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Assessment of risk factors for some lifestyle diseases among attendance of outpatient clinics in Al-Azhar university hospitals in Cairo

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بسم الله الرحمن الرحيم

" قالوا سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم الحكيم "

صدق الله العظيم

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List of contents

List of tables

List of figures

List of abbreviations

Abbreviation	Meaning
AAAL	arthritis-attributable activity limitation
ACE-I	angiotensin converting enzyme inhibitors
ALT	Alanine transaminase
aOR	adjusted odds ratio
AST	Aspartame transaminase
BMI	Body Mass Index
BMR	basal metabolic rate
BP	Blood Pressure
CCB	calcium channel blockers
CHD	congestive heart diseases
CI	confidence interval
CLA	Conjugated Linoleic Acid
COPD	chronic obstructive pulmonary disease
CVDs	cardiovascular diseases
DALYs	disability adjusted life years
DASH	Dietary Approaches to Stop Hypertension
DBP	Diastolic Blood Pressure
DVT	Deep Venous Thrombosis
e.g.	means for example (from the Latin word exempli gratia)
EMRO	Eastern Mediterranean Region Office
FDA	Food and Drug Approval
g	gram
GDP	global gross domestic product
GYTS	Global Youth Tobacco Survey
HDL	High Density Lipoprotein
HIV	Human Immune-suppressive virus
HTN	Hypertension
IDF	International Diabetes Foundation
IUGR	intrauterine growth restriction
Kg / m^2	Kilogram per meter square
LDL	Low Density Lipoprotein
L.E.	Egyptian pound

min	minute
mmol/ day	Milli-mol per day
MODY	maturity onset diabetes of the young
NIDDM	noninsulin-dependent diabetes mellitus
NRTs	Nicotine replacement therapy
OR	odds ratios
SBP	Systolic Blood Pressure
STD	sexually transmitted diseases
TNFα	Tissue Necrotizing Factor alpha
TV	Television
UK	United Kingdom
US	United States
US$	American dollar
USA	United States of America
WC	Waist Circumference
WHD	World Hypertension Day
WHL	The World Hypertension League
WHO	World Health Organization

Introduction

Lifestyles are the ways of living based on identifiable patterns of behavior which are determined by interplay between an individual personal characteristics, social interaction, and socio-economic and environmental living conditions**. (EMRO 2001)**

Lifestyle diseases are defined as diseases of long duration, related to behavioral style and are generally slow in progression. Lifestyle diseases are the leading cause of adult mortality and morbidity worldwide. Four main diseases are generally considered to dominate lifestyle diseases mortality and morbidity: cardiovascular diseases (including heart disease and stroke), diabetes, cancers and chronic respiratory diseases (including chronic obstructive pulmonary disease (COPD) and asthma). These four lifestyle diseases are caused, to a large extent, by four modifiable behavioral risk factors: tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol. **(WHO 2011a)**

Lifestyle diseases have now reached epidemic proportions in many countries. Lifestyle diseases hit hardest at the world's low- and middle-income groups and place a tremendous demand on health systems and social welfare, cause decreased productivity in the workplace, prolong disability and diminish resources within families. Globally, lifestyle diseases are

estimated to cost more than US$ 30 trillion over the next 20 years, representing 48% of global gross domestic product (GDP) in 2010. **(WHO 2011a)**

Lifestyle diseases are expected to rise substantially in the coming decades, partly due to a growing ageing global population. Further, as urbanization and globalization increase in the developing world, there is likely to be an increase in the prevalence lifestyle diseases. Therefore, unless the lifestyle diseases epidemic is aggressively confronted, the mounting impact of lifestyle diseases will continue unabated. **(WHO 2011b)**

In 2008, 63% (36 of 57 million) deaths worldwide occurred due to Lifestyle diseases. These deaths are distributed widely among people from high-income to low-income countries. About one-quarter of all lifestyle diseases deaths were below the age of 60, amounting to approximately 9 million deaths per year. Ninety percent of premature deaths from lifestyle diseases occur in developing countries. Nearly 80% of lifestyle diseases deaths (29 million) occur in low- and middle-income countries. The leading causes of lifestyle diseases deaths in 2008 were cardiovascular diseases (17 million deaths, or 48% of lifestyle diseases deaths); cancers (7.6 million, or 21% of lifestyle diseases deaths); and respiratory diseases, including asthma and COPD (4.2 million). Diabetes caused an additional

