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Knowledge Attitude Practice studies on Diabetic and Hypertensive Patients in Tertiary Care Corporate Hospital

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ABSTRACT

OBJECTIVE: The present study was planned with the aim to determine the level of KAP about diabetes and hypertensive patients in tertiary care corporate hospital.

METHODOLOGY: A prospective cross-section observational study. The study will be conducted for a period of 6 months. The study criteria are in-patients of medicine, ICU, and casualty patients who were treated with diabetes and hypertension in a tertiary care corporate hospital. A total of 130 prescriptions were included in the study. Patients age between 20-90 years of age. In patients and outpatient department. Both males and females. Patients who are not willing to give consent. No proper medical history details. Pregnant and lactating women and Paediatric patients. Patients who are bedridden. It contains patient demographic details like name, age, sex, date of admission, date of discharge, complaints on admission, medical history, medication history, social history, family history, previous allergies and it includes physical examinations, provisional diagnosis, final diagnosis, progress chart and medications. Source of data collection: Study materials, Patient consent form, Patient data collection form, Patient information leaflets. It contains demographic details of patients, purpose of study and brief detailed explanation of the study with in English, Telugu and Hindi.

RESULTS: A total of 130 cases were collected in all departments of sunshine hospital, secunderabad for a period of six months. The following evaluation was made from the collected data. In our present study, it was found that more male patients are admitted to the various departments in the hospital, when compared to female patients. Out of 130 patients enrolled thenumber of male patients was found to be 68(52.30%) while number of female patients was 62(47.60%). The reason for higher incidence of male patients may be due to uncontrolled diet and improper exercise.Out of 130 patients, the maximum number of patients aged between 61-70 is suffering from diabetes followed by age group (51-60).During the study, out of 130 patients it was found that there are more patients from the orthopaedics 32 patients (24.6%) and cardiology 23 patients (17.69%) are suffering from diabetes and hypertension.Out of 130 cases, a majority of then drugs were purely prescribed based on the brand names i.e., 112(86.28%) followed by generic namesi.e.,18 (13.72%). The pattern of prescription in terms of the genric name was found to be low and should be encouraged.

CONCLUSION: Knowledge of diabetic patients was fairly good butattitude and practices were not up to the mark.Public health Programs involving educational interventions and behavioral change is the need ofthe hour for better control and management of the diseases. Present study reflected a lack of knowledge among hypertensive patients regarding normal BP, symptoms and

complications. A positive attitude and practice were observed among the patients except for practice of regular exercise. Hence, emphasize on awareness about symptoms, complications and importance of physical activity should be improved particularly among male patients.

KEYWORDS: KAP Study: Diabetes and Hypertension.

INTRODUCTION

A Knowledge, Attitude and Practice (KAP) survey is a qualitative method (predefined questions formatted in standardized questionnaires) that provide access to qualitative and quantitative information.KAP surveys reveal misconception or misunderstanding that may represent obstacles to the activities that would like to implement potential barriers to behavior changes. In other words,the KAP survey reveals what was said, but there may be considerable gap between what is said and what is done. [1]

Uses

Measure the extent of known situation; confirm or disprove a hypothesis provide new tangents of a situation reality. Enhances the KAP of specific themes; identify what is known and done about various health related subjects. Establish the base line (reference value for use in future assessment and help measure the effectiveness of health education activities ability to change health related behavior. Suggest an intervention strategy that reflects specific local circumstances and cultural factors that influence them; plan activities that are suited to the respective population in world.[2]

Tool components

Constructing the survey protocol, Preparing the survey, Course of KAP survey in the field Data analysis and presentation of the survey report, Conclusion, reference and abbreviation.

KAP studies on Diabetes

This study might help in implementation of diabetic education program giving more emphasis among older and younger groups of patients and encouraged the patients to have more contact with concerning physicians, so that complications that occurring at early stage of disease could be prevented.

KAP studies on Hypertension

This study was done to assess the knowledge, attitude and practice regarding hypertension and to assess the drug compliance in hypertensive patients.

