

## 2.1 Prevalence of Diabetes mellitus and impaired glucose tolerance in the Raika and other communities with similar life style in Rajasthan-

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### OBJECTIVES

1. To estimate the prevalence of diabetes mellitus and impaired glucose tolerance in Raika community of Rajasthan
2. To compare prevalence of diabetes mellitus and impaired glucose tolerance in other communities with similar life style
3. To find out the association of diabetes and impaired glucose tolerance with camel milk consumption, if any

### PROGRESS

A total of 5042 households were covered from 135 villages of Jodhpur, Barmer, Ajmer and Pali districts of Rajasthan and 1110 individuals were interviewed and examined. Data of 5042 households and 10,000 raika and non-raika individuals were entered in the computer and have been analyzed.

**Highlights of Socio Demographic Surveyed of Households of Raika and non raika Community:** The total family members in selected households were 25,654, of which males and females were 13,147 and 12,507 respectively. Out of 25,654 individuals, 21,440 and 4,214 individuals were raika and non-raika respectively.

The average family size of households of Raika community was  $5.3 \pm 2.3$  members (Range 1-19 members) while  $5.9 \pm 2.5$  members in households of non-Raika community (Range 1-14 members). The average monthly income of households of Raika community was  $7580.1 \pm 4614.4$  rupees which was lower than monthly income of the households of non-raika ( $Rs.8954.2 \pm 6320.1$ ). The majority of the raika and non-raika households have land and their houses were kuccha and mixed type (Table-1).

### Highlights of Socio Demographic and clinical profile of 8500 Raika individuals and 1750 non-raika individuals surveyed:

The average age of surveyed population was higher ( $39.5 \pm 17.0$  yrs) as compared to non-raika population ( $38.7 \pm 17.5$  yrs). Similarly, the males and females of raika population were higher than non-raika population.

The personal addiction of smoking and tobacco chewing in male raika individuals was 43.9 and 25.2% respectively while in male non-raika individuals it was 30.0 and 29.1% respectively. The majority of Raika individuals were vegetarian (98.1%) as compared to non-raika individuals (79.9%) and their staple diet was bajra and wheat. The majority of Raika individuals use Soya been oil for cooking vegetables (92.6%) and pure ghee on chapattis (99.1%) whereas non-raika individuals, it was 96.9 and 97.4% respectively. The majority of Raika drunk camel milk in their life time (70.1%) and in last 12 months was only 9.2% while non raika individuals, it was 10.2 and 0.9% respectively. The majority of individuals drunk camel milk occasionally. Only 24.9% of Raika individuals drunk 500 ml. or more camel milk at a time. (Table-2)

The average weight of non-raika population was higher ( $50.7 \pm 10.3$ ) than raika population ( $50.3 \pm 9.5$ ). The average height of raika population was higher ( $160.1 \pm 8.6$ ) than non-raika population ( $158.9 \pm 8.6$ ). The average body mass index of non-raika population was higher ( $20.0 \pm 3.5$ ) than raika population ( $19.6 \pm 3.3$ ). The average systolic blood pressure was similar in raika and non raika but diastolic blood pressure was higher in non-raika ( $73.1 \pm 11.8$ ) than raika population ( $71.3 \pm 11.5$ ). The average fasting blood sugar level was higher in non-raika ( $87.5 \pm 18.3$ ) than raika population ( $86.2 \pm 20.6$ ) (Table-3)

**Table 1. Households characteristics according to community**

HH Characteristics	Raika	Non Raika	Total
No. of HH	4318	724	5042
Total population of HH	21440	4214	25654
Males	10978	2185	13147
Females	10478	2029	12507
Average Family Size	$5.3 \pm 2.3$	$5.9 \pm 2.5$	$5.4 \pm 2.4$
Average Family Income	$7580.1 \pm 4616.4$	$8954.2 \pm 6320.1$	$7777.4 \pm 4920.5$
Land	66.5%	79.1%	68.3%
Type of House-Kuccha and Mixed	63.5%	69.8%	64.4%

