the adult population in Ekpoma, Esan West Edo State Nigeria.

1.6 Research hypothesis

These research hypotheses were deduced from the objectives, so as to justify and test the research study effectively.

H_1: There is a significant association between socio-demographic characteristics such as; age, gender, marital status, ethnicity and overweight and obesity among adult population in Ekpoma Esan West Edo-State, Nigeria;

H_2: There is a significant association between socio-economic factors such as; educational status, occupation, monthly income and overweight and obesity among adult population in Ekpoma Esan Wes Edo State, Nigeria;

H_3: There is a significant association between cultural perception of weight such as; cultural perception towards fat women, men and overweight and obesity among adult population in Ekpoma Esan West Edo State, Nigeria.

H_4: There is a significant association between psychological factors such as; depression, anxiety, stress and overweight and obesity among adult in Ekpoma Esan West Edo State Nigeria.

H_5: There is a significant association between perceived environmental factors such as; perceived access, safety and overweight and obesity among adult population in Ekpoma Esan West Edo State Nigeria.

H_6: There is a significant association between behaviour factors such as; frequency of eating outside, physical activity and overweight and obesity among adult population in Ekpoma Esan West Edo State Nigeria.

H_7: There is a significant relationship between predictors of overweight and obesity among adult population in Ekpoma Esan West Edo State Nigeria.

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