Hypertension and diabetes are the silent killer diseases worldwide and is a major risk factor many other diseases like cardiovascular diseases, stroke, renal diseases, and many other. They are also most important to meet physician. India presently has the large number of diabetic patient in world and has been in famously dubbed as the diabetic capital of the world. Good control of blood pressure (BP) and blood sugar will result in prolonged survival. Increasing the knowledge, awareness, and control of hypertension will reduce the morbidity and mortality. Studies show that many patients did not have the appropriate knowledge about the diseases like hypertension and diabetes.[3]

The 8th Report of the joint National Committee on prevention, Detection, Evaluation, and Treatment of High BP (JNC-8) reports that it effects 1 billion people worldwide A 55-year normotensive person has up to 90% life time risk of developing hypertension and it is the number one reason listed for office visits and also causes/ contributor to death (myocardial infraction, stroke vascular diseases).[4]

MATERIALS AND METHODS

The **study site** will be conducted in the sunshine hospital, paradise. The study will be conducted for a period of 6 months. Cases admitted during the period of 2019-2020 were followed prospectively. Medical records of the inpatients admitted to the hospital and diagnosed with diabetes and hypertension during the period of 2019-2020 were collected.

INCLUSION CRITERIA

✓ Patients age between 20-90years of age.
✓ In patients and outpatient department.
✓ Both males and females.

EXCLUSION CRITERIA

✓ Patients who are not willing to give consent.
✓ No proper medical history details.
✓ Pregnant and lactating women.
✓ Paediatric patients
✓ Patients who are bedridden.

STUDY PROCEDURE

This is a prospective observational study where patients are willing for enrolment into the study after obtaining the consent. The data collection form will be prepared and used. This form mainly contains the demographic details, previous medical history, medication history, diagnosis and treatment of the patient. Study will be conducted in Sunshine hospitals. After data collection it will be analysed for the statistical significance.

STUDY MATERIALS

- Patient consent form.
- Patient data collection form.
- Patient information leaflets.

STATISTICAL ANALYSIS

The standard deviation and the mean of the age of the study population were calculated by using T Test.
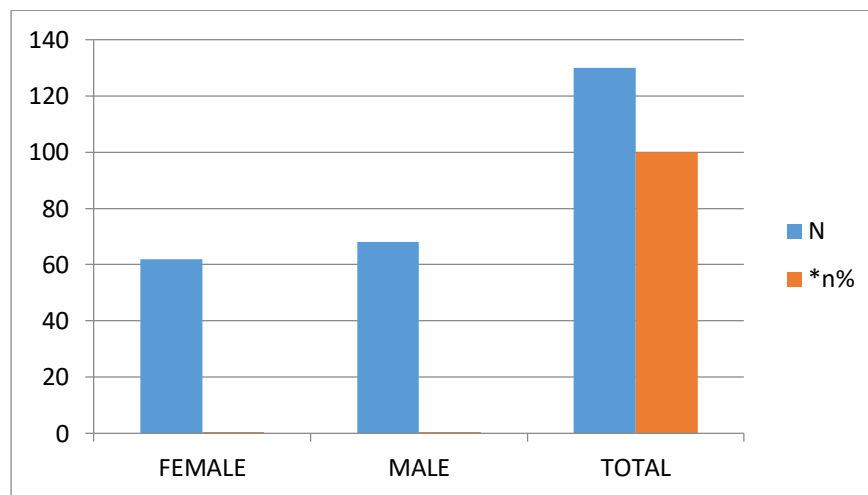
RESULTS

A total of 130 cases were collected in all departments of sunshine hospital, secunderabad for a period of six months. The following evaluation was made from the collected data.

Table1: Gender Wise Distribution of Data

GENDER	N	*n%
FEMALE	62	47.60%
MALE	68	52.30%
TOTAL	130	100

(%)* Percentage from 130 patients, N=Number of patients, n=Percentage of number of patients

In our present study, it was found that more male patients are admitted to the various departments in the hospital, when compared to female patients. Out of 130 patients enrolled the number of male patients was found to be 68(52.30%) while number of female patients was 62(47.60%). The reason for higher incidence of male patients may be due to uncontrolled diet and improper exercise.[5]

Table 2: Age Wise Distribution Of Data

| AGE	N	*n%
20-30	1	0.7
31-40	4	3.07
41-50	19	14.6
51-60	33	25.3
61-70	37	28.4
71-80	30	23.5
81-90	6	4.6

