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RESEARCH ARTICLE

A STATISTICAL STUDY TO KNOWLEDGE ON DIABETIC MELLITUS AMONG ADULTS.

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Abstract

A Study on assess the knowledge about Diabetes Mellitus among adults above 25 years at Vengampalli Village. We are going to identifying to assess the demographic variables of the adults at Vengampalli village and to assess the knowledge of adults regarding Diabetes Mellitus, also to identifying relationship between demographic variables and knowledge regarding Diabetes Mellitus through the *Statistical techniques*.

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Introduction:-

Diabetes was considered as a disease of the wealthy in ancient India and 'was known as MADHU MEHA (sweet urine disease); it was observed that ants are attracted to the urine. The ancient Greeks coined the term "Diabetes" meaning excessive urination with dehydration. "Diabetes" was considered as kidney disease until the 18th century.

Diabetes mellitus is a heterogeneous group of diseases characterized by chronic elevation of glucose in the blood. It arises because the body is unable to meet own needs, either because of impaired secretion or impaired utilization of insulin or both. Diabetes Mellitus is a serious health problem throughout the world and it is increasing rapidly. **(Diabetes atlas. in)**

The Diabetes mellitus is mainly caused due to genetic factors, stress, diet, obesity and family history and the signs and symptoms are frequent urination, excessive thirst, unexplained weight loss, extreme hunger, sudden visual changes, tingling or numbness in the hands or feet, feeling very tired much of the time, very dry skin, sores that are slow to heal, more infections than usual. It can be managed by using insulin supplementation and by oral anti diabetic drugs, and healthy life style, life style modification can have a great impact in managing diabetes mellitus and creating awareness through mass media to have a great impact on managing and prevention of diabetes mellitus.

Since there is no absolute cure for diabetes mellitus, only it can be managed with insulin supplementation or oral anti diabetic drugs, with the support of healthy lifestyle practices, weight reduction, exercise, diet, and other aspects in order to maintain normal blood glucose levels in an individual which is essential for maintenance of health. **(BT. Basavanthappa-2003)**. The prevalence of diabetes is rapidly rising all over the globe at an alarming rate. Over the past 30 years the status of diabetes has been changed from being considered as a mild disorder of the elderly to one of the epidemic is. Most common form of diabetes, namely type II diabetes, which accounts for more than 90 % of all diabetes cases and remaining 10% of all cases accounts for type I Diabetes Mellitus. The serious complications of Diabetes Mellitus are problems related to eyes, heart, kidney, pancreas and feet.

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In world the incidence of Diabetes Mellitus raised from 108 million in 1980 to 422 million in 2014. The global prevalence of Diabetes among adults over 18 years of age has risen from 4.7% in 1982 to 8.5% in 2014. According to 2015 the percentage of Diabetes mellitus in global adult population worldwide was estimated at 10.4% of the world population aged between 20 and 79 years diagnosed with Diabetes mellitus. (**Diabetes statisticts-2015**)

According to the International Diabetic Federation (IDF) India has more Diabetic patients than any other nation in the world. **Current statistics estimated** the number of individuals with Diabetes in the country as about 62 million. By the year of 2030 over 100 million people in India are likely to suffer from diabetes says researcher. (**Diabetes statistics census -2011**)

Methodology:-

1. The research approach selected for the study was a non-experimental design.
2. The instrument used for the study was a structured questionnaire.
3. Convenient sampling technique was used to select the samples.
4. The sample consisted of 60 men and women aged above 25 years who are non-diabetics/healthy

Objectives:-

1. To assess the demographic variables of adults at Vengampalli village.
2. To assess the knowledge of adults regarding diabetes mellitus
3. To identify relationship between demographic variables and knowledge regarding diabetes mellitus

Operational Definitions:-

1. **Knowledge:** Theoretical or practical understanding of adults about diabetes mellitus.
2. **Adult:** These are the people who are aged above 25years and who are non-Diabetic
3. **Diabetes mellitus:** Defined as inadequate insulin production, impaired insulin utilization (or) both.

Hypothesis:-

$$H_0 : O_i = E_i \text{ and } H_1 : O_i \neq E_i$$

The sample will have adequate knowledge about diabetes mellitus.

