

Research Article

Knowledge, Attitude, and Practice regarding Causes and Risk Factors among Diabetic and Hypertensive Individuals: A Cross-Sectional Study

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A B S T R A C T

Background: Hypertension and diabetes are silent killer diseases. They have many causes and risk factors.

Methods: A cross-sectional study was conducted in Maharashtra among 93 patients diagnosed with hypertension and diabetes to assess their knowledge, attitude, and practice towards these diseases. Responses were collected from participants by sending them Google Forms. The form included a KAP questionnaire for hypertension and diabetes. Sixteen questions were related to hypertension, out of which, six questions were based on knowledge, five questions related to attitude, and five questions were based on practice. Similarly, there were 20 questions for diabetes which included six questions related to knowledge, six related to attitude, and eight based on practice.

Results: Knowledge about hypertension was 80% among the respondents, 57% had a positive attitude towards the disease, and 30% showed adequate practice to control the disease. Similarly, for diabetes, knowledge among the respondents was about 60.2%. 76% of respondents had a positive attitude towards its causes and risk factors, and 30% showed adequate practice to control it.

Conclusion: This KAP study revealed that people lack knowledge about lifestyle modification and appropriate counselling is necessary to improve the knowledge, attitude, and practice of people regarding diabetes and hypertension.

Keywords: Hypertension, Diabetes, Questionnaire, Cross-sectional Study

Introduction

Hypertension and diabetes are considered to be the most common silent-killer diseases worldwide. India has the largest number of diabetic patients.¹ These diseases can have major complications such as cardiovascular diseases, stroke, renal diseases, and many others.² The prevalence rate of hypertension is 31.1% and that of diabetes is 8.7% globally. The prevalence rate of diabetes mellitus in India was 7.1% for the year 2009 and increased by 8.9% for the year 2019.³ The prevalence of hypertension in India is 29.8%. According to 2010 statistics, hypertension was registered to be the third highest-ranked silent killer disease in the South Asia region.⁴ To control the morbidity and mortality rate, knowledge and awareness should be increased among the people. Studies revealed that people lack knowledge, attitude, and practice about hypertension and diabetes. The main cause of the increase in the prevalence of obesity is changing lifestyles. With increasing age, the prevalence rate increases. 25% of the population above 65 years of age have been diagnosed with diabetes. There is a lack of knowledge about this condition among the patients.

Diabetes mellitus (DM) is a metabolic disorder of multiple aetiologies characterised by chronic hyperglycaemia with deranged carbohydrate, fat, and protein metabolism resulting from defects in insulin secretion or insulin action, or both.⁵ The rate of DM is rising because of rapid cultural and social changes such as ageing population, increasing work-related stress, increasing urbanisation, dietary changes, and unsatisfactory attitudes and practices toward DM. Diabetes can play a vital role in morbidity and mortality rates and it has an effect on the kidney, cardiac functions, renal failure, and visual impairment. The morbidity and mortality rates are sometimes associated with the modifiable risk factors of non-communicable diseases. The diagnosis of these conditions can be easily determined by knowledge, attitude, and practice study.⁶

Hypertension has risk factors which are directly related to cardiovascular disease, stroke, and renal diseases. Careful evaluation of hypertension is an important part of the general care of the patient.^{7,8} It is widely observed that people have very less knowledge and awareness about hypertension. The incidence of hypertension increases due to unhealthy lifestyles including obesity and lack of exercise.⁹ Early prevention and detection can be controlled by developing knowledge of the disease. It is most of the time persuaded by diabetes and even chronic kidney disease.¹⁰

The objective of the study was to determine the knowledge of the patients about diabetes and hypertension, followed by their attitude towards the diseases and how they practice preventing them.¹¹ The study was conducted as

the morbidity and mortality rates due to hypertension and diabetes are increasing and it is believed that knowledge about the disease will help patients to be more careful about its management and better control can be achieved. The risk factors of diabetes and hypertension are strongly related to ageing and socio-economic changes favouring a sedentary lifestyle, obesity, and an increase in alcohol consumption and salt intake among people.^{12,13} In public health, KAP surveys have been widely utilised.¹⁴

Method

A one-time, cross-sectional study was carried out among 93 patients who were previously diagnosed with hypertension or diabetes or both. They were recruited from the Medicine OPD of Krishna Hospital, Karad. The study was conducted from January 2022 to June 2022. No follow-up sessions were conducted and no follow-up form was circulated. The study was carried out by sending Google Forms from different social media platforms like WhatsApp, Telegram, and Gmail. The subjects were assessed through the form and none of the participants were checked physically. The Google Form consisted of self-made questions regarding the knowledge about diabetes and hypertension, attitude of patients towards the disease, and practice of patients towards these diseases. The statistical analysis was done using InStat application.