TOTAL	130	100

(%)* Percentage from 130 patients., N=Number of patients, n=Percentage of number of patients.
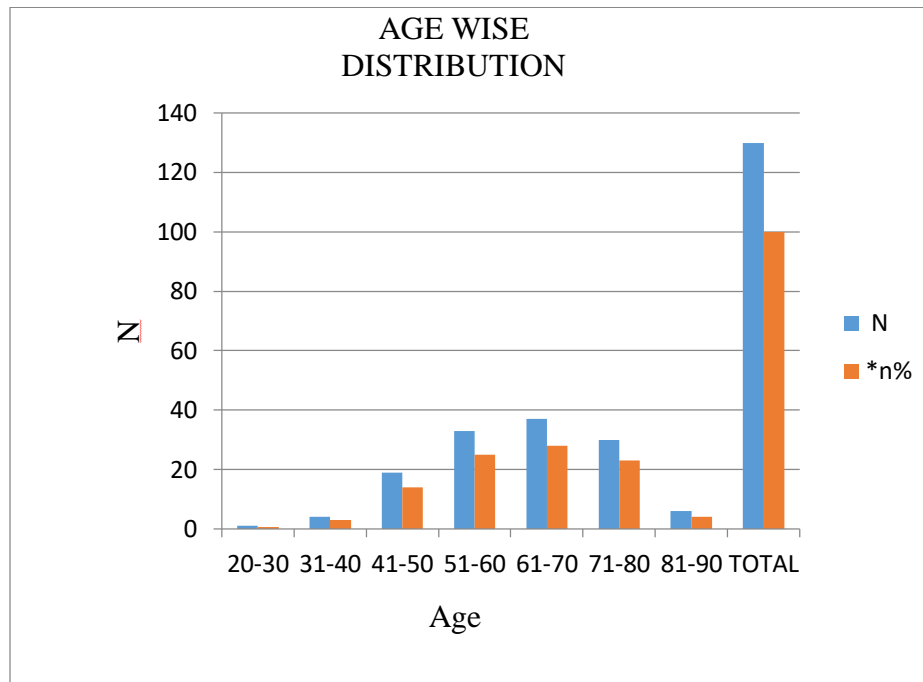
Out of 130 patients, the maximum number of patients aged between 61-70 is suffering from diabetes followed by age group (51-60).

Table 3: Disorder Wise Distribution

DISORDER	NO. OF PATIENTS	*n%
DIABETIS	20	15.38
HYPERTENSION	34	26.15
DIABETIS/ HYPERTENSION	76	58.46
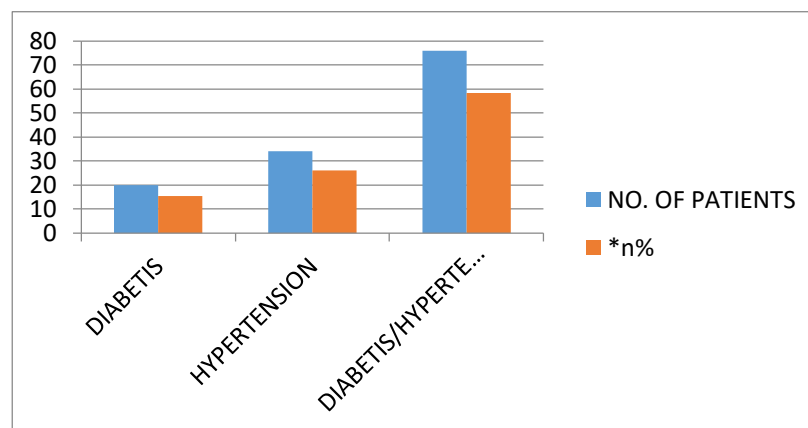
Out of 130 patients, the maximum number of patient'sdiabetes/hypertension are 76(58.46%), hypertension as 34(26.15%) and minimum number of patients for diabetes are 20(15.38%).[6]

Table 4: Department Wise Distribution

DEPARTMENT	N	*n%
CARDIOLOGY	23	17.69
GASTROENTEROLOGY	9	6.92
GENERAL MEDICINE	22	16.92
NEPHROLOGY	2	1.53
ORTHOPAEDICS	32	24.6
PULMONOLOGY	17	13.07
UROLOGY	5	3.84
NEUROLOGY	16	12.3
SPINE	2	1.53
ENDOCRINOLOGY	2	1.53
TOTAL	130	100

During the study, out of 130 patients it was found that there are more patients from the orthopaedics 32 patients (24.6%) and cardiology 23 patients (17.69%) are suffering from diabetes and hypertension.