Data Analysis And Interpretation:-

1. The chapter deals with data analysis and interpretation of data collected to assess the knowledge regarding diabetes mellitus.
2. Analysis and interpretation of the data in the study was based upon data Collected from 60 samples through structured questionnaire at Vengampalli(V),Thavanampalli(M),Chittoor (Dt).
3. Data was analyzed by using Descriptive and inferential statistics

TABLE – 1(A):- Distribution Of Demographic Variables (Age, Gender, Religion, Marital Status, Family, Dietary Pattern).

SL.NO	DEMOGRAPHIC DATA	FREQUENCY	PERCENTAGE (%)	
1.	Age	25-35 years	31	52
		35-45 years	13	22
		45-55 years	05	08
		>55 years	1	18
2.	Gender	Male	29	48
		Female	31	52
3.	Religion	Hindu	59	98
		Muslim	01	02
		Christian	00	00
4.	Marital status	Married	54	90
		Unmarried	06	10
5.	Family	Nuclear	41	68
		Joint family	19	32
		Vegetarian	21	35

6.	Dietary pattern	Non- vegetarian	39	65
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TABLE-1(B):- Distribution Of Demographic Variables (Educational Status, Occupation, Income, Family History, Sources of Information)

SL.NO	DEMOGRAPHIC DATA	FREQUENCY	PERCENTAGE (%)	
7.	Educational status	Illiterate	12	20
		Primary education	19	31
		Secondary education	25	25
		Degree	10	17
		Postgraduate	04	17
8.	Occupation	Sedentary	27	45
		Moderate	21	35
		Heavy	12	20
9.	Income	2000-4000	36	60
		5000-10000	04	07
		>10000	20	33
10.	Family history of diabetes mellitus	Yes	07	12
		No	53	88
11.	Source of information regarding diabetes mellitus	Media	15	25
		Hospital	31	52
		Family members	02	03
		Others	12	20

Table- I(A) shows that the majority of sample (52%) belongs to the age group of 25-35 years, followed by 22% belonging to 35-45 years and 18% belong to >55 years of age and a very small percentage (8%) of the sample were in the age group of 45-55 years. When we look at the gender majority of sample (52%) were women and 48% were men. The highest percentage of sample (98%) was belonging to the Hindu religion and regarding the marital status of the samples 90% were married, and 68% were belonging to the nuclear family, and 32% belongs to joint family. A high percentage of sample 65% were non-vegetarian and 35% were vegetarian.

Table-1(B) shows that 31% of the sample had primary level education and 25% had secondary level education, 20% were illiterate, 17% of samples had degree level education, and 7% had post graduate level education. The highest percentage (45%) of the sample was sedentary workers, 35% were moderate workers, and 20% were heavy workers. Majority of sample 60% had an income of Rs: 2000-4000/- only and 33% of sample had >10000/- and 7% were belonging to the income status of Rs: 5000-10000/-. Highest percentage of family (88%) were not having a family history of diabetes mellitus and 12% had a family history of diabetes mellitus. Fifty two percentage (52%) of the sample received information about diabetes mellitus through hospital and 25% through media and 20% through others and 3% of an sample through family members.

Table: 2

SL.NO	LEVEL OF KNOWLEDGE	RANGE	NUMBER OF SAMPLE	PERCENTAGE (%)
1	Poor	<25	07	11
2	Average	26-50	37	62
3	Good	51-75	15	22
4	Excellent	76-100	01	02

N=60

Table 2 – shows that the majority of sample (62%) had average knowledge, 25% had good knowledge and 11% had poor knowledge and only 2% of the sample had excellent knowledge regarding Diabetes mellitus

