

Original Research Article

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## Demographic Profile of the Diabetes mellitus Subjects in Lalitpur and Jhansi Districts of Uttar Pradesh, India

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### ABSTRACT

Diabetes mellitus is one of the most prevalent chronic diseases in the world and the incidence of diabetes has increased dramatically in developing countries such as India. Health-related quality of life (HRQOL) is an important factor for self-management behaviors of diabetic patients. These behaviors have special importance in preventing complications of diabetes. Health-related quality of life (HRQOL) has become an important measure for evaluating patient treatment with non-curable chronic disease. In the present paper demographic profile of 300 diabetes subjects has been presented including 150 males and 150 females from two district of Uttar Pradesh. The demographic profile of respondents depicted age, gender, religion, educational status, life style, marital status, mode of diagnosis of diabetes, monthly income, occupation, hours of work, hours of exercise, smoking and alcohol consumption of respondents. These are the important contributing factors to access the quality of life of diabetic subjects.

#### Keywords

Diabetes mellitus,  
HRQOL and self-  
management

#### Article Info

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### Introduction

Diabetes is a serious chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Diabetes is one of the largest global health

emergencies of the 21st century and is associated with changes in lifestyle resulting in less physical activity and increased obesity. The age-adjusted death rate of diabetes mellitus (DM) is 22.62 per 100 000 of the population and it ranks 98<sup>th</sup> in the world. It can gradually develop complications and is

known to be associated with an increased cardiovascular risk. It can reduce quality of life and life expectancy (Gebremedhin *et al.*, 2019).

## Materials and Methods

Purposive sampling technique was used to select type 2 diabetic patients (based on inclusion and exclusion criteria confirmed by WHO) from hospitals/clinics or work places. In the present study 300 (150 male and 150 female) with type 2 diabetic subjects were selected from Jhansi and Lalitpur districts of Uttar Pradesh.

A standard questionnaire on QoL instrument for Indian diabetes patients and factors affecting it are social life and work (Nagpal *et al.*, 2010) was used for the data collection.

## Results and Discussion

### Demographic profile of respondents (N=300)

The results on demographic profile of the selected subjects with type 2 diabetes mellitus depicted in Table 1.

#### Age

The results showed that majority of the males and females from both districts were under the age group of 45- 55 years, in Jhansi [males 54.7% (n= 42) and Female n=54 (74.0%)] and in Lalitpur [male n=53(70.7%) Female n=27 (36.0%)]. In Jhansi 33.3% males (n= 25) and 21.92% females (n= 16) were in the age group of 55-65 years. Whereas in Lalitpur 27.3% males (n= 28) and 25.3% females (n=19); in Jhansi 2.7% males (n= 2), 2.7% females (n= 2) and none of the male subjects and 5.3% females (n=4) were under age group of 65- 75 years. Whereas under age >75 years 9.3% males (n= 7), 4.1% females (n= 3) in Jhansi; (21.3%) males (n= 16) and 4.1% females (n=

3) were in Lalitpur.

Singh *et al.*, (2017) conducted a study in Uttar Pradesh to determine the prevalence of diabetes mellitus in rural community by health camp and door to door approach and reported that prevalence of type 2 diabetes in the rural population was found to be 8.03%. Prevalence was higher in female population (9.91%) as compared to males (6.79%). 19.74 % of participants over 70 yrs of age were diabetics while diabetes was present only in 2.95% of participants in the age group of 25-39 year. The maximum number of diabetes was in the age group of 50-59 years.

Anjana *et al.*, (2011) revealed that age, sex, obesity, hypertension, and family history of diabetes were independent risk factors for diabetes in both urban and rural areas.

#### Religion

In Jhansi 93.3% males (n= 70) and 87.7% females (n = 64) were Hindus, 4% males (n = 3) and 12.2% females (n = 9) were Muslims. Among the selected subjects in Jhansi no one belonged to Christian community, whereas, 2.7% of both males (n = 2) and females (n = 2) belonged to other categories. Whereas, results on the religion of the respondents from Lalitpur 98.7% males (n= 74) and 86.7% females (n = 65) were Hindu; 1.3% males (n = 1) and 13.3% females (n = 10) were Muslim. None from Christian community.

#### Education

Results with regard to educational qualification among the respondents from Jhansi district showed that 26.7% males (n = 20) and 4.1% females (n = 3) were post graduates; 10.7% males (n = 8) and 9.6% females (n = 7) were under graduates, followed by high school 25.3% males (n = 19) and 17.8% females (n = 13). At upper primary level both males and females were 8.0% (n=6) and 13.3% males (n = 10) and 17.8% females

(n = 13) were at primary level, while 16.0% males (n = 12) and 45.2% females (n = 33) were illiterates.

