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RESEARCH ARTICLE

Prevalence and Knowledge of Hypertension and Diabetes among adults in selected villages of Udupi district- Karnataka

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Abstract

Objectives: to assess the prevalence and knowledge of diabetes and hypertension among adults and to find the association between knowledge level and variables.

Methods: Descriptive survey was conducted among adults in the selected villages of Udupi district during July 2009- July 2010. The study subjects were interviewed to collect the details with a questionnaire. Total 385 adults were selected by non- probability convenient sampling technique. Data were entered in SPSS11.5 version and analysed using descriptive and inferential statistics.

Results: Out of 385 adults, 27.8% of adults were females and 72.2% had their education up to primary level. Majority (82.2%) of the adults were having unskilled occupation and 96% of them had exposure to mass media. Majority (50.4%) of them had average knowledge on diabetes mellitus and prevalence was found to be only 5%. Majority (50.6%) of the samplehad average level of knowledge about hypertension and the prevalence of hypertension was 19.5%. Result shows that there is no significant association between knowledge and selected variables.

Diabetes mellitus is the single most important metabolic disease recognized worldwide as one of the leading cause of death and disability. The problem has reached pandemic proportions. Type 2 diabetes is the commonest form of diabetes constituting almost 90% of diabetic population. Prevalence of diabetes in the adults worldwide was estimated to be 4.0% in 1995 and expected to be 5.4% by the year 2025. Its incidence is higher in developing countries than developed countries. It has been estimated that presently 19.4 million individuals are affected by diabetes and these numbers are expected to increase to 57.2 million by the year 2025 (one-sixth of the world total). World Health Organization (WHO) has already declared India as the global capital of diabetes and WHO has revised the predicted number of diabetics in India to be nearly 80 million by 2030[1].

Hypertension poses a significant risk for the development of heart disease and chronic kidney disease. Worldwide, the major causes for chronic kidney disease are diabetes mellitus and hypertension. A recent estimate suggests that approximately one billion adults have hypertension (333 million in economically developed and 639 million in economically developing countries); with the highest prevalence being noted in Eastern Europe and the Latin American/Caribbean region[2] The global response to this challenge is prevention, early detection, and treatment. Hypertension is a massive public health problem in India, incurring tremendous physical, emotional and financial loss. Due to limited resource allocation in the health sector, the available facilities seem to be scarcely available. A previous study conducted among the middle aged population of Kerala in 2003 showed 54.5% prevalence of hypertension[3]

Methods & Materials

A community based cross sectional descriptive survey study was carried out during the year 2009-2010 in Athrady, Marne &Hirebettu villages of Udupi District. A non- probability convenient sampling was used to select 385 samples and collect data from them by using structured and validated knowledge questionnaire on diabetes mellitus& hypertension. The adults were between the age group of 40-60 years, residing in the villages, willing to participate and present at home during the time data collection. An adult who could not read Kannada (local language) was excluded from the study.

Demographic Proforma consisted of age, education, occupation, food habits and exposure to mass media. Fifteen Multiple Choice Questions (MCQ) were developed to assess the knowledge on diabetes mellitus and 15 MCQ for hypertension; each with maximum score of 15 and minimum score of zero. Knowledge scores were arbitrarily classified as low (0-5), average (6-10) and good (11-15) level. Each individual was screened for diabetes mellitus by performing Benedict's test and for hypertension by monitoring the blood pressure using calibrated sphygmomanometer.

The reliability of the tool was determined by test-retest method. The reliability co-efficient was r=0.70. Administrative permission was obtained to collect the data from the concerned authorities. A written consent was also obtained from the eligible participants for this study and data were collected between July 2009 and July 2010. Data were analyzed using descriptive and inferential statistics.

Results

Out of 385 samples 27.8% of adults were females and 72.2% had their education upto Primary school level. Majority (82.2%) of the adults were having unskilled occupation, 62% were consuming mixed diet and 96% of them had exposure to mass media (Table1). Majority (50.4%) of them had average knowledge on diabetes mellitus and hypertension (50.6%) (Fig. 1&3). The prevalence of hypertension was 19.5% and diabetes was 5% (fig 2&4). Result shows that there was no significant association between knowledge on diabetes mellitus and selected variables (Table 2).

Table 1: Frequency & Percentage of distribution of samples characteristics.

N= 385

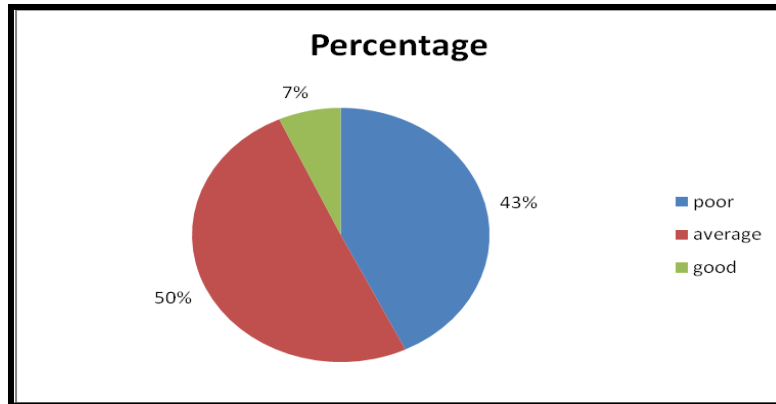| Variables		Frequency	Percent
Gender	male	107	27.8
	female	278	72.2
Education	illiterate	74	19.2
	primary	203	52.7
	high school	75	19.5
	PUC	16	4.2
	graduation	15	3.9
	PG	2	.5
Occupation	unskilled	318	82.6
	skilled	53	13.8
	profession	14	3.6
Exposure to mass media	not exposed	4	1.0
	exposed	381	98.7
Diet	vegetarian	82	21.3
	non-vegetarian	61	15.8
	mixed	242	62.9

