ORIGINAL ARTICLE

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"A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICES OF ADULTS IN PREVENTION OF DIABETES MELLITUS (NON-INSULIN DEPENDENT DIABETES MELLITUS) IN URBAN AREA OF GOTTIGERE, PRIMARY HEALTH CENTRE BANGALORE WITH A VIEW TO DEVELOP AN INFORMATION BOOKLET"

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Abstract *The prevalence of non insulin diabetes is increasing all over the world, especially in the developing countries. Considering the magnitude of the population, the number likely to suffer from morbidity due to this disorder would be very high. Therefore, prevention is the most important factor in the crusade against the disorder. Prevention of non-insulin diabetes is a possibility with changes in life style. It includes genetic counseling, health promotion and specific protection.*

Keywords *Knowledge, Practice, Non-insulin dependent diabetes mellitus, Information booklet.*

INTRODUCTION

"Health is wealth. Health is a basic human right" It is a foundation on which the basic human needs are satisfied and improves quality of life. Health continues to be a neglected entity in spite of so much being talked and published. Health brings happiness while ill health brings sorrows, misery, suffering to the family, community and to the whole nation by and large.

Diabetes is a chronic, potentially debilitating and often fatal disease. The disease occurs as a result of problems with the production and supply of insulin in the body. Either the body produces no or insufficient insulin or the body cannot use the insulin it produces effectively.

NEED FOR THE STUDY

Unfavorable modification of life styles and dietary habits that are associated with urbanization are believed to be the most important factor for the development of diabetes. The prevalence of diabetes is approximately twice in urban areas than in the rural areas.

Compared to India, the United States and China have lesser number of diabetics. China has an estimated 17 million diabetics as against 14 million Diabetics in United States. This is expected to increase 34 million and 21 million irrespectively by 2025.

Diabetes Mellitus is rapidly becoming one of the main health issues in the 21st Century. Environmental factor such as life style habits (i.e. Physical inactivity and dietary intake) and obesity may act as initiating factor or progression factors for diabetes. Therefore, change in life styles (i.e. diet and physical activity) should have the potential to postpone or prevent the development of diabetes mellitus.

STATEMENT OF PROBLEM

"A study to assess the knowledge and practices of adults in prevention of diabetes mellitus (Non-insulin dependent diabetes mellitus) in urban area of Gottigere, primary health centre Bangalore with a view to develop an information booklet"

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OBJECTIVES OF THE STUDY

1. To assess the knowledge of adults in prevention of non-insulin dependent diabetes mellitus.
2. To assess the practice of adults in prevention of non-insulin dependent diabetes mellitus. .
3. To find out the correlation between knowledge and practice of adults in prevention of non insulin dependent diabetes mellitus.
4. To find out the association between knowledge and practice with selected demographic variables.
5. To develop an information booklet on prevention of non-insulin dependent diabetes mellitus.

MATERIAL AND METHOD

Research design: A descriptive survey approach was considered
Research design: Non-experimental exploratory design
Research setting: Gottigere primary health center, Bangalore
Sampling technique: systematic random sampling technique was used to select sample
Sample and Sample size: 50 males and 50 females adult aged 18-45 were selected
Dependent variable: Dependent variable was knowledge of adolescent girls regarding self concept.
Independent variable: Independent variable was knowledge and practices.
Demographic variables: age, gender, marital status, education status, type of occupation, religion, income per month, dietary pattern, previous knowledge, family history, weight in kilogram, about meal in a day, interval betweenmeals, regular exercise, type of exercise, source of information and body mass index

DESCRIPTION OF THE TOOL

Part I: Deals withdemographic data, consists of 16 items
Part II: Consists of 34 items, which has the knowledge questionnaire on prevention of non-insulin diabetes mellitus using multiple-choice questions.
Part III: Consists of practice questionnaire, there were 19 items

DATA ANALYSIS AND INTERPRETATION

The data obtained was analyzed in terms of the objectives of the main study using descriptive and inferential statistics.

