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A comparative study on diabetes and its associated variables among rural adults of Hazaribagh Jharkhand

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Abstract
Background: Diabetes is one of most prevalent non communicable disease which is emerging as an epidemic. It is also called a silent killer because people are generally unaware that they are affected by it and leads to many serious complications. In India the prevalence rate is increasing slowly but the rates are alarming. Just making few changes in the lifestyle can help to decrease the prevalence. The global prevalence among adults over 18 years has risen from 4.7% in 1980 to 8.5% in 2014. According to ICMR study conducted in 2016, 3% of rural population is suffering from diabetes in Jharkhand. Cross sectional study was conducted to know the prevalence in urban and rural areas of Hazaribagh Jharkhand.
Material and Methods: 750 subjects in the age group of 20 and above were ramdomly selected from urban and rural areas of Hazaribagh district. Three and and three rural villages were selected randomly and 125 participants were selected from each area. Demographic data, anthropometric data, biochemical test were done of the study subjects. Data was put in excel sheet and results were calculated.
Results: In the present study 46.9% of the respondents were male and 53.06% were female. 18.6% of the subjects are found to be undernourished, 45.3% were normal, 32.2% are in the pre obese range and 3.70 are suffering from obesity.4.8% of the respondents were found to be diabetic and 7.7% were prediabetic.
Conclusion: The prevalence of diabetes in rural areas is increasing too. As obesity and unhealthy eating practice leads to diabetes these should be controlled. Nutrition education and timely checkup are necessary tools to have a check on non-communicable diseases.

Keywords: diabetes, prevalence, Jharkhand

Introduction
Diabetes a silent killer, it is one of the fastest growing health disease of the 21st century and the number of adults living with diabetes have triples in the past 20 years. According to the International Diabetes Federation, around 463million people globally are currently estimated to have diabetes, and another 1.1 million children and adolescents under the age of 20, live with type 1 diabetes. 3in 4 that is 79% of the people live in low and middle income countries. India ranks second after china with 77 million people living with diabetes with about half of them undiagnosed. IDF also estimated that this number will increase to 134.2 million in 2045 [1]. According to World Health Organisation 7.8% of the people are living with diabetes in India, also it causes 2%of all deaths [2]. According to ICMR study 3% of the rural people had diabetes [3]. According to NFHS 4 study, 4.4% women and 7.2% men had blood glucose level >140mg/dl.

Diabetes mellitus also called as diabetes is a chronic condition that occurs due to rise in the blood glucose level because the body either cannot produce any or enough insulin hormone or cannot effectively use the produced insulin. Insulin is a hormone produced by the pancreas which allows the glucose from the bloodstream to enter the cells of the body. There are two main types of diabetes, Type 1 that mostly occurs in young individuals and is a result of autoimmune reaction which leads to little or no insulin production. Type 2 diabetes is the most common type, which accounts for 90% of all diabetes worldwide. Generally affects people of older age, but nowadays seen in children and young adults due to rise in obesity, inappropriate diet and physical activity. Initially hyperglycaemia is due to insulin resistance i.e. the body is not able to respond to hormone insulin. Diabetes results in a number of other acute and chronic health complications like retinopathy, nephropathy, lower limb ulcers etc. About one third of all diabetic death is due to cardio vascular diseases.

Diabetes not only affects the health of an individual but also affects societies and economies. Due to a large population of people suffering from diabetes or at risk of developing diabetes it becomes very important to estimate the prevalence of diabetes. Diabetes prevention and management can be improved with a strong health system, good policy framework and informed educated citizens. Therefore this prevalence study will be helpful not only to study the rate but also to ensure education which is a key component in ensuring better treatment and control of diabetes. Evidences show that increasing knowledge about diabetes and its complication has a significant role in decreasing the complications associated with diabetes [4]. The main objective of this study was to estimate the prevalence of diabetes in rural areas of Hazaribagh, Jharkhnad. The main objectives of this study were to study the demographic and socio economic factors of the study population and to access the prevalence of diabetes among the study population.

