

Factors Affecting Type 2 Diabetes in The Middle East and North Africa.docx

by Lokman Mohd Fadzil

Submission date: 27-Jul-2025 10:41PM (UTC+0800)

Submission ID: 2721163478

File name: Factors_Affecting_Type_2_Diabetes_in_The_Middle_East_and_North_Africa.docx (26.13K)

Word count: 1698

Character count: 9663

Factors Affecting Type 2 Diabetes in the Middle East and North Africa

Introduction

Diabetes is a persistent global health problem worldwide. The International Diabetes Federation estimates that approximately 537 million people are affected, with 90% to 95% of them having type 2 diabetes. Studies have shown that by 2050, diabetes will affect one-third of the world's population.

Diabetes is widespread among populations worldwide. It is a global public health concern and the seventh leading cause of death worldwide. The Middle East and North Africa region has the second highest prevalence of diabetes. In fact, six of the ten countries with the highest prevalence of diabetes in the world are Arab countries: Saudi Arabia, Oman, Kuwait, Bahrain, Lebanon, and the United Arab Emirates.

The prevalence rate reached 12.2%, with 1 in 8 adults suffering from diabetes. It is also considered a health challenge that has caused the death of more than 10% of affected adults. Unfortunately, half of these individuals are from the productive age group, whose loss has a significant negative impact on the national product.

To simply define diabetes, it's a chronic disease caused by the body's insufficient production of the hormone insulin. Diabetes is diagnosed by monitoring blood glucose levels, which are often elevated.

Insulin is a hormone secreted by the pancreas, which transports glucose from the blood into the body's cells to be used as energy. Any deficiency or absence of insulin results in glucose remaining in the blood. Over time, high glucose levels can damage body tissues and cause serious life-threatening complications. Most people with type 2 diabetes have at least one underlying medical condition, and some suffer from more than one, such as kidney disease, heart disease, or high blood pressure.

Problem Statement:

Diabetes has become widespread in the Middle East for several reasons. To understand the reasons for its spread, this simple study reviewed published scientific research using the search engine (Google Scholar, PubMed and Research Gate).

Studies have shown that Arab countries can be divided into four geographic regions based on their geographic location, economic capacity, and the significant decline in physical activity that has led to the spread of obesity, lifestyle changes, and rising incomes, which has

led to increased calorie consumption. Arab countries can be divided into four geographic regions:

1/ The Arabian Peninsula, with Saudi Arabia leading the way with 25.4%, the highest. Oman also had 13.5%, Qatar 18.9%, and Yemen had the lowest with 10.4% .

2/ Iraq and the Levant, with Iraq at the top of the list at 19.7% and Palestine at the bottom .at 12%

3 / Northeast Africa Egypt 15.2%, Sudan 14.1% and Libya 19%.

4/ Northwest Africa: The Arab countries with the least spread were Tunisia 15.1%, Algeria 12.29%, and Morocco 12.4%, while Mauritania was the least spread Arab country with 4.7%

Sample

There was a study on type 2 diabetes in the most prevalent Arab country, Saudi Arabia. The prevalence rate was 25.5% in urban areas and 19.5% in rural areas

A sample of 283 type 2 diabetes patients was selected from among Saudi citizens aged 30-70 years through random sampling in healthcare centers in Qassim during 2009. Family history, dietary habits, and physical activity were studied

Results

The study revealed a strong relationship between diabetes and family history, lack of exercise, and a Food that included regular consumption of kabsa (95%), vegetables (95%), .(95%) dates (95%), and a sedentary lifestyle

:All studies agree on these key points

Economic growth and lifestyle transformation Economic growth, infrastructure development, and rapid urbanization over the past few years have impacted lifestyles and, consequently, health and social aspects

Diet and Physical Activity:

The improved standard of living, characterized by an unhealthy diet and the proliferation of fast food, has played a role in the rise in obesity rates. It is well known that a 20% increase in food calories increases the risk of type 2 diabetes (as large quantities of foods high in fat, carbohydrates, and sugars are consumed). In addition, a sedentary lifestyle has led to a decrease in physical activity, which in turn leads to higher rates of obesity.