**Table 2. Personal habits according to sex and community**

Characteristics	Raika			Non Raika		
	Male N=3500	Female N=5000	Total N=8500	Male N=750	Female N=1000	Total N=1750
Personal Habits	1535	34	1569	225	3	228
Smoking	(43.9)	(0.7)	(18.1)	(30.0)	(0.3)	(13.0)
Tobacco Chewing	879	149	1028	219	112	331
	(25.1)	(3.0)	(12.1)	(29.2)	(11.2)	(18.9)
Diet-vegetarian	3413	4923	8336	562	837	1399
	(97.5)	(98.5)	(98.1)	(74.9)	(83.7)	(79.9)
Oil Used-soyabeen	3217	4657	7874	725	970	1695
	(91.9)	(93.1)	(92.6)	(96.7)	(97.0)	(96.9)
Pure Ghee used	3467	4956	8423	735	970	1705
	(99.1)	(99.1)	(99.1)	(98.0)	(97.0)	(97.4)

Camel Milk drink	2907 (83.1)	3133 (62.7)	6040 (71.1)	125 (16.7)	54 (5.4)	179 (10.2)
Last 12 Months	493 (14.1)	293 (5.9)	786 (9.2)	10 (1.3)	5 (0.5)	15 (0.9)
Quantity≥500 ml	1311 (37.5)	808 (16.2)	2119 (24.9)	19 (2.5)	6 (0.6)	25 (1.4)

The prevalence of diabetes in raika community (0.9%) is lower than non-raika community (1.5%) while prevalence of impaired fasting blood glucose level (1.9%) and impaired glucose tolerance test (0.8%) in raika was higher than non-raika community i.e. (1.1%) and (0.6%). A total of 20 (25.0%) known diabetics among 80 diagnosed diabetics in raika while 8(30.8%) known diabetics in 26 diagnosed diabetics in non-raika community (Table-4)

**Table 3. Average of different characteristics according to sex and community**

Characteristics	Raika			Non Raika		
	Male N=3500	Female N=5000	Total N=8500	Male N=750	Female N=1000	Total N=1750
Average Age (Yrs.)	40.9±16.9	38.6±17.1	39.5±17.0	39.6±17.5	38.1±17.4	38.7±17.5
Average Weight (Kg.)	53.4±9.9	48.1±8.6	50.3±9.5	54.7±10.8	47.7±8.8	50.7±10.3
Average Height (cm.)	167.2±6.7	155.2±6.1	160.1±8.6	165.7±6.7	153.8±5.9	158.9±8.6
Average BMI	19.1±3.2	20.0±3.4	19.6±3.3	19.8±3.5	20.2±3.5	20.0±3.5
Average SBP(mm.)	126.0±16.8	125.1±17.9	125.4±17.5	126.2±16.3	125.1±17.8	125.6±17.2
Average DBP(mm.)	71.5±11.6	71.1±11.4	71.3±11.5	72.9±12.0	73.3±11.7	73.1±11.8
Average Fasting Blood Sugar (mg/dl)	86.6±21.9	86.0±19.7	86.2±20.6	86.4±15.4	88.2±20.2	87.5±18.3

**Table 4. Prevalence of diabetes according to sex and community**

Characteristics	Raika			Non Raika		
	Male N=3500	Female N=5000	Total N=8500	Male N=750	Female N=1000	Total N=1750
Impaired Fasting Glucose	78 (2.2)	87 (1.7)	165 (1.9)	13 (1.7)	7 (0.7)	20 (1.1)
Impaired Glucose Tolerance test	37 (1.1)	28 (0.6)	65 (0.8)	7 (0.9)	3 (0.3)	10 (0.6)
Diabetes	42 (1.2)	38 (0.8)	80 (0.9)	10 (1.3)	16 (1.6)	26 (1.5)
Known Diabetics	12 (0.3)	8 (0.2)	20 (0.2)	3 (0.4)	5 (0.5)	8 (0.5)

Parentheses provide the percentages