Table 5: Prescription Wise Distribution

| PRESCRIBED AS	NO.OF PRESCRIPTIONS	PERCENTAGE	P VALUE	T VALUE
BRAND NAME	112	86.28%		
GENERIC NAME	18	13.72%	0.82	0.25
TOTAL	130	100		
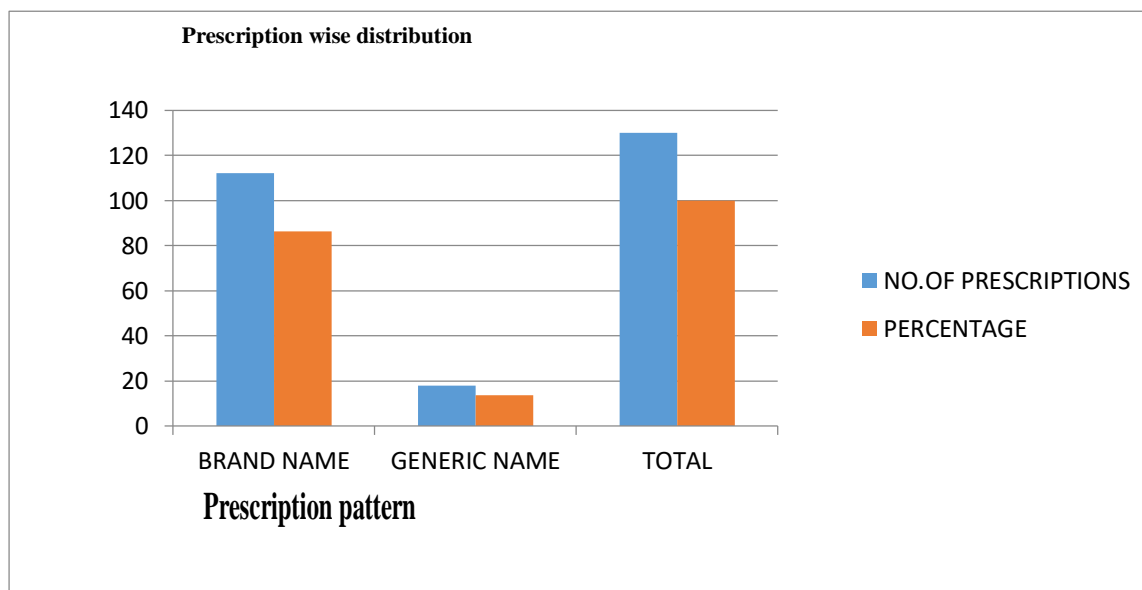
Out of 130 cases, a majority of then drugs were purely prescribed based on the brand names i.e., 112(86.28%) followed by generic namesi.e.,18 (13.72%). The pattern of prescription in terms of the genric name was found to be low and should be encouraged.[7]

Table 6 : Past Medication History

PAST MEDICATON HISTORY	MALES	*n%	FEMALES	*n%	P value	T value
WITH MEDICATION	52	40	28	21.5		
WITHOUT MEDICATION	35	27	15	11.5		
TOTAL	87	67	43	33		
MEAN	58		28			

