ORIGINAL RESEARCH PAPER

Community Medicine

CASE CONTROL STUDY ON DIABETES AT RURAL HEALTH AND TRAINING CENTRE, NAVIPET,NIZAMABAD, TELANGANA, INDIA

KEY WORDS: Diabetes, clinical features , Risk factors.

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ABSTRACT

Background: Diabetes mellitus is a chronic disorder of carbohydrate, protein and fat metabolism resulting from insulin deficiency or abnormality in the production of insulin. History of cardiovascular diseases ,Hypertension ,obesity, Physical inactivity Family history,smoking,alcohol,Polycystic ovarian syndrome are some of the risk factors. The theme for world diabetes day 2019 is "Family and Diabetes"

Objectives: To study the factors associated and clinical features in diabetes .

Methodology: Study design was Case Control Study.Study period was from November 2019 to January 2020.Study was done at Rural Health and Training centre Navipet District nizamabad Telangana,INDIA. Inclusion criteria taken were diabetics and non diabetics includes both male and female population.Descriptive statistics & Chi-Square test were used as statistical tests .Data was entered into MS Excel version 2016 and analysis was done by using SPSS trial version 16.0.IEC clearencewas obtained prior to study.

Results: MEAN waist circumference in the DIABETIC population is 92.0cms Majority of the cases has a risk factors like alcohol, smoking, obesity and they are suffering from paresthesia and poor wound healing. Those who ate junk foods have odds of 3.1. Eating fruits is protecting from diabetes (Odds 0.27) There is no association between gender and diabetes.

Conclusion: Mean Waist Circumference in Diabetic Population is high and there is association between occupation, family history and wound healing with Diabetes.

DIABETES MELLITUS

It Is a chronic disorder of carbohydrate,protein and fat metabolism resulting from insulin deficiency or abnormality in the production of insulin.(1) .world Diabetes Day is on November 14. The theme for world diabetes day 2019 is" Family and Diabetes ". The prevalence in 2019 ,approximately 463 million adults(20-79 yrs) were living with diabetes,by 2045 this will rise to 700 million.The proportion of people with type 2 diabetes is increasing in most countries.79% of adults with diabetes were living in low and middle income countries.(2)

RISK FACTORS(3) Obesity, Race, History of cardiovascular diseases ,Hypertension , Physical inactivity Family history , Polycystic ovarian syndrome ,Gestational diabetes ,Dyslipidemia CLINICAL FEATURES (4) Polyuria ,Polydipsia ,Polyphagia ,Weight loss ,Nausea/vomiting ,Changes in loss of consciousness (severe hyperglycemia) ,Recurrent infections,prolonged wound healing,paresthesias,Altered immune and inflammatory response,prone to infections ,Genital prurtis(hyperglycemia and glycosuria favour fungal growth-CANDIDAL INFECTION).

DIAGNOSIS(1)

Table 1.fasting blood sugars:

serum glucose	diagnosis
<110mg/dl	normal
110-126mg/dl	Prediabetes
>126	Diabetes

Table 2.Post prandial blood sugar:

PPBS	Diagnosis
<140mg/dl	Normal
140-200mg/dl	pre diabetic
>200	Diabetic

Table 3.hba1c:

Hba1c levels	Diagnosis
4-6	Normal
6.1-7	target range for diabetes
>7	poor control

Table 4.oral glucose tolerance test.

>200mg/dl	diabetic

5.urinalysis:

- Glycosuria
- Ketone bodies

TREATMENT(5)

- Diet and exercise:

Diet is a basic part of management in every case.treatment cannot be effective unless adequate attention is given to nutrition.

Exercise –physical activity promotes weight reduction and improves insulin sensitivity thus lowering blood glucose levels

- Oral hypoglycemic drugs:
- Insulin therapy

OBJECTIVES:

1) To know the clinical features in Diabetic cases
2) To know the factor associated with Diabetes

METHODOLOGY:

Study design –Case Control Study
Study period –November 2019 – January 2020

Study Place – Rural Health and Training centre Navipet District nizamabad Telangana, India.

Sample size
Probability of exposure in cases = 0.3
Probability of exposure in controls =0.6
Power of test (value<1.0)
Z value associated with confidence=1.95
Z value associated with power =0.84

$$\frac{(Z1 + Z2)^2 \times P(1-P)}{(P1-P2)^2}$$

Sample Size = 21.58
We are taking 30 sample size in each group. i.e Case group 30 & control group 30.

