

SHORT ARTICLE

Screening for non-communicable diseases and counselling for risk factors modification in health & wellbeing clinic at a tertiary care hospital

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ABSTRACT

Non-communicable diseases like diabetes and hypertension are highly prevalent and make a substantive contribution to the global burden of morbidity and mortality in both developing and developed countries. Because lifestyle behaviors have been shown to be effective in preventing and treating several types of diseases that can ultimately lead to a high prevalence of morbidity and mortality, several widely accepted treatment guidelines for specific diseases include lifestyle modification strategies. We aim to identify the suspected cases of Diabetes Mellitus and Hypertension & the risk factors among screened participants. We found 18% of them were found to be suspected as diabetics and 5% of them were suspected to be hypertension. We observed statistically significant association with risk factors between both the known cases and suspected cases of diabetes mellitus and hypertension. Screening programs can strengthen healthcare system initiatives and reduce the growing burden of both diabetes and hypertension in India.

KEYWORDS

Health and Wellbeing Clinic, Lifestyle Modification, Risk Factors, Screening, Counselling

INTRODUCTION

The number of non-communicable diseases (NCD) in India is rapidly increasing, leading to significant morbidity and mortality among both urban and rural populations as well as significant loss of years of life that could have been spent being productive. According to estimates, nearly 63% of all fatalities are caused by NCDs. (1)

Even slight advances across a big portion of the inhabitants would have a better impact than

focusing on a small portion of the population that is at the upper end of the risk distribution. (2) In our study we aim to identify hypertension and diabetes among screened participants and also their risk factors, so that we can advise them to change their lifestyle modification to reduce the burden of these diseases.

- To identify the suspected cases of Diabetes Mellitus and Hypertension by screening

- To identify the risk factors among screened participants
- To give health education for lifestyle modifications.

MATERIAL & METHODS

In present cross-sectional study was done over one year. The participants were patient relatives or friends who were admitted to the hospital. The sample size constitutes 2477 respondents who were screened in health & wellness OPD for a period of one year. Institutional ethical committee permission and consent from the patient were taken. Screening for diabetes and hypertension was done to identify the suspected case. Statistical analysis by SPSS VERSION 21.

Study tools are: socio-demographic profile, BMI (body mass index) (3) Random blood glucose (RBS) (4) testing was using the glucometer method. Blood pressure (BP) (5) was measured by using a sphygmomanometer.

RESULTS

In the present study a total of 2477 subjects were enrolled. Majority of them are in the age group of 45 -60 yrs. (40%) and male respondents constitute 54% and female 46%. more than 90% belongs to Hindu by religion. Respondents belong to both urban (54.5%) and rural areas (48.5%). Among the participants 27% were illiterate. Maximum numbers of respondents were farmers by occupation and home maker among female participants.

Table -1: Distribution of the participants according to Demographic profile

	Components	Number	Percentage
Gender	Female	1133	45.7
	Male	1344	54.3
Place	Urban	1201	48.5
	Rural	1276	51.5
Age (in years)	<18years	13	0.5
	19 to 29	278	11.2
	30 to 44	714	29.0
	45 to 60	996	40.2
	> 60 years	476	19.2
Religion	Hindu	2301	93.0
	Muslim	169	6.8
	Christian	5	0.2
	Jain	1	0.0
	Khasi	1	0.0
Education	Illiterate	663	26.8
	Basic education	758	30.60
	Secondary education	687	27.7
	Graduate	327	13.2
	Post graduate	42	1.7
Occupation	Business	203	8.2
	Farmer	733	29.6
	House wife	728	29.4
	Labour	251	10.1
	Government Sector Worker	118	4.8
	Service	444	17.9
	Total	2477	100.0

From our investigation we found 18% of suspected cases of diabetes mellitus with blood sugar level of >200 mg /dl and 5% of them were suspected of hypertension with blood pressure of 140/90 mmHg . Among them 11% of the study subjects had a family history of diabetes mellitus and 10 % of them had hypertension history. More than 50% of the respondents were having one or the other

habits like smoking, alcohol, tobacco chewing. Among the habits the maximum number of participants were having habits of tobacco chewing (86%) followed by mixed habits (9%) and alcohol (5%) Use of extra salt and pickle intake was observed in 79% of the participants. Almost fifty percent of them are consuming both veg and mixed diet respectively in their diet. 64% of the study participants are doing

regular walking exercise. In our study among the total participants 14% of them were known cases of diabetes mellitus and hypertension is 9%.

From the study we observed association with age, gender, occupation, place of residence, BMI, family history of diabetes and hypertension was found statistically significant with known case diabetes mellitus.