| STD. DEV	15.30	8.08	0.16	1.69
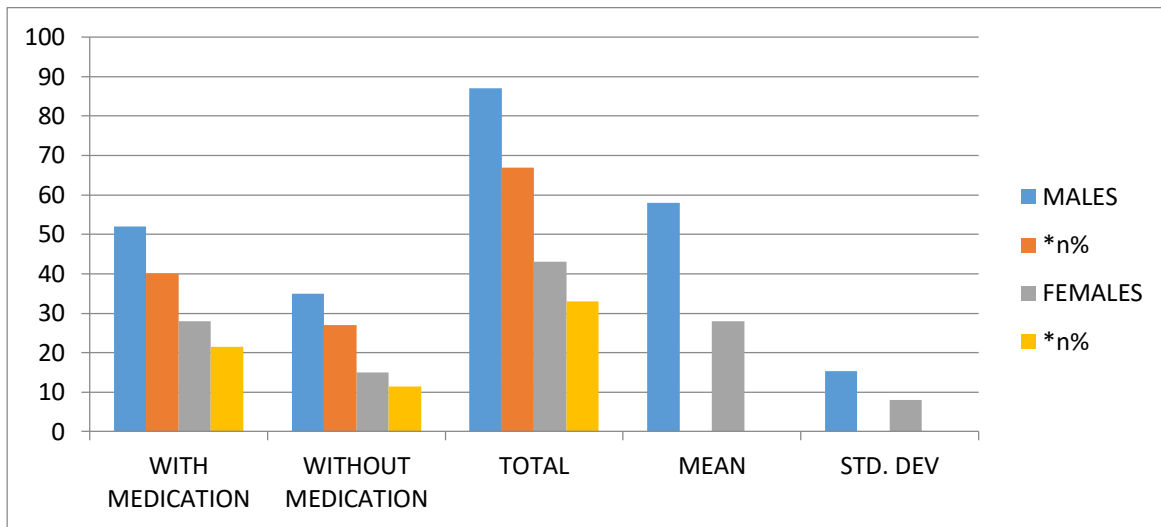
Among 87 male patients in past medication history, 52 patients (40 %) are on antihypertensive medications and 35 patients (27%) were not on antihypertensive medications. Among 43 female patients in past medication history,28 patients (21.5%) are on antihypertensive medications and 15 patients (11.5%) were not on antihypertensive medications. mean and standard deviation was found to be 58,15.30 in males and 28,8.08 in females. P value and t test value was found to be 0.16,1.69.[8]

Table 7: Duration of Disease

YEARS	N	%
UPTO 5 YEARS	54	70.2
6-10 YEARS	47	61
11-15 YEARS	20	26
>15 YEARS	8	10.4
FAMILY HISTORY OF DISEASE		
YES	54	70.2
NO	76	98.8
SOURCE OF INFORMATION		
DOCTOR	94	122.2
MEDIA	8	10.4
RELATIVES/FRIENDS	28	36.4
INTERNET	7	9.1
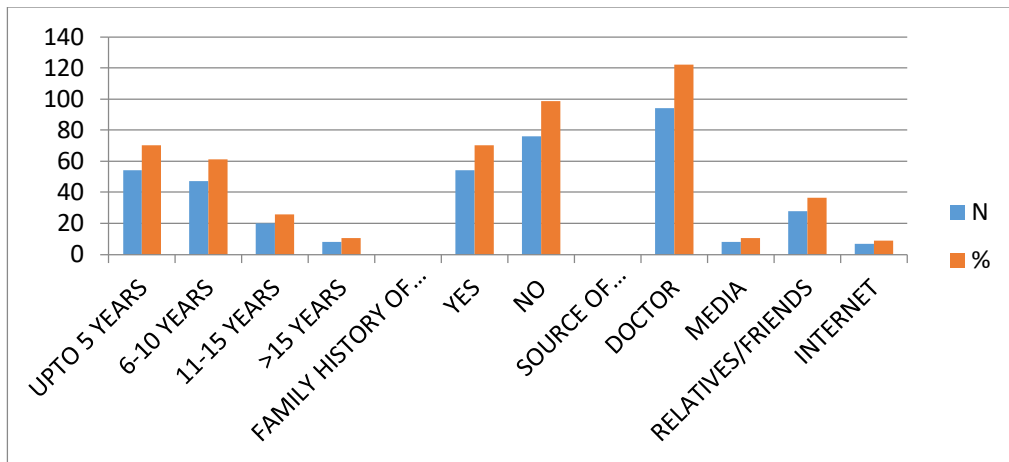
From the above chart we found that out of 130 patients 54 patients (70.2%) patients were found upto 5 years of hypoglycemic agent use followed by 47 patients (61%) are found with 6-10 years use,20 patients (26%) upto 11-15 years and finally more than 15 years 8 patients (10.4%) .The family history of disease were seen 54(70.2%)as YES and 76(98.8%) as NO.The source of information through doctor 94(122.2%),media 8(10.4%),relatives/friends 28(36.4%) and by internet 7(9.1%).[9]