1.3 million deaths. Over 80% of cardiovascular and diabetes deaths, and almost 90%of deaths from COPD, occurred in low- and middle-income countries. Lifestyle diseases deaths are projected to increase by 15% globally between 2010 and 2020 (to 44 million deaths) and annual lifestyle diseases deaths are projected to rise substantially, to 52 million by 2030. The greatest increases will be in the WHO regions of Africa, South-East Asia and the Eastern Mediterranean, where they will increase by over 20%. Lifestyle diseases mortality already exceeds that of communicable diseases, maternal and perinatal conditions, and nutritional deficiencies combined in all Regions with the exception of the African Region. It is projected that over the next 20 years, annual infectious disease deaths will decline by around 7 million, but annual cardiovascular disease mortality will increase by 6 million and annual cancer deaths by 4 million. By 2030, in low- and middle-income countries, Lifestyle diseases will be responsible for three times as many disability adjusted life years (DALYs) and nearly five times the mortality from communicable diseases, as well as from maternal and perinatal conditions, and nutritional deficiencies combined. **(WHO 2011b)**

The good news is that lifestyle diseases are largely preventable through interventions and policies that reduce the major risk factors. Many preventive measures are cost-effective, including that for low-income countries. Lifestyle diseases

prevention can avert millions of deaths and reduce billions of dollars in economic losses. A recent WHO report underlines that population based measures for reducing tobacco and harmful use of alcohol, as well as unhealthy diet and physical inactivity, are estimated to cost US$ 2 billion per year for all low- and middle-income countries, which translates to less than US$ 0.40 per person. **(WHO 2011c)**

Numerous options are available to prevent and control lifestyle diseases, such as the WHO identified set of interventions called “Best Buys”. Lifestyle diseases prevention can be further strengthened by implementing programmes aimed at behavior change among youth and adolescents, and more cost-effective models of care. Cost-effective nutritional policies, such as salt reduction initiatives in the United Kingdom, Finland, France, Ireland and Japan, have demonstrated positive and measurable results. Declines in tobacco use prevalence are apparent in several high-income countries (e.g. Australia, Canada, Finland, the Netherlands and the United Kingdom). Some low- and middle-income countries have also documented decline in tobacco use prevalence (Egypt, Mexico, Uruguay and Turkey). A number of low- and middle-income countries (e.g. Egypt, Pakistan, Turkey and the Ukraine) recently increased taxes on tobacco products, generating substantial revenues and saving lives. **(WHO 2011b)**

Egypt suffers from a double disease burden, that of communicable diseases that remain an important public health problem, as well as lifestyle diseases that have emerged as the leading cause of death. The emergence of lifestyle diseases as a public health problem in Egypt mainly from epidemiological transition, characterized by a change in disease patterns from infectious diseases to lifestyle diseases, and from a demographic transition due to increased longevity and a rise in ageing population. The challenges in addressing lifestyle diseases in Egypt calls for a paradigm shift in approach: from a clinical approach to a more comprehensive approach; from using a biomedical approach to a public health approach and from addressing each lifestyle diseases separately to collectively addressing a cluster of diseases in an integrated manner. This lifestyle diseases status report describes the regional burden of lifestyle diseases, their risk factors and socio-economic determinants **(WHO 2011b).**

Chapter (1): some risk factors of life style diseases:

Risk factors of life style diseases include:

1) *Biological factors* as early life origin and stunted children are more susceptible for hypercholesterolemia, obesity and hypertension.
2) *Genetics factors* as Indian population are more insulin resistant than other ethnic groups.
3) *Behavioral risk factors* as tobacco use, alcohol abuse, unhealthy diet consumption and physical inactivity.
4) *Environmental factors* as obesogenic environment and environmental barriers for physical activity.
5) *Socio-cultural factors* as beliefs and attitudes about body image of some individuals **(Steyn et al., 2006).**

In our study, we focused on four behavioral lifestyle risk factors which are tobacco use, alcohol abuse, unhealthy diet consumption and physical inactivity; as they are related to lifestyle and are preventable.

In eastern Mediterranean region, lifestyles risk factors related to poor nutrition, use of tobacco, alcohol and other drugs, risky sexual behavior, stress and other mental disorders, violence, injures, environmental hazards and physical inactivity are highly prevalent**.** These risk factors contribute to the reported increase in incidence of lifestyle diseases such as diabetes, obesity, cardiovascular disease,