Material and Methods

This is across sectional study was conducted between may 2018 to December 2019 among individuals 20 years and above to estimate the prevalence of diabetes in rural area. The geographical area selected for the study was rural area of Hazaribagh district. Hazaribag is situated 93km from its state capital Ranchi. The rural population of the district is 84.12%. Out of total rural area 3 villages were randomly selected. Oriya, Birbir and Banha were randomly selected. 125 samples were taken from each village. Individuals were selected by simple random sampling. Written informed consent was taken prior to the study. Physically/mentally ill individuals, diseased and non cooperative people were excluded from the study. Interview questionnaire contained data on personal details, demographic and family income etc. Biochemical test was done by glucose estimation. Fasting blood samples were taken and estimation was done using standard procedures. Data were put in Microsoft excel worksheet and estimation was done. Analysis was done and results were expresses in the forms of tables, graphs and figures.

Results and Discussion

The present study was conducted between November 2018 to January 2020. A total of 375 subjects were investigated for this study. 125 individuals were from each of the 3 villages of Hazaribagh district. Oriya, Birbir and Banha were the study areas.

Out of total respondents, 176 were male and 199 were female. Table 1 shows the distribution of respondents according to age. 54 respondents were above the age of 60 years and 91 were in the age of 51-60 years.

Table 1: Distribution of subjects according to age

Age	N
21-30	68
31-40	79
41-50	84
51-60	91
>60	54

Table 2 shows the educational status of the study population. 28.26% of the study subjects had no formal schooling and only 1.30% of them had intermediate or diploma level.

Table 2: Educational status of the study population

Educational status	Oriya	Banha	Birbir	Total	%
	N	N	N	N	
No formal schooling	41	36	29	106	28.26
Primary school	38	48	55	141	37.60
Middle school	41	30	33	104	27.70
High school	04	10	05	19	5.06
Intermediate or diploma	02	0	03	05	1.30
Graduate	0	0	0	-	-

Table 3 shows the occupational status of the study population. 2.4% of the people were found to be involved in skilled agricultural and fishery works. 40.8% of the people were involved in elementary occupation and 9.8% were unemployed.

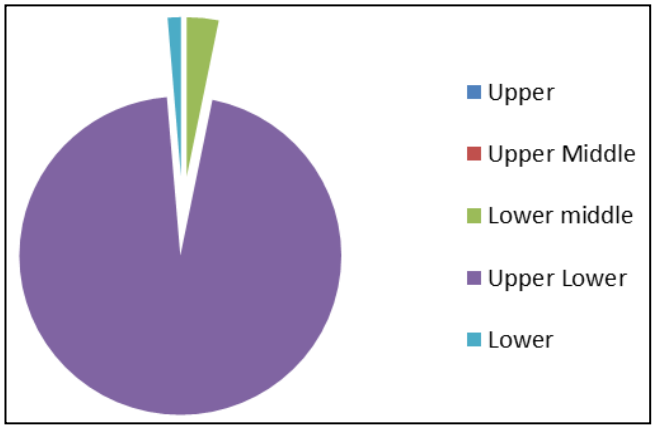
Table 3: Occupational status of the head of the study population

Occupational status	Oriya		Banha		Birbir		Total N	%
	N	%	N	%	N	%	N	%
Unemployed	14	11.2	16	12.8	07	5.6	37	9.8
Elementary Occupation	57	45.6	49	39.2	47	37.6	153	40.8
Plant and machinery operators and Assemblers	48	38.4	48	38.4	57	45.6	153	40.8
Craft and related trade workers	0	-	10	8	11	8.8	21	5.6
Skilled agricultural and fishery workers	06	4.8	02	1.6	01	1.25	9	2.4
Skilled workers and shop and market sales worker	0	-	0	-	0	-	-	-
Clerks	0	-	0	-	0	-	-	-
Technicians and associate professionals	0	-	0	-	0	-	-	-

Table 5 shows the socio economic status of the study population. 358 respondents (%) are from upper lower class, 12 from lower middle class and 5 from lower class.