Where as in Lalitpur district 33.3% males (n = 25) and 6.7% females (n = 6) were post graduates; 2.7% males (n = 2) and 13.3% females (n = 10) were under graduates. Followed by high school 29.3% males (n = 22) and 18.7% females (n = 14). Educational qualification at upper primary level 30.7% males (n = 23) and 2.7% females (n = 2); 4.0% males (n = 3) and 12.0% females (n = 12) were had primary level education, while 16.0% males (n = 12) and 45.2% females (n = 33) were uneducated (Fig. 1).

Kapur (2001) detailed that education appeared to affect prognosis in diabetes, by improved understanding and preventive measures, or as a reflection of better economic status.

It also indicates that diagnosis can be delayed by 3-7 years in the less and uneducated sections of the population. Patients with a higher educational status were diagnosed at a younger age,  $43.6 \pm 10.7$  years in college-educated patients compared with  $45.4 \pm 13.1$  years in patients with school education and  $50.4 \pm 13.2$  years in illiterate patients.

### **Lifestyle**

Results on type of lifestyle showed that majority of the subjects were involved in sedentary work 53.3% males (n= 40) and 76.7% females (n= 56) from Jhansi; 82.7% males (n=62) and 86.7 % females (n= 65) from were from Lalitpur. Followed by subjects involved in moderate work among 16% males (n= 12) and 8.0% females (n=6) were from Jhansi and subjects involved in heavy work 30.7% males (n= 23) and 15.5% females (n= 11) were from Jhansi and 4% males (n=3) and 10.7% females (n= 8) were from Lalitpur.

### **Mode of diagnosis**

The results on mode of diagnosis indicated that among males 58.7 % from Lalitpur which was slightly higher than Jhansi 44% were diagnosed with diabetes through incidental mode whereas among females from Lalitpur had higher percentage (40%) of subjects were diagnosed by incidental mode when compared to Jhansi 35.6%. Diagnosis from symptomatic mode among males was higher among subjects from Lalitpur 40% than Jhansi 38.7% in Jhansi. Among females 52.1% from Jhansi and 44% from Lalitpur were diagnosed through symptomatic mode. Diagnosis at screening mode was lowest when compare to other two modes i.e. incidental and symptomatic. Diagnosis at screening mode among the subjects was 17.3% males, 12.3% females from Jhansi and 1.3% male and 16% female from Lalitpur.

### **Monthly income**

Result on monthly income status of the subjects showed that in Jhansi 42.7 % males (n= 32) and 37% females (n= 27) family earning was below 10,000 per month; 18.7% males (n= 14) and 12.3% females (n=9) family earning was between 11,000 to 19,000 per month; 13.3% males (n= 10) and 16.4% females (n= 12) family earning was between 20,000 to 29000 per month and 25.2% males (n=19) and 34.2% females (n= 25) belongs family earning was above 30,000 per month.

Whereas, from Lalitpur 17.3 % males (n= 13) and 44% females (n= 33) family earning was below 10,000 per month; 12 % males (n= 9) and 10.7% females (n=8) family earning was between 11,000 to 19,000 per month; 14.7% males (n= 11) and 8% females (n= 6) family earning was between 20,000 to 29000 per month and 54.7% males (n=41) and 36 % females (n= 27) family earning was group above 30,000 per month.