Sampling Method

A random sampling method was used by recruiting the patients from Medicine OPD of Krishna Hospital, Karad, and forms were sent to those diagnosed with hypertension, diabetes, or both. This sampling method was used because of the limitation in time.

Inclusion Criteria

- Males and females diagnosed with hypertension and diabetes
- Age group above 18 years

Exclusion Criteria

- Pregnancy-induced hypertension
- Juvenile diabetes

Sample Size

It was calculated using the formula $4pq/L^2$. The sample size calculated was 95 with an assumption of $p = 38.7$, $q = 100 - 38.7$, and $L = 10$. The total number of respondents for this study was 93.

Research Tool and Data Collection

Data were collected by circulating questionnaires among the participants. The questionnaire was in English as the study was conducted in an urban area and there was no issue of communication between the researcher and respondents.

Ethical Committee Approval

The study was approved by the Institutional Ethics Committee of Krishna Institute of Medical Sciences (Deemed to be University), Karad. An explanation about the study and questionnaire was given to respondents through Google Forms. It also consisted of the consent form through which informed consent was obtained. They also had the authority to not participate in the questionnaire. All respondents participated voluntarily and their confidentiality was maintained throughout the study.

Questionnaire

A set of KAP questionnaires was formulated and validated by experts in this field of study. For the collection of data, the questionnaire was prepared in English. It was divided into demographic data, knowledge, attitude, and practice regarding diabetes and hypertension. The demographic information of the respondents was obtained initially which included name, age, gender, and contact number.

Results

The respondents were divided into three groups according to their ages. Most of the respondents belonged to the age group of 46-60 years. Table 1 shows the division of the

questions. Out of a total of 16 questions on hypertension, 5 were selected for analysing the data. Similarly, for diabetes, out of 20 questions, 5 were selected for data analysis. The collected data were analysed by a statistician using the Instat application. The chi-square test was used to analyse the KAP in different age groups.

As mentioned in Table 2, it was seen that 74% of participants knew about the impact of stress, alcohol and tobacco consumption and smoking on hypertension and 26% were unaware of it in the age group of 33 to 45 years, 88% were aware and 12% were unaware of it in the age group of 46 to 60 years. Among the participants who were above 60 years of age, 59% gave a positive response and 41% gave a negative response for the impact.

In the age group of 33 to 45 years, 37% of participants knew the importance of exercise whereas, 26% did not know about it, and 37% were not sure. Similarly, for the age group of 46 to 60 years, out of 57 respondents, 70% had a positive response, and 18% and 12% were unaware and not sure of it, respectively. In the age group of more than 60 years, out of 17 respondents, an equal number of respondents were aware as well as unaware of the impact of exercise on blood pressure (Table 3).

Table 1. Information regarding the Questionnaire

Diseases	Total No. of Questions	Questions related to Knowledge	Questions related to Attitude	Questions related to Practice
Hypertension	16	6	5	5
Diabetes	20	6	6	8

Table 2. Responses regarding whether Stress, Alcohol or Tobacco Consumption, or Smoking may lead to Hypertension

Do You Think Stress, Alcohol or Tobacco Consumption, Smoking may lead to Hypertension?	Total Responses	Yes	No	Percentage		p Value
				Yes	No	
Age groups (years)						
33-45	19	14	5	74	26	0.0269
46-60	57	50	7	88	12	
> 60	17	10	7	59	41	

Table 3. Responses regarding the Impact of Exercising on Blood Pressure

Can Exercising Regularly Help in Controlling the Blood Pressure?	Total Responses	Yes	No	Not Sure	Percentage			p Value
					Yes	No	Not sure	
Age groups (years)								
33-45	19	7	5	7	37	26	37	0.0215
46-60	57	40	10	7	70	18	12	
> 60	17	6	6	5	35	35	29	

Table 4. Responses regarding the Frequency of Checking Blood Pressure

How Frequently Do You Check Your BP?	Total Responses	Weekly	Monthly	Once in 6 Months	Yearly	Never	p Value
Age groups (years)							
33-45	19	4	6	6	3	0	0.2586
46-60	57	6	17	20	9	4	
> 60	17	6	5	6	0	0	

Table 5. Responses regarding whether High BP may be a Risk Factor for Uncontrolled Diabetes