Table 8: Diagnosis Wise Distribution of Insulin

DISEASE	NO.OF PATIENTS	PERCENTAGE	P VALUE	T VALUE
TKR	34	26.15		
GIT	26	20		
STROKE	12	9.24		
MI	15	11.50	0.67	0.43
UTI	10	7.7		
CAD	21	16.17		
CKD	12	9.24		
TOTAL	130	100		

Out of 130 patients, the highest number of patients are seen in TKR as 34(36.15%) and Least number of patients are seen in UTI as 10(7.7%). The p value and t test value are found to be 0.67,0.43.

Table 9: Kap (Knowledge Attitude Practice) Questionnaire for Diabetes Patients
Table 9.1: Knowledge Questions

❖ Diabetic History	YES	NO	P VALUE	T VALUE
1. How long have you had diabetes or year diagnosed?	89	41		
2.What type of diabetes do you have? ⭕ Type – 1 ⭕Type - 2 ⭕ Gestational ⭕Don't know	84	46		
❖ Diabetes Health Attitudes				
1. How would you rate your understanding of diabetes? ⭕ Good ⭕ Fair ⭕ Poor	75	55		
2. Have you ever been instructed on diabetes care? if Yes where and by whom?	94	36		
3.Do you have any physical limitations that may affect your ability to perform your self-care? ⭕ Hearing problems ⭕ Problems with use of your hands ⭕ Vision loss (not corrected by glasses or contacts) ⭕ Problems with use of your feet	91	39		

4. How do you learn best?	52	78		

⚪ Written materials ⚪ Verbal discussions ⚪ Video
⚪ Hands on/doing ⚪ Other

❖ **Medical History**

1.Have you ever been diagnosed, ever been told, or have you had problems with the following?	37	93	0.538	0.626

⚪ High Blood pressure ⚪ High Cholesterol/Triglycerides ⚪ Stroke
⚪ Kidney/Bladder problems ⚪ Eye or vision problems ⚪ Obesity
⚪ Depression or anxiety ⚪ Circulation problems ⚪ Asthma
⚪ Surgery in the last 5 years ⚪ Heart disease/Chest pain ⚪ Thyroid disease
⚪ Frequent nausea, vomiting, constipation, diarrhea ⚪ Shortness of Breath
⚪ Numbness/pain/tingling of hands/feet Other health problems :

2.Do you have any allergies? If yes? Medication/foods:	23	107

3. Do you smoke?
    If Yes: How long did you smoke for? _____ How much?
_____

When did you quit? _____ Have you ever tried to quit?	45	85

    If Yes: How long ago? _____
Would you like information on how to quit? _____

4. Do you drink alcohol?	98	32

If "yes," amount and type?

Table 9.2: Attitude Questions

1.Do you exercise regularly?	83	47		
2.Are you following a controlled and planned diet?	62	68		
3.Do you think missing doses of your diabetic medication will have a negative effect on your disease control?	105	25	0.06	2.14
4.Are you aware of your blood sugar levels fall below normal when you are taking drug?	89	41		
5.Do you think should keep in touch with your physician?	55	75		

Table 9.3: Practice Questions

1.When your blood pressure was last checked?	46	84		
2.When was your last eye examination?	38	92		
3.When was your last urine examination?	42	88		
4.When was your last visit to your physician?	27	103	0.007	3.544
5.When your blood sugar was last checked?	74	56		
6.When was your lipids last checked?	87	43		

Table 9.4: Mean Knowledge, Attitude and Practice Score of Thediabetes Patients

PARAMETER	MEAN±SD
Knowledge	5.7±1.2
Attitude	1.7±0.7
Practice	1.6±0.78
TOTAL	9±2.68