:Genetics

Recent studies in genetic research related to type 2 diabetes utilize family history, as the incidence rate is higher among consanguineous marriages

Arabs are considered more susceptible to type 2 diabetes than others. This is due to genetic factors, which play a major role in the prevalence of diabetes in the Middle East.

Consanguineous marriage also plays a role in the genetic makeup that causes the disease. Consanguineous marriages in Arab societies are among the highest in the world. It is noted that infection rates are higher in some Arab families where consanguineous marriages are common

There are also other causes, including smoking. There is also an environmental factor that affects it. There is a study that confirms that individuals of other ethnicities are infected when they move to work in these countries and live in their environment. Consequently, their biological clock changes, their eating pattern changes, and there is a lack of physical activity, which makes them vulnerable to the disease and then to diabetes. The prevalence of diabetes in urban areas is much higher than in rural areas

There are risk factors and complications

Risk factors can be classified into two categories

1/ Modifiable risk factors

Modifying a diet high in saturated fats and simple carbohydrates to a healthy, balanced, and varied diet

Low levels of physical activity and lifestyle changes to reduce obesity, including regular, modest exercise

2/ Non-modifiable risk factors

Age (over 45 years)

Family history of diabetes

Gestational diabetes

Diabetes can lead to serious complications if not managed properly. Diabetics have a 2-4 times greater risk of developing coronary artery disease and a 3 times greater risk of stroke. Diabetes also leads to atherosclerosis, diabetic retinopathy, and dialysis

..

All studies have agreed on several factors that influence diabetes. Therefore, it is important to enhance communication between healthcare professionals to develop an ideal plan for

each patient and use the (0) program to improve control of blood sugar levels and implement it

Finally, we hope that Middle Eastern governments will pay more attention to healthcare, spread awareness about healthy eating and the importance of exercise more widely, and enhance communication between healthcare professionals to develop an optimal plan for each patient

Synthesis Matrix for Literature Review:

Study	Authors	Year	Research Design	Key Findings/Results
Diabetes is an epidemic sweeping the Arab world, and the role of society and institutions in limiting its spread	Khaled Ali Al-Rubaian	2023	Analytical	This study clarified the extent of the problem, the reasons for its spread, and the various risk factors. It also stated that there is a direct relationship between diabetes and high-income countries, which is accompanied by a change in lifestyle, which is also reflected in the spread of obesity
Type II Diabetes Mellitus in Arabic-Speaking Countries	Mohammad Badran , Ismail Laher	2012	Analytical	The study predicted that the number of patients would increase to 530 million by 2030. The results revealed that deaths reached 4.6 million in 2011, with ages ranging from 20 to 79. This represents 8.9%, or one death every 7 seconds. This study identified the risk factors for type 2 diabetes, its complications, associated factors, costs, prevention methods, and future outlook
Lifestyle related risk factors of type 2 diabetes mellitus in Saudi Arabia	Farid M Midhet Fawzy Khalil Sharaf Abdulrahman Al-Mohaimeed	2010	Analytical	This study demonstrated the effect of diet, in addition to other factors, on type 2 diabetes in the Kingdom of Saudi Arabia. A random sample of Saudis was selected, including 283 patients and 215 controls without diabetes, in healthcare centers in Qassim in 2009

1 Epidemiology of type 2 diabetes in the Middle East and North Africa: Challenges and call for action	1 , Imad M El-Kebbi Nayda H Bidikian , Layal Hneiny , Mona Philippe Nasrallah	2021	Analytical	This study indicates that the Middle East is expected to witness a 96% increase in the prevalence of type 2 diabetes between 2019 and 2045. Despite the heterogeneity of Middle Eastern countries in terms of income, population size, and political and social stability, the prevalence of the disease remains high. It also discusses the impact of urban and rural areas on diabetes, its risk factors, complications, and .challenges
2 Prevalence and Co-prevalence of Comorbidities among Patients with Type 2 Diabetes Mellitus in the MENA Region: A Systematic Review	Samir Assaad Khalil1, Sami Azar2, Khadija Hafidh3, George Ayad4 and Mohamed Safwat5	2024	Analytical	This study demonstrated that individuals with type 2 diabetes in the Middle East are likely to be living with other chronic health conditions, and therefore the importance of communication between specialists to develop an appropriate plan for each .patient
Effectiveness of Diabetes Self-Management Educational Programs For Type 2 Diabetes Mellitus Patients In Middle East Countries: A Systematic Review	2 Ehab Mudher Mikhael ,Mohamed Azmi Hassali & Saad Abdulrahman Hussain	2020		This study aims to explain the characteristics of the DSME program, its impact on several factors, and its effectiveness in improving blood sugar control and reducing the risk of .diabetes complications