TABLE-3(A):- Demographic Variables And Knowledge Regarding Diabetes Mellitus

Knowledge			Poor		Average		Good		Excellent		CHI SQUARE TEST AND P-VALUE	
Sl. no	Demographic variables	No. of sample (n=60)	<10		10-15		15-20		20-25			
			No.	%	No.	%	No	%	No	%		
1)	Age	25-35	31	04	12.90	19	61.29	8	25.80	00	00	$\chi^2 = 4.8923$ P=0.5576 @
		35-45	13	02	15.3	07	53.8	04	30.7	00	00	
		45-55	05	00	00	05	100	00	00	01	20	
		>55	11	02	18.18	08	72.72	01	9.09	00	00	
2)	Gender	Male	29	03	10.34	19	65.5	07	24.13	00	00	$\chi^2 = 1.61290$ p= 0.6564 @
		Female	31	05	16.12	17	54.83	08	25.80	01	3.22	
3)	Religion	Hindu	59	07	11.86	35	59.32	16	27.11	01	1.69	$\chi^2 = 6.6101$ P=0.0854 @
		Muslim	01	01	100	00	00	00	00	00	00	
		Christian	00	00	00	00	00	00	00	00	00	
4)	Marital status	Married	53	07	13.20	31	58.49	14	26.41	01	1.88	$\chi^2 = 0.673$ P=0.8793 @
		Unmarried	07	01	14.28	05	71.42	01	14.28	00	00	
5)	Type of family	Nuclear	42	04	9.52	23	54.76	14	33.33	01	2.83	$\chi^2 = 4.59183$ P=0.2042 @
		Joint	18	04	22.22	12	66.66	02	11.11	00	00	
6)	Dietary pattern	Vegetarian	22	02	9.09	14	63.63	06	27.27	00	00	$\chi^2 = 1.1961$ P=0.7539 @
		Non vegetarian	38	06	15.78	22	57.89	09	23.68	01	2.63	

* = Significant at 0.05 level

** = Significant at 0.01 level

@ = No significant difference

TABLE - 3(B):- Demographic Variables And Knowledge Regarding Diabetes Mellitus

Knowledge			Poor		Average		GOOD		Excellent		CHI SQUARE TEST AND P-VALUE	
Sl. no.	Demographic variables	No. of samples (n=60)	<10		10-15		15-20		20-25			
			No	%	No	%	No	%	No	%		
7)	Education	Illiterate	11	01	9.09	08	72.72	02	18.18	00	00	$\chi^2 = 23.5309$ P=0.0235 *
		Primary	19	02	10.52	15	78.94	02	10.52	00	00	
		Secondary	17	04	23.52	08	47.05	05	29.41	00	00	
		Graduate	09	01	11.11	04	44.44	04	44.44	00	00	
		Post graduate	04	0	0	01	25	02	50	01	25	
		Sedentary	26	02	7.69	19	73.07	05	19.23	00	00	

8)	Occupation	Moderate	22	04	18.18	14	63.63	04	18.18	00	00	$\chi^2 = 4.3381$ P=0.3621 *
		Heavy	12	03	25	09	75	00	00	00	00	
9)	Income	2000-4000	35	06	16.66	28	77.77	01	2.85	00	00	$\chi^2 = 8.55204$ P=0.0733 *
		4000-10000	05	01	20	03	60	01	20	00	00	
		>10000	20	02	10	12	60	06	30	00	00	
10)	Family history of DM	Yes	06	03	00	05	83.33	01	16.66	00	00	$\chi^2 = 3.8157$ P=0.1423 *
		No	54	08	14.81	37	68.51	09	16.66	00	00	
11)	Source of information regarding DM	Media	13	03	23.07	06	46.15	04	30.76	00	00	$\chi^2 = 9.6039$ P=0.1423 *
		Hospital	33	03	9.09	25	69.69	05	15.15	00	00	
		Family	02	01	50	00	00	01	50	00	00	
		Others	12	01	8.33	10	83.33	01	8.33	00	00	

*= Significant at 0.05 Level

**= Significant at 0.01 Level

@= No significant

Table 3(B) shows that there is no significant difference between demographic variables and knowledge about Diabetes mellitus

Inference:-

A descriptive design was chosen to assess the knowledge of diabetes mellitus at Vengampalli (v) thavanampalli (M). Chittoor(Dist), AP

The study was conducted on 20/9/2017 at Vengampalli (v). A sample size of 60 was chosen to collect the data by using the structured questionnaire method by the researcher with prior consent. We found of the present study:

1. Majority of the sample (62%) had adequate knowledge regarding Diabetes mellitus.
2. Only 2% of the sample had excellent knowledge regarding Diabetes mellitus.
3. There is no significant relationship between demographic variables and knowledge regarding Diabetes mellitus.

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