From the above table, the mean score of knowledge, attitude and practice were 32.79,21.63 and 32.48. The standard deviation score of knowledge, attitude and practice were 0.37,3.98 and 0.01. The overall mean and

standard deviation of knowledge, attitude and practice score was 86.9 and 4.36. The p value and t test value for knowledge was found to be 0.32,1.04 for attitude as 0.02,2.47 and for practice as 0.69,0.39.[10,11]

Table 10: Kap (Knowledge Attitude Practise) Questionnaire For Hypertensive Patients
Table 10.1: Knowledge Questions

SL.NO	QUESTIONS	YES	NO	P VALUE	T VALUE
1	Do you know what is hypertension (high BP)	48.1%	16.9%		
2	Do you know, what is normal blood pressure level? (A)120/80 (B) =120/80 (C) <140/90 (D) <150/50	35.5%	29.5%		
3	Do you know what the symptoms hypertensions are? (A)Headache (B) Vomiting (C) Dizziness (D) Palpitation (E) Sweating (F) Chest pain	26.97%	38.0%	0.32	1.04
4	Do you think smoking and alcohol consumption can cause hypertension	44.86%	20.15%		
5	Do you know what the complications of hypertension are? (A) Heart attack (B) Visual impairment (C) Stroke (D) Renal failure	24.38%	40.62%		

Table 10.2: Attitude Questions

SL.NO	QUESTIONS	AGREE	UNDECIDED	DISAGREE	P VALUE	T VALUE
1	Regular medications will improve the disease	61.5%	3.5%	0.33%		
2	Drugs alone can control hypertension	8.45%	30.22%	26.3%		
3	Diet will improve the condition	48.1%	12.0%	4.8%	0.02	2.47
4	Salt restriction can control hypertension	49.4%	12.0%	3.5%		
5	Regular physical activity of at least 40minutes/ session for 3-4 days/ week essential to control Hypertension	43.5%	20.4%	0.9%		

Table 10.3: Practice Questions

SL.NO	QUESTIONS	YES	NO	P VALUE	T VALUE
1	Do you know your blood pressure regularly? (A) Daily (B) once a week (C) once in 15 days (D) monthly once	50.0%	14.9%		
2	Do you go for regular follow up? (A)Once a week (B) once in 15 days (C) Monthly once (D) once in 3 months	50.0%	14.9%		
3	Did you ever experience any side effects due to drugs? (A)Gastritis (B) Giddiness (C) Vomiting (D) Palpitation	3.9%	61.1%	0.69	0.39
4	Do you avoid extra salt in your diet?	46.8%	18.2%		
5	Do you exercise at least 40 Minutes/ session for 3-4 days/weDo you take your drugs regularly?	5.85%	59.1%		
6	Reason for non-compliance (A)Forgetfulness (B) financial burden (C) Inaccessibility to treatment facility (D) Denial of illness	54.6%	10.4%		

Table 10.4: Mean Knowledge, Attitude and Practice Score of The hypertensive Patients

PARAMETER	MEAN+SD
Knowledge	32.79+0.37
Attitude	21.63+3.98
Practice	32.48+0.01
TOTAL	86.9+4.36

From the above table, the mean score of knowledge, attitude and practice were 5.7,1.7 and 1.6. The standard deviation score of knowledge, attitude and practice were 1.2,0.7 and 0.78. The overall mean and standard deviation of knowledge attitude and practice score was 9 and 2.68. The p value and t test value for knowledge was found to be 0.538,0.626 for attitude as 0.06,2.14 and for practice as 0.007,3.544.[13,14]

DISCUSSION

Gender

In our present study, it was found that more male patients are admitted to the various departments in the hospital, when compared to female patients. Out of 130 patients enrolled the number of male patients was found to be 68(52.30%) while number of female patients was 62(47.60%). The reason for higher incidence of male patients may be due to uncontrolled diet and improper exercise.

Age

Out of 130 patients, the maximum number of patients aged between 61-70 is suffering from diabetes followed by age group (51-60).

Disoder

Out of 130 patients, the maximum number of patients diabetis / hypertension are 76(58.46%), hypertension as 34(26.15%) and minimum number of patients for diabetics are 20(15.38%).

Department

During the study, out of 130 patients it was found that there are more patients from the orthopaedics 32 patients (24.6%) and cardiology 23 patients (17.69%) are suffering from diabetes and hypertension.