References:

- 1\
Al-Rubaian, KH.A.(2023) Diabetes is an epidemic sweeping the Arab world, and the role of society and institutions in limiting its spread. Arab Journal for Scientific Research.
<https://www.qscience.com/content/journals/10.5339/ajsr.2023.10>

Google Scholar

2\

Badran .M .& Laher.I. (2012) Type II Diabetes Mellitus in Arabic-Speaking Countries.
International journal of Endocrinology.

<https://onlinelibrary.wiley.com/doi/full/10.1155/2012/902873>

Google Scholar

3\

Midhet.F.M, Sharaf.F.KH & Al-Mohaimeed.A (2010) .Lifestyle related risk factors of type 2 diabetes mellitus in Saudi Arabia.

https://www.researchgate.net/publication/45200580_Lifestyle_related_risk_factors_of_type_2_diabetes_mellitus_in_Saudi_Arabia

ResearchGate

4\

El-Kebbi.I.M ,Bidikian .N.H , Hneiny.I & Nasrallah.M.PH (2021). Epidemiology of type2 diabetes in the Middle East and North Africa :Challenges and call for action . National Library of Medicine <https://pmc.ncbi.nlm.nih.gov/articles/PMC8472500/#abstract1>

PubMed

5\

Khalil .S.A , Azar .S, Hafidh.KH , Ayad.G & Safwat.M (2024) Prevalence and Co-prevalence of Comorbidities among Patients with Type 2 Diabetes Mellitus in the MENA Region : A Systematic Review .Bentham Science .

<https://www.benthamdirect.com/content/journals/cdr/10.2174/1573399820666230731105704>

Google Scholar

6\

Mikhael.E.M, Hassali.M.A ,& Hassain.S.A (2020) Effectiveness of diabetes self-management educational programs for type 2 diabetes mellitus patients in Middle East countries: A Systematic Review. Diabetes, Metabolic Syndrome and Obesity

<https://www.tandfonline.com/doi/full/10.2147/DMSO.S232958#d1e145>

Google Scholar

Alaa Mohammed Hassan

252000381

Factors Affecting Type 2 Diabetes in The Middle East and North Africa.docx

ORIGINALITY REPORT

23%

SIMILARITY INDEX

22%

INTERNET SOURCES

14%

PUBLICATIONS

10%

STUDENT PAPERS

PRIMARY SOURCES

1	red.library.usd.edu Internet Source	4%
2	benthamscience.com Internet Source	3%
3	www.dovepress.com Internet Source	2%
4	docplayer.net Internet Source	1%
5	www.expatswoman.com Internet Source	1%
6	www.ncbi.nlm.nih.gov Internet Source	1%
7	Submitted to Flinders University Student Paper	1%
8	Submitted to Fresno City College Student Paper	1%
9	www.nature.com Internet Source	1%
10	www.ijmrhs.com Internet Source	1%
11	Submitted to University of Edinburgh Student Paper	1%
12	core.ac.uk Internet Source	1%

13	Internet Source	1 %
14	jehp.mui.ac.ir Internet Source	1 %
15	www.omniapartners.com Internet Source	1 %
16	www.researchgate.net Internet Source	1 %
17	stars.library.ucf.edu Internet Source	1 %
18	ipsnews.net Internet Source	1 %
19	salford-repository.worktribe.com Internet Source	1 %
20	www.scienceandnature.org Internet Source	1 %
21	Samir Assaad Khalil, Sami Azar, Khadija Hafidh, George Ayad, Mohamed Safwat. "Prevalence and Co-prevalence of Comorbidities among Patients with Type 2 Diabetes Mellitus in the MENA Region: A Systematic Review", Current Diabetes Reviews, 2024 Publication	<1 %

Exclude quotes Off

Exclude matches Off

Exclude bibliography On

Factors Affecting Type 2 Diabetes in The Middle East and North Africa.docx

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

/0

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6