

Al-Quds University

Deanship of Graduate Studies



**Determinants of Overweight and Obesity among
University Students in the Gaza Strip: Cross-
sectional Study**

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MPH Thesis

Jerusalem-Palestine

2017/ 1438

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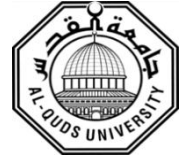
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A Thesis Submitted in Partial Fulfillment of Requirements
for the Master Degree of Public Health\Epidemiology.
Al-Quds University

2017/ 1438



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Determinants of Overweight and Obesity among University Students in the Gaza Strip: Cross-sectional Study

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Jerusalem-Palestine

1438/2017

Dedication

To whom they strive and never stint what they own to push me in the success way...

Who motivated me to climb the life stairs wisely and patiently ... To my father and my mother

To my brothers and sisters

And

To my grandfather and grandmother

Shoroq H. Abu Hamad

Declaration

I certify that this thesis submitted for the degree of master is the result of my own research, except where otherwise acknowledged, and that this thesis or any of its parts has not been submitted for higher degree to any other university or institution.

Signed:

Date:

Acknowledgement

This study would not be feasible without the guidance and assistance of many individuals who helped me to overcome all the obstacles I have faced during completion of this study.

- My deep gratitude to my advisor Dr. Khitam Abu Hamad for her inspiration, guidance and unlimited support. I am very grateful for her advice and encouragement.
- I am grateful for Dr. Yehia Abed and Dr. Bassam Abu Hamad.
- Deep appreciation to my parents for their motivation and support in my professional life
- My thanks go to the researchers who helped me in data collection
- I am grateful to the administrative staff of Al-Azhar University, Al-Aqsa University and Islamic University.
- Many thanks go to the experts who helped me in reviewing and revising the questionnaire.
- Deep thanks to all students who participated in the study because without them this work could not be accomplished.

Shoroq H. Abu Hamad

Abstract

Obesity is considered the main driver to the global burden of non-communicable disease and disability, affecting all ages and socio-demographic groups in developed and developing countries. Globally, obesity is a serious health issue among university students. This cross-sectional study was carried out to assess the prevalence and the determinants of overweight and obesity among university's students in the Gaza Strip.

The design of this study is a descriptive analytical cross sectional design. It is a quantitative research approach. This study was conducted at three universities in the Gaza Strip: Islamic University, Al-Aqsa University, and Al-Azhar University. Simple random sampling technique was used to select the three universities. In total, 400 students aged from 18-24 years, distributed as 200 male students and 200 female students were selected randomly through a simple random technique from the three universities. A face-to-face interview questionnaire was used in this study. Standardized measurements of students' height and weight were used, and the World Health Organization Body Mass Index was the standard for defining obesity and overweight. Analysis of the data was conducted using SPSS program, the analysis involved frequency distributions, chi-square and ANOVA tests.

The overall prevalence rates of overweight and obesity among university students were 18.8% and 20.8%, respectively. There was a significant association between overweight and obesity and some socio-economic factors such as being female, being at fourth or fifth studying year and had the average monthly income ranges from 2101 ILS to 3990 ILS. Age, marital status, number of family members and parent's years of schooling were not associated with the high risk of obesity. Selected life style factors were significantly associated with overweight and obesity such as being physically inactive, water-pipe smoking, less number of sleeping hours at night, high number of sleeping hours at the daytime, and spending much time sitting, studying, watching TV, and using social media, as well as, eating while studying, watching TV, and while using social media, have chips, soda drinks and hot drinks while studying and watching TV and have chips while using social media. Cigarette smoking and using video games were not associated with overweight and obesity among university students. Having un-healthy dietary habits was significantly associated with overweight and obesity such as skipping breakfast, having breakfast at university, snacking between breakfast and lunch, late-night snacking, having fast food, high consumption of fried food and carbohydrates, and low consumption of milk product. Daily number of consumed servings from fruits, vegetables and protein was not significantly associated with overweight and obesity. Eating due to emotions and stress was significantly associated with high risk of overweight and obesity. Socio-cultural factors such as physical look dissatisfaction, self-perception, parents-perception and peers-perception of the student's body image were significantly associated with overweight and obesity. Eating fast food at universities and preferring eating with peers were significantly associated with high risk of overweight and obesity. Medical factors were significantly associated with overweight and obesity among university students such as childhood obesity, parents, sisters and brother's obesity. Overweight and obesity is a problem among the university students in the GS. Intervention programs focused on promoting healthy life style, positive behaviors, good food habits, and increasing physical activity need to be implemented. There is a dire need to conduct health education campaigns that aim to increase students' awareness about obesity and its impact on morbidity and mortality. Also, universities should play an integral part of the fight against obesity epidemic through conducting university-based prevention programs that encourage students to eat better, be more active, and achieve healthier weights. There is a need to conduct more research including both qualitative and quantitative methods to deeply explore the associated factors with overweight and obesity among larger samples representing all Palestinian university students. Finally, there is a need to conduct research studies to investigate the issue of overweight and obesity among preschoolers, schoolchildren, and adolescents.

