

PREVALENCE OF DIABETES MELLITUS AND IMPAIRED FASTING GLUCOSE IN ADULT POPULATION AT BASHAER ELKHIER, WEST OF ALEXANDRIA GOVERNORATE

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INTRODUCTION

Diabetes mellitus is a common disease worldwide. The prevalence and incidence of diabetes is increasing in most populations all over the world, being more prominent in developing countries. The prevalence of DM varies widely among populations, due to differences in environmental factors and genetic susceptibility.⁽¹⁾ It is generally accepted that urbanization adversely affects prevalence of the disease, with rates significantly higher in urban than in rural communities.⁽²⁾

Egypt occupies the 1st rank in Middle East and North Africa while the 8th in world in terms of the number of people diagnosed with diabetes mellitus (8.2 million) in 2017 for adults aged 20-99 years old, moreover it is expected to jump 2 places to rank the 6th in world (16.7 million) by 2045. Half of those (49%) have not been diagnosed and are at a higher risk of developing harmful and costly chronic complications.⁽³⁾

AIM OF THE WORK

The aim of this study was to determine prevalence of diagnosed & undiagnosed diabetes mellitus and impaired fasting glucose in cohort of adult Egyptian individuals living at semi urban new area Bachaer-Elkhier, West of Alexandria Governorate over three months January, February and March 2020.

PATIENTS AND METHODS

PATIENTS:

This study will be conducted in a semi urban new area Bachaer-Elkhier, West of Alexandria Governorate over 3 months January, February, and March 2020. The material of this study will include 1000 adult inhabitants of this area, who are coming from different slums at Alexandria city.

The subjects were selected at random by taking roughly one house every 10 houses of the whole area. 10% of the population living at this area will be chosen for the study. The subjects of the study will cover different age groups who are above the age of 20 regardless of he or she had diabetes.

METHODS:

• Sampling:

The study sample size will be 1000 adult peoples. The sample will be selected randomly where all subjects fulfilling the selection criteria over 3 months January, February, and March 2020.

Exclusion criteria:

- Age less than 20 years old.
- Subjects refused to give his or her consent.

Study procedures:

- All men and women ≥ 20 years of age will be included.
- Subjects will be informed about the objectives, and procedural details of the study.
- After providing an informed consent, each participant will be interviewed after overnight fasting for at least 8 up to 12 hours. No special diet or restriction will be recommended the day before the investigation.
- **After estimation of FPG, the participants will be classified into normal and abnormal fasting blood glucose based on ADA criteria:**
 - FPG < 100 mg/dl (5.6 mmol /L): normal fasting glucose level.
 - FPG 100 – 125 mg/dl (5.6 – 6.9 mmol/L): impaired fasting glucose (IFG).
 - FPG ≥ 126 mg/dl (7.0 mmol /L): professional diagnosis of diabetes mellitus (the diagnosis will be confirmed by measurement of another FPG).

RESULTS

Table 1: Distribution of studied-cases according to fasting plasma glucose (n=1000)

FBG (mg/dl)	No.	%
Normal (<100)	620	62.0
IFG (100–125)	202	20.2
DM (≥ 126)	178	17.8
Min. – Max.	70.0 – 503.0	
Mean \pm SD.	115.34 \pm 52.10	
Median (IQR)	96.0 (90.0 – 120.0)	

Table 2: Distribution of known diabetics and newly diagnosed diabetics in the studied population

Diabetic cases	No.	%
Known diabetics	151	84.8
Newly diagnosed diabetics	27	15.2
Total	178	100.0

Table 3: Distribution of Types of DM in the studied population for known diabetics

Type of DM	No.	%
Type 1	42	27.8
Type 2	107	70.9
GDM	2	1.3
Total	151	100.0

CONCLUSION

1. Our study showed increased prevalence of IFG and DM among adult Egyptian population with a proportion of IFG and DM remains undiagnosed.
2. The important factors that were related to DM & IFG were; age, gender, hypertension, and obesity.
3. In Egypt DM has now become a significant public health issue. The burden of disability and fatalities from DM will be significant in the coming years if effective management measures are not followed.

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