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# Indian Diabetic Risk Score: a tool for assessing risk of undiagnosed type 2 Diabetes Mellitus

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# ABSTRACT

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Diabetes has emerged as a disease of significant public health importance.<sup>1</sup> A sky-touching rise in the prevalence of diabetes has made it an epidemic.<sup>2</sup> Diabetes and the following complications are the substantial causes of morbidity and mortality which contribute radically to health care costs.<sup>3</sup>Also, the majority of patients with diabetes have to seek help from the private sector for their treatment options, incurring considerable out-of-pocket expenditure. This problem gets substantiated because of variation in the drug prices in the Indian pharmaceutical market.<sup>4</sup>

It also is the leading cause of complications in pregnancy, leads to blindness, foot amputation, and kidney failure.<sup>5</sup> Rise in the incidence of diabetes is observed among all demographic categories, including age, race, and sex.<sup>6</sup>However, increased ethnic susceptibility to diabetes in migrant Asian Indians has been documented.<sup>7-9</sup>

In a less time only, Diabetes has achieved the status of a potential epidemic in India with over 62 million diabetic individuals diagnosed with the disease currently.<sup>10,11</sup>

In the year 2000, India (31.7 million) topped with the highest number of people living with diabetes

mellitus followed by China (20.8 million) with the United States (17.7 million) in second and third place respectively. The prevalence of diabetes is predicted to double globally from 171 million in 2000 to 366 million in 2030 with a maximum increase in India.<sup>12</sup>

In India, the aetiology of diabetes is multifactorial including genetic makeup of an individual which coupled with environmental influences like obesity associated with rising living standards, lifestyle changes, etc. which has increased the likelihood of an individual to develop diabetes.<sup>13</sup>

# **Materials and Methods:**

Present community based cross-sectional study was conducted among individuals visiting Urban Health and Training Centre, Trikuta nagar, District Jammu which is a field practice area of Department of Community Medicine, GMC Jammu, J&K.

The area Trikuta nagar, consists of sectors 1 to 9 and extension with a total population of 20245 (Jammu Municipal Corporation 2014) and 12 scattered urban slums are under the centre with an urban slum population of 580 (survey) making a total population of 20825.

All the patients visiting out- patient departments and their attendants accompanying them, over 30 years of age, who consented to get their Blood sugar monitored were included in the study.

Blood sugar monitoring was done by using glucometer with strips. Fasting, post- parandial as well as random blood sugar were estimated as per the individual's food intake status.

Scoring system applied was Indian Diabetic Risk Score (IDRS), to identify high risk group for diabetes. Grading was done based upon the following risk factors - Age, Waist circumference, Physical inactivity<sup>14</sup>, Family History of diabetes (Fig.1). Cut-off point/score at or above 60 constitutes a very high risk group, 30-50 constitutes moderate risk group and less than 30 a low risk group.<sup>15</sup>

#### **Total patients screened**: 133

**Study duration**: 1<sup>st</sup> November 2019 to 31<sup>st</sup> January 2020 (3 months).



## Fig.1 Grading of Indian Diabetic Risk Score

Exclusion Criteria:

- 1. Individuals below 30 years of age
- 2. Pregnant women
- 3. Those not willing to go for test.

#### **Results:**

The study reveals that predominant gender was males (55%). Maximum individuals belonged to Hindu (76%), next was Sikh (18%). Only 6% of the study participants were Muslims.

Maximum individuals were over 50 years of age-64.66 %. Only 11% of the individuals consume alcohol daily. More than half of the study participants did not perform physical exercise/ sedentary workers and only 9% performed vigorous/ strenuous activities. Also, more than half of the individuals did not have a family history of Diabetes, while 12% had both of their parentssuffering from the disease. .....

# Variable N(%) Gender Male 73 (55%) 60 (45%) Female Religion Hindu 101 (76%) Muslim 9 (7%) Sikh 23 (17%) 0 (0) Others

# **Table 1: Demographic characteristics**

# Table 2: Patten of risk factor distribution among individuals

Question	Range		N (%)
Age (in years)	<35		20(15.03%)
	35-49		27(20.30%)
	≥50		86(64.66%)
Waist measurement	Female	Male	
	<80cm	<90 cm	50(37.59%)
	80-90 cm	90-100 cm	48(36.09%)
	>90 cm	>100 cm	35(26.31%)
Physical activity	Vigorous or strenuous work Moderate exercise Mild exercise		12(9.02%)
			29(21.80%)
			24(18.04%)
No exercise/sedentary wor		dentary work	69(51.87%)
Family history	No Family history		71(53.38%)
Either parent			45(33.83%)

Both parents17(12.78%)



Fig.2 Indian Diabetic Risk score Analysis

# **Discussion:**

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Dr. Sonika Sangra et al International Journal of Medical Science and Current Research (IJMSCR)

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