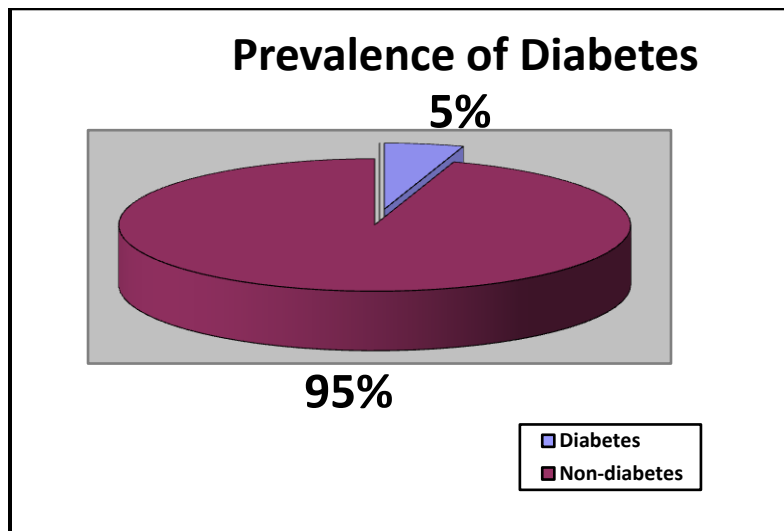**Fig 1: Knowledge score on Diabetes Mellitus**

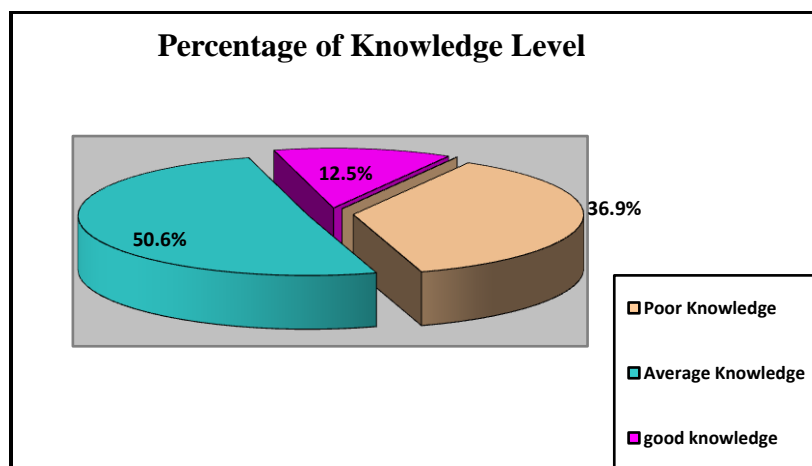**Fig 2- Prevalence of diabetes**
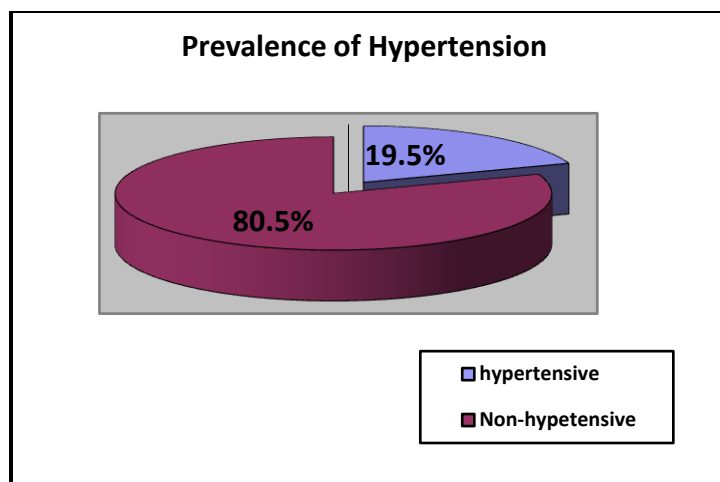

Figure 3:-Knowledge level regarding Hypertension

Figure 4-Prevalence of Hypertension

Table 2: Chi-Square test computed between knowledge score of adults and selected variables

Variables		Poor	Average	Good	Chi. Sq	df	P-value
Gender	male	50	50	7			
	female	111	144	23	2.25	2	0.31
Education	illiterate	39	32	3			
	primary	85	101	17			
	high school&above	37	61	10	7.7	4	0.10
Occupation	unskilled	138	156	24			
	skilled	23	38	6	1.86	2	0.45

Discussion

Diabetes mellitus and cardiovascular diseases lead the list of all non-communicable diseases. A study done by Jali MV found that prevalence of diabetes was more among males (10.38%) compared with females (7.90%) but the findings were statistically not significant. According to the age, the prevalence of diabetes was more in the age groups 30-39 (9.62%) and 40-49 years (18.24%). This shows that the changing trends in disease occurrence are affecting the people of productive age group and making them socioeconomically inefficient[4].

The overall prevalence of hypertension in the study subject was 19.5% (75 of 385). A similar study was conducted in Trivandrum, Kerala and the result showed that the prevalence of hypertension is high(47%) but the awareness among the people is low[4] which is contrary to the present study findings where the prevalence is 19.5% only and awareness is average[5].

Another study was conducted in Aurangabad, Maharashtra from June 2005 to December 2006 among 1297 persons and it showed that the prevalence was 7.24%[6]
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Conclusion

The worldwide prevalence of diabetes mellitus and hypertension has risen dramatically in the developing countries over the past two decades. Regular screening of adults is essential for early detection and care. There are limited studies on awareness of diabetes and hypertension in rural communities. India is going to face a big challenge posed by these diseases and its complications.

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