Section-1

Table-1 Demographic characteristics of the adults in prevention on non-insulin dependent diabetes mellitus N=100

Charact-eristics	Category	Respondents					
		Male		Female		Total	
		Number	Percent	Number	Percent	Number	Percent
Age group in years	18 – 24 years	14	14	15	15	29	29
	25 – 31 years	22	22	18	18	40	40
	32 – 38 years	08	8	08	8	16	16
	39 – 45 years	06	6	09	9	15	15
Gender	-	50	50	50	50	100	100
Marital status	Married	27	27	32	32	59	59
	Unmarried	23	23	15	15	38	38
	Widow	0	0	03	3	03	03

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Religion	Hindu	29	29	22	22	51	51
	Muslim	06	6	04	4	10	10
	Christian	14	14	23	23	37	37
	Any other	01	1	01	1	02	02
Educational status	Illiterate	04	04	03	03	07	07
	Primary education	12	12	12	12	24	24
	Secondary education	24	24	26	26	50	50
	Pre University	06	06	02	02	08	08
	Graduation	04	04	07	07	11	11
Type of occupation	House wife	0	0	11	11	11	11
	Sedentary worker	11	11	10	10	21	21
	Hard worker	10	10	12	12	22	22
	Moderate worker	15	15	09	09	24	24
	Unemployed	14	14	08	08	22	22
Family income per month in rupees	Below 2000/-	01	1	01	1	02	02
	Rupees 2001 – 3000	05	5	06	6	11	11
	Rupees 3001 – 4000	18	18	15	15	33	33
	Rupees 4001 and above	26	26	28	28	54	54
Previous knowledge on diabetes mellitus	Yes	33	33	32	32	65	65
	No	17	17	18	18	35	35
Family history	Diabetic	14	14	13	13	27	27
	Non diabetic	36	36	37	37	73	73
Body weight in kilograms	35-45	07	07	11	11	18	18
	46-55	20	20	12	12	32	32
	56-65	17	17	15	15	32	32
	66-75	05	05	08	8	13	13
	76-85	01	01	04	04	05	05
Number of meals per day	Two	08	8	05	5	13	13
	Three	33	33	38	38	71	71
	Four	09	09	07	7	16	16
Interval between each meal	4-5 hour	25	25	13	13	38	38
	Not regular	25	25	37	37	62	62
Dietary pattern	Vegetarian	07	7	08	8	15	15
	Non vegetarian	43	43	42	42	85	85
Exercise	Daily walking	15	15	05	20	20	20
	Aerobic	02	2	02	4	04	04
	Attend gym	10	10	0	10	10	10
	Any other (Yoga)	04	4	03	7	07	07
	Not doing exercise	19	21	40	38	59	59
Source of Information	Mass media	41	41	36	36	77	7
	Friends	42	42	43	43	85	85
	Relative	37	37	30	30	67	67
	Neighbour	33	33	22	22	55	55
	Diabetic client	27	27	18	18	45	45
	Health personnel	29	29	30	30	59	59
Body mass index of males		Number	Percent	Mean BMI	Mean Obtained weight	Mean Actual weight	Mean deviation
	< 20.7 (Below normal)	20	20	11.45	58.26	56.86	1.4
	20.8-26.4 (Normal)	28	28	23.00			
	27.92 -31.1 (Above normal)	2	2	26.86			
Body mass index of females	< 20.7 (Below normal)	5	5	8.22	53.96	46.1	7.86
	20.8-26.4 (Normal)	40	40	22.44			
	27.92 -31.1 (Above normal)	5	5	27.88			

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Table-1represents the distribution of respondents with regard to the age, 40 percent were in the age group of 25 – 31 years, in which 22 percent were males and 18 percent were females. With regards to gender, 50 percent of respondents were males and 50 percent of them were females.

