

An Epidemiological study on Diabetes mellitus in a slum of Kolkata City in

West Bengal , India

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INTRODUCTION

- ❖ Diabetes mellitus is a multisystem disorder and it is a silent killer of the century.
- ❖ Diabetes mellitus is one of the very important risk factor for Cardiovascular, Renal , Ophthalmic and other disorders which are responsible for disability and even death.
- ❖ The Indian sub-continent is the Diabetic Capital of the world. The prevalence of disease in Indian adults was found to be 2.4 percent in rural and 4.0-11.6 percent in urban dwellers.¹

Collection of blood sample



OBJECTIVES

1. To estimate the prevalence of diabetes mellitus among ≥ 35 years adult slum dwellers of Kolkata (slum population of Chetla), West Bengal , India .
2. To determine the association of the biosocial risk factors with diabetes mellitus among the study population.

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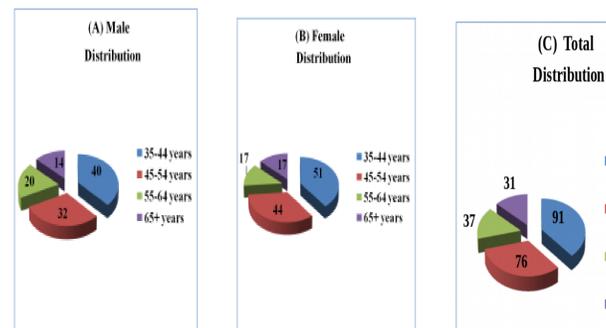
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METHODOLOGY

- Study Type** • A community-based cross-sectional observational study.
- Study Period** • The study was conducted for the period of 6 months (October,2011 to March, 2012)
- Study setting:** • The study was conducted in the slum area of Chetla , Kolkata, West Bengal , India .
- Study population** • The population aged ≥ 35 years residing in the urban slum community of Chetla, Kolkata comprise of the study population.
- Sample size** • 235 subjects or individuals aged ≥ 35 years had been taken in this study by Simple Random Sampling.
- Study tools** • Pre-designed and pre-tested semi-structured schedule with few open ended questions

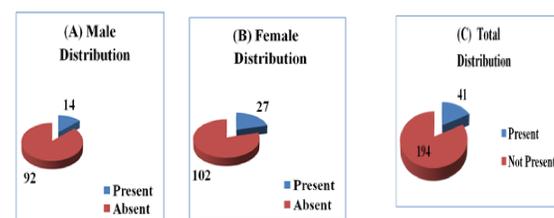
RESULTS

Figure 1 : Pie charts (A), (B) and (C) showing distribution of the study subjects according to Age (in years)



RESULTS (CONTD)

Figure 2: Pie charts (A), (B) and (C) showing distribution of the study subjects according to presence of Diabetes mellitus



Out of 235 study participants , Prevalence of diabetes mellitus was found to be 17.45% with prevalence of 20.93% among the female and 13.21% among the male.

RESULTS (CONTD)

Table 1 : Association of different Bio-social factors with Diabetes mellitus

Serial No.	Different factors	Total number(%)	Statistical Association
1.	Age group (45-54years)	12 (15.79%)	df=3. Chi square =19.496, p value<0.05
2.	Females	27 (20.93%)	df=1 Chi square=2.421, pvalue>0.05
3.	Illiterate	12 (18.76%)	df=5. Chi square=0.599, p value>0.05
4.	Tobacco use	25 (21.74%)	df=2 Chi square = 9.272, p value < 0,05
5.	Alcohol use	7 (25.93%)	df =2 Chi square=11.533 p value <0.05

Table 1 (Contd)

Serial No.	Different factors	Total number(%)	Statistical Association
6.	No intake of green leafy vegetables	7 (46.67%)	df=1 Chi square 9.5 p value<0.05
7.	No intake of fruits	28 (24.35%)	df=1 Chi square =7.45 p value<0.05
8.	Intake of junk food	7 (41.18%)	df=1 Chi square=7.165 p value<0.05
9.	No physical exercise	22 (39.29%)	df.=1 Chi-Square =24.345 p-value= <0.05

Table 1 (Contd)

Serial No.	Different factors	Total number(%)	Statistical Association
10.	Hypercholesterolemia (blood cholesterol level ≥ 240 mg/dl)	12 (50%)	df.=1 Chi-Square =19.67 p-value= <0.05.
11.	Family history of Diabetes mellitus	20 (32.26%)	df =1 Chi square = 12.83 p value<0.05
12.	Obesity (BMI ≥ 30)	9 (37.5%)	df=1 Chi square =7.45 p value<0.05
13.	Obesity (Increased waist hip ratio)	19 (24.36%)	df=1 Chi square =3.87 p value<0.05
14.	Hypertension (blood pressure ≥ 140 mm of Hg)	22 (31.88%)	d.f.=1 Chi-Square =14.14 p-value= <0.05.

DISCUSSION

❖ In the present study, the prevalence of diabetes mellitus was found to be 17.45% (male-13.21% and female-20.93%) . The prevalence of diabetes found was similar to the rate reported in Mexico City (8.7%) and greater than the rates found in other cities of Latin America, such as La Paz, Bolivia (5.7%); Santiago, Chile (6.5%); Bogotá, Colombia (7.4%); and Asunción, Paraguay (6.5%).

❖ Significant statistical association of diabetes mellitus was observed with age, marital status, tobacco use, alcohol use, physical exercise, diet (green vegetables, fruits, junk foods), family history of diabetes mellitus , obesity (BMI, WHR) , hypertension , hypercholesterolemia.

❖ No statistical association of diabetes mellitus was observed with sex, religion caste, education, occupation, per capita income per month .

RECOMMENDATIONS

- ❖ Recommendations were made to adapt life style modification
- ❖ To give up the habit of smoking and alcoholism .
- ❖ To reduce obesity
- ❖ To do regular physical exercise .
- ❖ To have healthy diet including green leafy vegetables
- ❖ To avoid fatty and junk food .

Food Pyramid of Diabetes mellitus