Do You think High BP would be a Risk Factor for Uncontrolled Diabetes?	Total Responses	Yes	No	Percentage		p Value
				Yes	No	
Age groups (years)						
33-45	19	7	12	37	63	0.0292
46-60	57	40	17	70	30	
> 60	17	9	8	53	47	

Table 6. Responses regarding whether Diabetes may lead to Serious Complications of Liver and Kidney

Do you think that if Diabetes is not Treated, it may lead to Serious Complications of Liver and Kidney?	Total Responses	Yes	No	Percentage		p Value
				Yes	No	
Age groups (years)						
33-45	19	10	9	52	47	0.0001
46-60	57	50	7	88	12	
> 60	17	7	10	41	59	

Table 7. Responses regarding the Frequency of undergoing Fasting Blood Glucose Test

How Frequently do You undergo Fasting Blood Glucose Test?	Total Responses	Weekly	Monthly	Once in 6 Months	Yearly	Never	p Value
Age groups (years)							
33-45	19	8	5	2	2	2	0.0328
46-60	57	5	10	25	9	8	
> 60	17	2	5	7	2	1	

Table 4 illustrates the frequency of checking blood pressure of the participants. Some people did not know about hypertension but still practised it in their day-to-day lives to control and maintain it whereas, there were groups of people who despite knowing about it did not have a habit of practising to control it.

Tables 5 and 6 give information about the knowledge regarding causes and impact of diabetes. There were 19 respondents in the age group of 33 to 45 years, 57 in the age group of 46 to 60 years, and 17 who were above 60 years of age.

Table 7 illustrates the practice of the respondents to undergo fasting blood glucose tests.

Discussion

According to our study, most people know the causes and risk factors of hypertension and diabetes, and even their attitude towards it is positive but they lack practice. Even after knowing the causes and risk factors, they take the risk of not following the right measures in day-to-day life. The KAP of participants varies according to their literacy rates. Many participants above 60 years of age lacked KAP regarding causes and risk factors of the diseases because

of their low educational background. Many knew about it but had a habit of neglecting it and hence did not practice controlling these diseases. There was another group who did not have the required knowledge but still used to practice to keep them in control.

We observed that out of 93 respondents, 74 respondents (80%) were aware of hypertension and 19 respondents (20%) were unaware of it. The findings are quite higher than those reported in the studies by Bollu et al.¹ and Buang et al.⁸ They even knew that stress and excessive alcohol may lead to hypertension and maintained control over it. Many respondents knew the importance of physical exercise to control hypertension. 53 respondents (57%) were extremely confident that exercising regularly could help control hypertension, 21 respondents were not aware of it, and 19 respondents were not sure about it. All the findings were higher than those of the studies done by Bollu et al.¹ and Buang et al.⁸

It was found that the people who were aware of hypertension and its risk factors were neglecting certain tests and were ignoring the methods that could help control hypertension whereas, the respondents who were unaware or not sure about the risk factors of hypertension were following ways to control it as a preventive measure. Out of 93 respondents, 16 checked their BP regularly every week, 28 checked it monthly, 32 checked it once in 6 months, 12 checked it once every year, and 4 never checked their BP. This finding was comparatively less than that seen in other studies.

Approximately 75% of respondents were aware of the symptoms of hypertension whereas, only some people knew about the risk factors of hypertension. Poor health check-up schedules observed in the study may be because of the lack of knowledge regarding the disease.

In the KAP study conducted on diabetes, it was seen that 60.2% of participants had knowledge about it but the studies conducted by Bollu¹ showed higher results. According to a study report by Bollu,¹ 60% of subjects were aware of the risk factors of diabetes. Many respondents had a positive attitude towards the diet for diabetes. Many people have a habit of adding extra salt to their diet, but in our study, out of 93 respondents, 76% followed a balanced diet which is more than that reported by Bollu et. al.¹ People lacked the practice to control diabetes and perform fasting blood glucose tests. Out of 93 respondents, 15 took the test every week, 20 took it monthly, 34 took it once in 6 months, 13 took it yearly, and 11 never took the test despite having been diagnosed with diabetes. These responses were compared with the studies conducted by Bollu et.al.¹, in which 56% of respondents knew about diabetes, 76% were positive in their attitude towards diabetes, and 70% showed good practice to control and prevent it.

Conclusion

The study showed that study participants were unaware of the importance of health check-ups which may lead to complications. Medicines alone cannot help in curing diseases like diabetes and hypertension. The symptoms can be reduced by management of the disease. For better results, patient involvement is necessary during management.

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