Sampling technique – Systematic Random Sampling.
Statistical Test used are descriptive Statistics and CHI-SQUARE test Institutional Ethical Committee clearance was obtained prior to study

RESULTS:

DIABETIC

MEAN age in the DIABETIC population-50.70(9.657)
MEAN weight in the DIABETIC population-87.40(14.970)
MEAN waist circumference in the DIABETIC population-92.0(7.719)

NON DIABETIC

MEAN age in the NON DIABETIC population-52.13(11.249)
MEAN weight in the NON DIABETIC population-68.63(13.828)
MEAN waist circumference in the NON DIABETIC population-87.43(5.764)

CHARTS

Figure 1 Alcohol in Diabetes

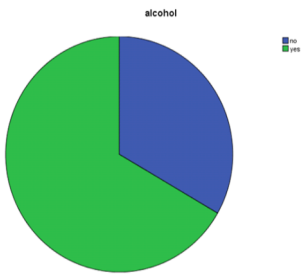


Fig. 2 Paraesthesia in DM

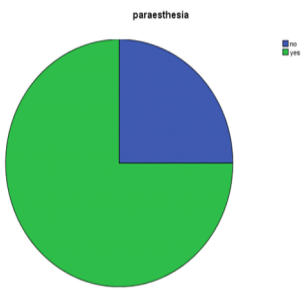


Fig .3 smoking in DM

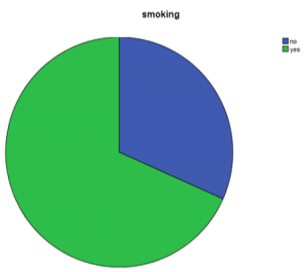


Fig.4 Occupation risk in DM

Fig.5 comorbidity in DM

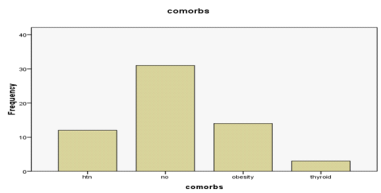
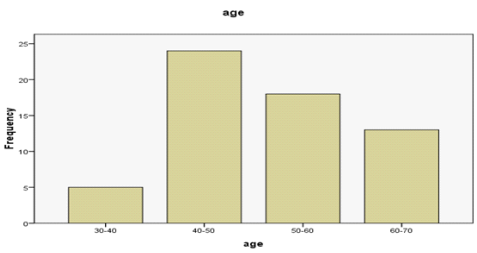


Fig.6 Age in DM



Odds Ratio

Those who ate junk foods have odds of 3.1. Eating fruits is protecting from diabetes (Odds 0.27)

CHI-SQUARE TEST

1. According to CHI-SQUARE TEST there is association between occupation and diabetes($p<0.05$)
2. According to CHI-SQUARE TEST there is association between family history and diabetes($p<0.05$)
3. According to CHI-SQUARE TEST there is association between wound healing and diabetes($p<0.05$)
4. According to CHI-SQUARE TEST there is no association between gender and diabetes($p>0.05$)
5. According to CHI-SQUARE TEST there is no association between bowel habits and diabetes($p>0.05$)

DISCUSSION:

Table 5- Age in years with DM affected

Author	Age in years with DM affected
Abdulfatai B.olokoba(6)	30-39
Lateefat B.okloba(6)	18-39
Our Study	40-50

Table 6- Obesity risk factor in DM

Author	Obesity risk factor in DM
Flegal km(7)	Present
bowman (8)	Present
Our Study	Present

Table 7- Life style risk factor in DM

Author	Life style risk factor in DM
Mori .M(9)	Sedentary life style
Furukawa .T(9)	Sedentary lie style
Our Study	Mild work

Table 8-Wound healing

Author	Wound healing
Leena Pradhan (10)	Delayed
Aristidis veves(10)	Delayed
Our Study	Delayed

Table 9- family history

Author	family history
Paul W.franks(11)	Present
Qureshi (12)	Present
Our Study	Present

CONCLUSION:

Mean Waist Circumference in Diabetic Population is high.

There is association between occupation, family history and wound healing with Diabetes There is no association between Gender and Diabetes.

Recommendations

More number of studies should be conducted on waist circumference in diabetic population. Multi centric studies should be done on association between occupation, family history and wound healing with Diabetes.

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