**Table.1** Demographic profile of the respondents

Parameters considered	Districts			
	Jhansi		Lalitpur	
	Number (%)		Number (%)	
Age	Male	Female	Male	Female
45-55	41(54.7)	54(74.0)	27(36.0)	53(70.7)
55-65	25(33.3)	16(21.96)	28(27.3)	19(25.3)
65-75	2(2.7)	2(2.7)	4(5.3)	-
>75	7(9.3)	3(4.1)	16(21.3)	3(4)
<b>Gender</b>	75(50)	75(50)	75(50)	75(50)
<b>Religion</b>				
Hindu	72(96.3)	65(86.6)	74(98.7)	65(86.7)
Muslim	3(4.0)	9(12.3)	1(1.3)	10(13.3)
Christian	-	-	-	-
Others	-	-	-	-
<b>Education</b>				
PG Education	20(26.7)	3(4.1)	25(33.3)	5(6.7)
UG Education	8(10.7)	7(9.6)	2(2.7)	10(13.3)
High School	19(25.3)	13(17.8)	22(29.3)	14(18.7)
Upper Primary Education	6(8.06)	4(5.5)	23(30.7)	2(2.7)
Primary Education	10(13.3)	13(17.8)	3(4)	9(12)
No Education	12(16.0)	33(45.2)	0.0	35(46.7)
<b>Occupation</b>				
Sedentary	40(53.3)	56(76.7)	62(82.7)	65(86.7)
Moderate	12(16.0)	6(8.2)	10(13.3)	2(2.7)
Heavy	23(30.7)	11(15.1)	3(4)	8(10.7)
<b>Marital status</b>				
Married	71(94.7)	62(84.9)	70(93.3)	57(76)
Unmarried	3(4.0)	8(11.0)	4(5.3)	17(22.7)
Widowed	1(1.3)	2(2.7)	1(1.3)	1(1.3)
Divorced	-	1(1.4)	-	-
Alone	-	-	-	-
<b>Mode of diagnosis</b>				
Incidental	33(44.0)	26(35.6)	44(58.7)	30(40)
Symptomatic	29(38.7)	38(52.1)	30(40)	33(44)
At Screening	13(17.3)	9(12.3)	1(1.3)	12(16)
<b>Monthly income</b>				
<10,000	32(42.7)	27(37.0)	13(17.3)	33(44)
11,000-19,000	14(18.7)	09(12.3)	9(12)	8(10.7)
20,000-29,000	10(13.3)	12(16.4)	11(14.7)	6(8)
>30,000	19(25.3)	25(34.2)	41(54.7)	27(36)
<b>Occupation</b>				
Government service	07(9.3)	13(17.8)	27(36)	7(9.3)
Professional	05(6.7)	02(2.7)	2(2.7)	5(6.7)
Private Service	35(46.7)	08(11.0)	8(10.7)	5(6.7)
Business	08(10.7)	04(5.5)	17(22.7)	6(8)

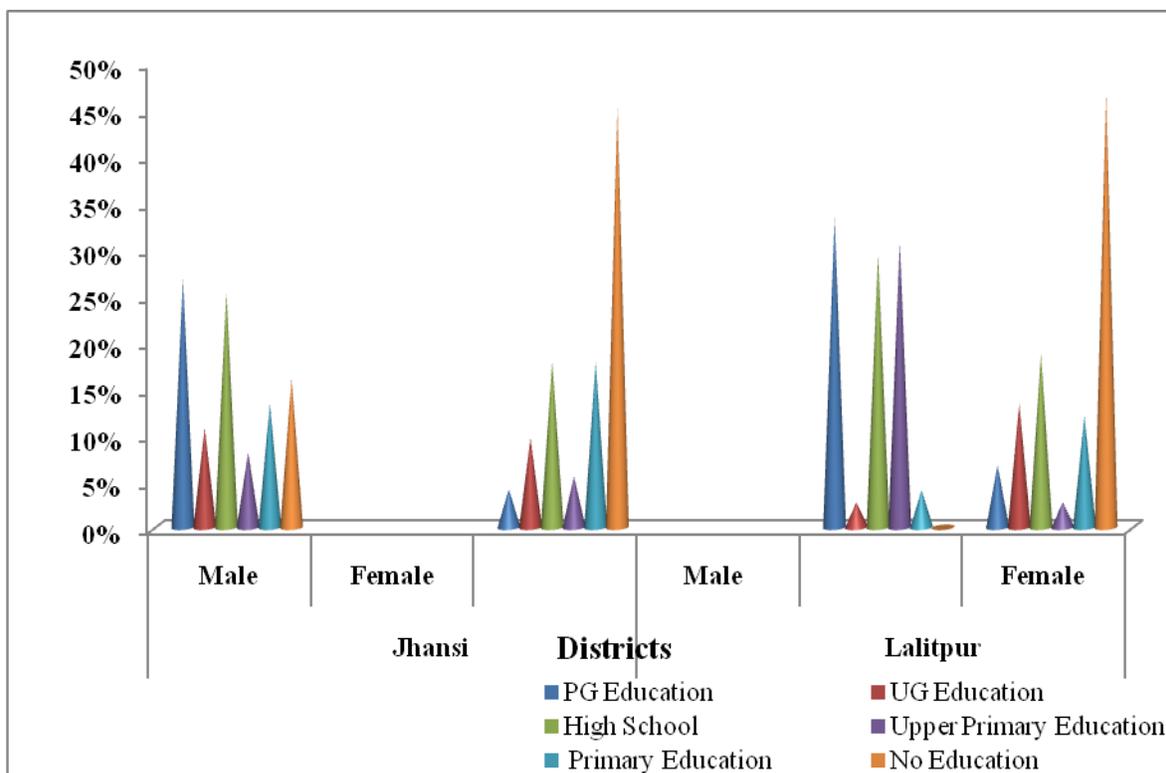
Household Work/Retired	20(26.7)	46(63.0)	21(28)	52(69.3)
<b>Hours of work</b>				
6-7	43(57.3)	55(75.3)	37(49)	51(68)
7-8	09(12.0)	12(16.4)	11(14.7)	11(14.7)
8-9	10(13.3)	1(1.4)	11(14.7)	2(2.7)
9-10	13(17.3)	03(4.1)	14(18.7)	7(9.3)
NA			2(2.7)	4(5.3)
<b>Hours of exercise</b>				
1 hr	13(17.3)	15(20.5)	16(21)	15(20)
1/2 hr	12(16.0)	25(34.2)	15(20)	27(36)
2 hr	5(6.7)	2(2.7)	11(14)	3(4)
1 1/2 hr	2(2.7)	-	3(4)	3(4)
NA	43(57.3)	31(42.5)	30(40)	27(36)
<b>Smoking</b>				
Yes	15(20.0)	2(2.7)	12(16)	4(5.3)
No	60(80.0)	71(97.3)	63(84)	71(94.7)
<b>Alcohol consumption</b>				
Yes	11(14.7)	01(1.4)	7(9.3)	2(2.7)
No	64(85.3)	72(98.6)	68(90.7)	73(97.3)