Similarly for known case hypertension statistical significant association was found related to age, occupation, habits, BMI. Family history of diabetes and hypertension. For cardiovascular disease except for gender, diet

and habits all other risk factors variables are found significant association

Study also highlights Suspected cases of diabetes mellitus with risk factors like age (P=0.000), gender(P=0.013), diet(P=0.038), BMI(P=0.000). Family history of diabetes mellitus (P=0.00) and hypertension (P=0.00) is significantly associated in the present study. Similarly for suspected cases of hypertension we found significant association with age (P=0.000), habits (P=0.003), BMI(P=0.002), family history diabetes mellitus(P=0.014) and hypertension(P=0.000) (Table-2)

Table -2 Association between risk factors and suspected case of Diabetes mellitus and hypertension

Risk factors	Hypertension (N=103)		Diabetes Mellitus (N=376)	
	Chi-square value	P value	Chi-square value	P value
Age	$\chi^2= 78.103$	P=0.000*	$\chi^2= 26.904$	P=0.000*
Gender	$\chi^2=6.107$	P=0.013*	$\chi^2=3.390$	P=0.066
Diet	$\chi^2=4.285$	P=0.038*	$\chi^2=0.434$	P=0.510
Occupation	$\chi^2=3.989$	P=0.551	$\chi^2=1.140$	P=0.950
Habits	$\chi^2=5.935$	P=0.015	$\chi^2=8.579$	P=0.003*
BMI.	$\chi^2=35.141$	P=0.000*	$\chi^2 =16.690$	P=0.002*
Place	$\chi^2=8.287$	P=0.004	$\chi^2=0.000$	P=0.990
Physical exercise	$\chi^2=13.726$	P=0.799	$\chi^2= 8.124$	P=0.985
Family history of Diabetes mellitus	$\chi^2=91.543$	P=0.00*	$\chi^2=8.604$	P=0.014*
Family history of Hypertension	$\chi^2=35.264$	P=0.00*	$\chi^2=22.239$	P=0.000*

*significant P<0.05

DISCUSSION

A finding of the present study has provided a useful screening tool for the detection and prevention of diabetes and hypertension at our health and wellbeing clinic. We detected that many of our defendants were not screened before in their lifespan for diseases like diabetes mellitus and hypertension. The majority of them are not aware of the risk factors for developing these diseases.

Our study found 18% of new cases of diabetes mellitus and 5% of hypertensive case which aided them to seek further investigation and treatment .A similar study of a population - based study conducted by Bharthi *et al* (6).observed 47% of study subjects were suspected of diabetes mellitus. This is more than our study. In another study of screening of diabetes mellitus in a rural area of north India found, 2.9% were diabetic which is lower than our study. These variances could be due

to the lifestyle behavior of the dissimilar study populations.

Family history of both hypertension (10%) and diabetes mellitus(11%) is observed in our study. A similar study done by A.Ramchandran *et al* (7)observed 17% of them had a family history of hypertension and diabetes (28%) which is higher than our study . which could be due to change in the socio-demographic profile of the participants

A significant association is detected between Diabetes Mellitus & Body Mass Index (BMI) in the present study. A similar observation was found in the study conducted Vasanthakumar *et al* (8)

For hypertension, we found a significant association related to gender, habits, occupation, physical exercise, and BMI. The study conducted by Shikha .S *et al* (9) observed similar findings like Gender, occupation, BMI, and tobacco use were significantly associated with hypertension.

36% of the participants in the current study did not engage in any physical activity. In a study of hypertension individuals in Karnataka, 37% reported not being physically active for at least 30 minutes, while 63% reported exercising regularly.(10) this suggests that, in accordance with many disease-treatment guidelines, lifestyle-modification techniques should be a part of the overall management plan.

CONCLUSION & RECOMMENDATIONS

According to the results of our study, screening programmes can support healthcare system activities and minimize India's growing burden of diabetes mellitus and hypertension. Based on the result of our investigation report, those who were pre-diabetic and prehypertension from them also, we are advising to implement lifestyle modification so that they should not suffer from both diabetes mellitus and hypertension in future days. Similarly, awareness programmes to educate them about risk factors and implementation of a healthy lifestyle like daily physical exercise, yoga, and meditation to decrease body weight, reduce or quit the habits of smoking, tobacco, alcohol, decrease the salt intake and oil consumption. The practice of a healthy well-adjusted diet and regular intake of treatment and regular follow up for the known cases of diabetes and hypertension. The Govt should take greater resources and care would be located on monitoring the risk factors that can be as final points to prevent the absolute death outcomes, such as lifestyle-modification related activities.

LIMITATION OF THE STUDY

Present study is only screening of the respondents, confirmation of the diagnosis is not done

RELEVANCE OF THE STUDY

Goal of Screening diabetes mellitus and hypertension is to identify the early detection and to reduce the risk of complication developed. To advice lifestyle modification to prevent the disease in future.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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