With regards to marital status 59 percent were married, in which 27 percent were males and 32 percent were females. With regard to religion total 51 percent of respondents were Hindus, in which 29 percent were males and 22 percent were females. With regard to educational status 50 percent of the respondents had their secondary education, among which 26 percent were females and 24 percent were males.

With regard to the type of occupation, total 24 percent were moderate workers among which 15 percent were males and 9 percent were females. 54 percent had income ranging from rupees 4001 and above, in which 28 percent were females and 26 percent were males. With regard to previous knowledge on diabetes mellitus, where 67 percent had previous knowledge on diabetes mellitus, in which 33 percent were males and 32 percent were females.

With respect to the family history, 73 percent were non-diabetic, in which 36 percent were males and 37 percent were females. Respect to the weight 32 percent were weighing 46 – 55 kilograms in which 20 percent was male and 12 percent were female. With regards to number of meals per day, 71 percent had three meals, in which 33 percent were males and 38 percent were females.

With regards to interval between each meal, 62 percent did not have regular interval between meals, in which 25 percent were males and 37 percent were females, With regards to dietary pattern, 85 percent were non vegetarian, in which 43 percent were males and 42 percent were females. With respect to males majority (28 percent) of them had normal body mass index, With respect to females majority (40 percent) of them had normal body mass index

Section-2

Figure-1 Knowledge level of adult males and females on prevention of non-insulin dependent diabetes mellitus N = 100

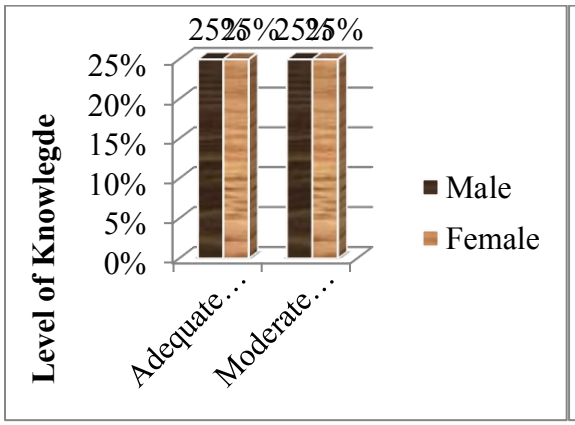

Figure-2 Practice level ofadult malesand females on preventionof non-insulin dependent diabetes mellitus N = 100

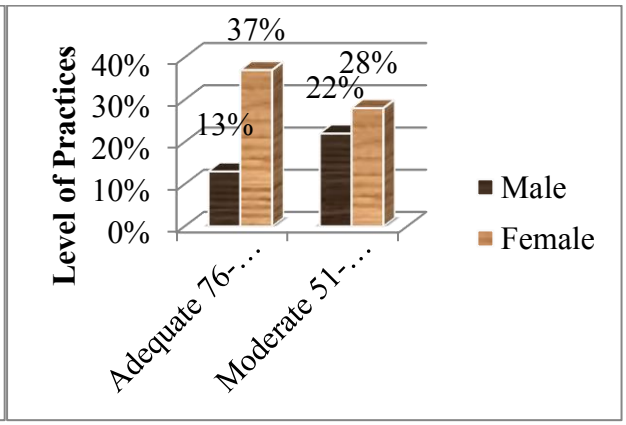

Figure-1 represents knowledge response on prevention of non insulin dependent diabetes mellitus. The result depicts that majority (50 percent) of adults were having moderate knowledge, in which 25 percent were males and 25 percent were females, and remaining 50 percent of adults had adequate knowledge in which 25 percent were males, and 25 percent were females and none of them had inadequate knowledge. This indicates that both males and females had equal knowledge regarding prevention of non-insulin diabetes mellitus.

Figure-2 represents the distributions of adults based on level of practice on prevention of non insulin dependent diabetes mellitus. Majority of (65 percent) adults were having moderate practices out of which males were 37 percent and females were 28 percent, and remaining 35 percent of adults had adequate practices out of which females were 22 percent and males were

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13 percent and none of them had inadequate practice.