Note: J= Jhansi and L= Lalitpur

Sample size = 300, J = 150 (M = 75 and F = 75) and L = 150 (M = 75 and F=75)

Values in parenthesis are expressed as percentage

**Fig.1** Educational qualification of selected subjects for study from both districts



## **Occupation**

Results on occupation showed that, 9.3% males (n=7) and 17.8% females n= 13 were in government services; 6.7% males (n=5) and 2.7% females (n= 2) were in professional work; 46.7% males (n=35) and 11% females (n= 8) were in private service 10.7% males (n= 8) and 5.5% females n= 4 were in business and 26.7% males (n= 20) and 63% females (n= 63) were in Household work/ Retired, among the respondents from Jhansi district.

Whereas from Lalitpur 36 % males (n=27) and 9.3% females (n= 7) were in government services; 2.7% males (n=2) and 6.7% females (n= 5) were in professional work; 10.7% males (n=8) and 6.7% females n= 5 were in private service; 22.7% males (n= 17) and 6% females (n= 8) were in business and 28 % males (n= 28) and 69.3% females (n= 52) were in Household work/ retired.

## **Hours of work**

Results on hours of work depicted that majority of subjects selected for study were working for 6-7 hours per day (57% males, 75.3% females from Jhansi and 49% males, 68% females from Lalitpur); 12% males, 16.4% females from Jhansi and 14.7% males and 14.7% from Lalitpur were working for 7-8 hours per day; 13.3% males, 4.1 % females from Jhansi and 14.7% males, 2.7% females from Lalitpur were working for 8 to 9 hours per day where as 17.3% males, 4.1% females from Jhansi and 18.7% males, 9.3% females from Lalitpur were working for 9 to 10 hours per day.

## **Hours of exercise per day**

Among males 16% from Jhansi, 20% from Lalitpur were doing regular exercise for ½ hours per day; 17.3% from Jhansi, 21% from

Lalitpur males were doing regular exercise for 1 hours; 2.7% from Jhansi, 4% from Lalitpur were doing regular exercise for 1 ½ hours and 6.7% from Jhansi and 14% from Lalitpur males were doing exercise 2 hours per day.

Among females 34.2% from Jhansi, 36% from Lalitpur were doing regular exercise for 1/2 hours; 20.5% from Jhansi, 20% from Lalitpur were doing exercise for 1 hours; none from Jhansi, 4% from Lalitpur were doing regular exercise for 1 ½ hours where as 2.7% from Jhansi and 4% from Lalitpur females were doing regular exercise per for 2 hours.

## **Smoking and alcohol consumption**

Results showed that smoking 20% males and 2.7% females from Jhansi were smokers whereas, 80% males and 97.3% females were non-smokers.

In Lalitpur 5.3 % females and 16% males were smokers while 84% males and 94.7% females were nonsmokers.

It was reported that in Jhansi 14.7% males and 1.4 % females were consuming alcohol whereas; in Lalitpur 9.3% males and 2.7% had habit alcohol consumption.

The present study will be helpful to access how age, gender, educational status, monthly income, occupation, hours of work, hours of exercise etc. affecting the health-related quality of life (HRQOL) also to identify important predictors for type 2 Diabetes mellitus.

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