Table 5: Socio economic status of the study population

Score	Socioeconomic class	Oriya	Banha	Birbir	Total
26-29	Upper	-	-	-	-
16-25	Upper Middle	-	-	-	-
11-15	Lower middle	1	9	2	12
5-10	Upper Lower	124	113	121	358
<5	Lower	0	03	02	5



Socio economic status

The weighted prevalence of diabetes both self reported and newly diagnosed diabetes in rural population is shown in figure 2. 7.7% of the study population are found to be diabetic and 4.8% are found to be pre-diabetic.

Table 6: Prevalence of diabetes in rural population of Hazaribag.

Glucose range	N	%
70-109 (Normal)	328	87.46
110-125(Impaired fasting glucose)	18	4.8
>125 (Diabetes)	29	7.7

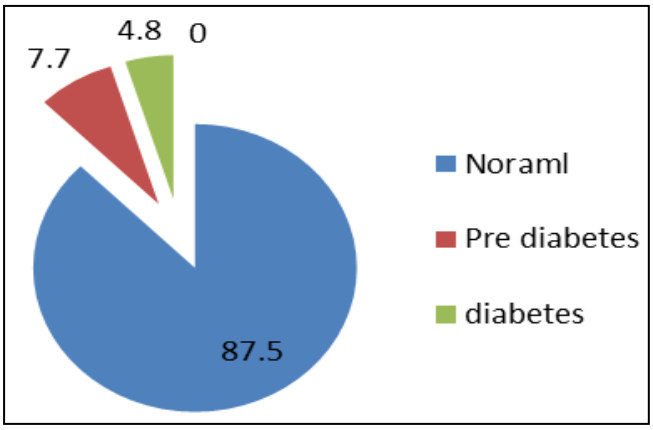


Fig 2: Prevalence of diabetes in rural population of Hazaribagh

Discussion

In the present study 46.9% of the respondents were male and 53.06% were female. Comparing with ICMR-INDIAB study in which 50.6%were male and 49.4% were females. Also the data of gender distribution matches exactly with the census population that is 51.1% males and 48.9% females showing that the survey is a representative of the study. Majority of the subjects were in the age group of 51-60 years. 28% of the subjects had no formal education which is higher that the study by ICMR In which it was 58.1%, also 0% respondents had graduate degree whereas it was 0.1%in ICMR study ICMR-INDIAB. 95. 4% of the study subjects were from upper lower class.

In the present study 40.8% of the respondents were unskilled manuals compared to ICMR-INDIAB study in which 13.2% were unskilled and 9.8% were unemployed in the present study. In the present study the weighted prevalence of diabetes (self-reported+ newly diagnosed) is found to be 4.8% compared to 3% in the ICMR-INDIAB study. Also a similar slightly higher prevalence was found in rural Tamilnadu i.e 5.99% which shows that the prevalence is increasing in all parts of India [5]. Also 6.5% of the rural Maharashtra were found to be diabetic which is higher than the data of present study [3]. In the present study 7.7% were found to be pre-diabetic compared to 7.4% in ICMR study 2011 [3]. The prevalence of the present study is slightly higher than ICMR study, which shows that with time the prevalence rate is increasing.

Conclusion

The prevalence of diabetes in rural areas is increasing too as in case of urban. unhealthy and lack of knowledge are the two most important factors. There is an urgent need to create awareness among the people as awareness and education are the two most important ways to decrease the prevalence rate of diabetes. Lifestyle modification include healthy eating practice, exercise as well as proper rest and sleep patterns and a stress free environment. Healthy individuals will help to grow a healthy nation. Diabetes affects the health of individuals, societies and economies. Healthy eating practice, timely meals are important.

References

1. International Diabetes Federation 9th Edition 2019
2. World Health Organisation Diabetes country profile 2016,
3. ICMR-INDIAB report 2011
4. Visser A, Snoek F. Perspective on education and counselling for diabetes patients. Patient Educ Couns 2004;53:251-5.
5. Sanjay K, Zile S. Diabete prevalence and its risk factors in rural area of Tamilnadu. Indian Journal of community medicine 2010;35(3):396-399.