This indicates that both males and females had equal practices regarding prevention of non insulin diabetes mellitus.

Section-3

Table-2 Correlation between knowledge and practice of adults on prevention of non insulin dependent diabetes mellitus N = 100

Category	Knowledge				Practices				
	Max score	Mean	Mean %	SD	Max score	Mean	Mean %	SD	
Male	34	4.90	73.24	2.11	9	13.28	69.89	2.15	0.52
Female	34	5.02	73.59	2.47	9	14.00	73.68	1.96	0.44

Table-2 represents the association between the knowledge and practice of adults on prevention of non insulin dependent diabetes mellitus which showed that the mean percentage of females on knowledge was (73.59 percent) equal with the mean percentage of males on knowledge (73.24 percent). Whereas the mean percentage of females on practices was (73.86 percent) equal with the mean percentage of males on practices (69.89 percent).

There was positive correlation between knowledge and practice. It is found that the correlation between knowledge and practices of males was + 0.52 and females was + 0.44 which are positively correlated

Section-4

Table-3 associations between knowledge and practices with the demographic variables regarding prevention of non insulin dependent diabetes mellitus N=100

Demographic Variables	Knowledge			Practices		
	χ^2		df	χ^2		df
	Male	Female		Male	Female	
Age in years	2.94*	3.99*	4	8.98*	13.53*	3
Marital status	2.45*	1.04*	2	0.43^{NS}	1.70*	1
Religion	0.08^{NS}	0.72^{NS}	3	2.6*	1.06*	3
Educational status	2.67*	7.91*	3	0.40^{NS}	6.09*	4
Type of occupation	0.76^{NS}	7.74*	4	5.84*	2.33*	4
Family income per month in rupees	0.92*	3.90*	3	2.61*	3.90*	3
Previous knowledge	0.80*	0.73*	1	0.15^{NS}	1.52*	1
Family history	20.93*	0.6*	1	0.06^{NS}	3.12*	1
Weight in kilograms	3.20*	6.38*	3	7.67*	1.52*	3
Number of meal per day	3.54*	2.05*	2	1.64*	6.56*	2
Interval between each meal	10.32*	1.5*	1	0.93*	0.34*	1
Dietary pattern	1.49*	0.59*	1	4.10*	0.16^{NS}	1
Regular exercises	4.02*	0.08^{NS}	1	6.81*	6.96*	1
Type of exercises	1.97*	0.14^{NS}	2	7.09*	2.22*	2
Source of Information	3.01*	2.49	5	18.67*	5.03*	5
Body mass index of male	3.08*	0.5^{NS}	2	0.065^{NS}	1.40*	2

***=Significant NS= Non-significant**

Table 3represents the association between knowledge and practices level of adults both male and female with their demographic variables regarding prevention of non-insulin diabetes mellitus.

- Result of the study reveals significant association between knowledge of males and age, marital status, educational status, family income, previous knowledge, family history, weight in Kg., number of meal per day, interval between each meal, dietary pattern, regular exercise, type of exercise, source of information and body mass index.

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- Result of the study reveals significant association between knowledge of females and age, marital status, educational status, family income, previous knowledge, family history, weight in Kg, number of meal per day, interval between each meal, dietary pattern, and source of information.
- Result of the study reveals significant association of males between practice and age, occupation, religion, family income, weight in Kg, dietary pattern, regular exercise, and source of information,
- Result of the study reveals significant association of females between practice and age, marital status, religion, educational status, occupation, previous knowledge, family income, weight in Kg, number of meal per day, regular exercise, family history, interval between meals, type of exercise, source of information and body mass index,

CONCLUSIONS

This study showed that the adults of selected area had moderate knowledge and practices regarding prevention of non insulin dependent diabetes mellitus. The moderate knowledge and practices of adults can be effectively strengthened through information booklet and used as source of information in educating and creating awareness to their families and entire community which is more practicable and cost effective.

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