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Abbreviations

ACSM	American College of Sports Medicine
AED	Antiepileptic Drugs
ANOVA	Analysis of Variance
BID	Body Image Dissatisfaction
BMI	Body Mass Index
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Center of Disease Control and Prevention
CHD	Coronary Heart Disease
CS	Cushing's Syndrome
CVA	Cerebrovascular accident
DM	Diabetes Mellitus
DQI	Diet Quality Index
EADES	Eating and Appraisal Due to Emotions and Stress
EMR	Eastern Mediterranean Region
FFQ	Food Frequency Questionnaire
GDP	Gross Domestic Product
GPAQ	Global Physical Activity Questionnaire
GS	Gaza Strip
HDL	High-Density Lipoproteins
HSES	High Socioeconomic Status
IARC	International Agency for Research center
IASO	International Association for the Study of Obesity
IDF	International Diabetes Federation
IR	Insulin Resistance
LDL	Low-Density Lipoproteins
LSES	Low Socioeconomic Status
METs	Metabolic Equivalents
MoH	Ministry of Health
MoHE	Ministry of High Education
NCDs	Non-Communicable Diseases
OA	Osteoarthritis
PA	Physical Activity
PCBS	Palestinian Central Bureau of Statistics
PHE	Public Health England
POS	Polycystic Ovary Syndrome
REE	Resting Energy Expenditure
RF	Risk Factors
SES	Socioeconomic Status
SPSS	Statistical Package for the Social Science
SRI	Serotonin Reuptake Inhibitors
TPA	Total Physical Activity
UNRWA	United Nations Relief and Work Agency
US	United States
USD	United States Dollar
WB	West Bank
WC	Waist Circumference
WHO	World Health Organization
WHR	Waist-Hip Ratio

Chapter 1

Introduction

1.1 Background

In past decades, most societies have gone through social and economic changes that contributed to fundamental epidemiological shift of the main cause of mortality and morbidity from communicable diseases to the non-communicable diseases (NCDs) (Abdul-Rahim et al., 2001; Ulijaszek, 2007).

Currently, overweight and obesity are the most prevalent public health issues in the world as they contribute to different morbidities and mortalities as well (Calderon-Guzman et al., 2011). The definition of obesity has changed over the years; it is described as a state of excess weight that may have adverse effect on health; it is a chronic condition characterized by a long-term imbalance between calorie intake and energy consumption (Zabut et al., 2007). Among adults, obesity is defined by using the Body Mass Index (BMI), which is the ratio of weight in kilograms divided by the height in meters squared. According to BMI, overweight is defined as a BMI between 25.0 and 29.99 kg/m² and obesity is defined as BMI equal or greater than 30.0 kg/m² (WHO, 2016).

Overweight and obesity are considered to be the main driver to the global burden of non-communicable disease and disability, affecting all ages and sociodemographic groups in developed and developing countries (Nani et al., 2006). Obesity is a long-term complex public health issue, as it is the sixth most contributing factor of the global burden of diseases (Zlot et al., 2007). Worldwide, several studies have revealed that obesity is tremendously associated with NCDs, including Coronary Heart Disease (CHD), Hypertension, Diabetes Mellitus (DM), Gall Bladder disease, Osteoarthritis, Dyslipidemia, and certain types of cancer (Bodur et al., 2010; Musaiger, 2011). Generally, NCDs represent a real threat to human health and development; it is estimated that 38 million