Prescription

Out of 130 cases, a majority of then drugs were purely prescribed based on the brand names i.e., 112(86.28%) followed by generic namesi.e.,18 (13.72%). The pattern of prescription in terms of the genric name was found to be low and should be encouraged.

Past medication history

Among 87 male patients in past medication history, 52 patients (40 %) are on antihypertensive medications and 35 patients (27%) were not on antihypertensive medications. Among 43 female patients in past medication history,28 patients (21.5%) are on antihypertensive medications and 15 patients (11.5%) were not on antihypertensive medications. mean and standard deviation was found to be 58,15.30 in males and 28,8.08 in females. P value and t test value was found to be 0.16,1.69.

Duration of disease

Out of 130 patients 54 patients (70.2%) patients were found upto 5 years of hypoglycemic agent use followed by 47 patients (61%) are found with 6-10 years use,20 patients (26%) upto 11-15 years and finally more than 15 years 8 patients (10.4%) .The family history of disease were seen 54(70.2%)as YES and 76(98.8%) as NO.The source of information through doctor 94(122.2%),media 8(10.4%),relatives/friends 28(36.4%) and by internet 7(9.1%).

Diagnosis wise distribution of insulin

Out of 130 patients, the highest number of patients are seen in TKR as 34(36.15%) and Least number of patients are seen in UTI as 10(7.7%). The p value and t test value are found to be 0.67,0.43.

KAP (knowledge attitude practice) questionnaire for diabetes patients

The mean score of knowledge, attitude and practice were 5.7,1.7 and 1.6. The standard deviation score of knowledge, attitude and practice were 1.2,0.7 and 0.78. The overall mean and standard deviation of knowledge attitude and practice score was 9 and 2.68. The p value and t test value for knowledge was found to be

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Gender wise distribution

From the above table,diabetis and hypertension patients are more in male and female i.e,44 and 32.

Types of insulin prescribed

From the above table it is inferred that out of 130 prescrptions frequently prescribed was human actropid 95 patients (73.07), followed by human mixtar 32 patients (24.61), human mixtard+ human actropid 2 patients (1.53%) and finally human mixtard or human actropid 1 patients (0.76%).

Intensity wise distribution oral hypoglycemic agents v/s insulin

From the above table, it is inferred that out of 96 patients, majority of patients are prescribed by insulin i.e,76 followed by moderate use of oral hypoglycemic agents i.e,.8.

Comparision of department with reference to gender

From the above table it was inferred that out of 130 cases, when we compare department with respect to gender, majority of cases were found in female 19 in orthropaedics,10 in cardiology,9 in general medicine ,6 in pulmnology,5 in gasentrology,2 in urology,2 in neurology,1 in spine.In males 15 in cardiology, 13 in orthopaedics,11 in general medicine,10 in both neurology and pulmnology,5 in gasentrolog,4 in urology and finally 1 in endocrinology,urology and nephrology. The least number as 1 in female in spine,1

in males both in nephrology and endocrinology. When we compare the two values in regression we get p-value (P=0.0329). thus the null hypothesis is accepted. Male are more prone to diabetes when compared to female.

Comparision of department with reference to age

In this study, out of 130 cases, when we compare department with respect to age, majority of cases who are suffering from diabetes are found in Orthopaedics department 30 cases (61-70) followed by 25 cases (51-60) in cardiology very few cases were noted in age group 61-70 years i.e., 1cases in endocrinology P-Value was found to be 0.0038 and the null hypotheses is accepted.

In addition, the data collection was done during working hours and this could account for the large fraction of the female respondents. Based on these observations, a good active educational intervention and counselling is recommended to improve the knowledge, attitude and practice of hypertensive patients for better disease management.

CONCLUSION

We conclude that the motivation and counselling stressing the importance of lifestyle modifications and self-management is required for the patients suffering with chronic diseases such as hypertension and diabetes. Patient counselling by the clinical pharmacist can play a vital role in imparting education to the diabetic and hypertensive patients Knowledge of diabetic patients was fairly good but attitude and practices were not up to the mark. Public health Programs involving educational interventions and behavioural change is the need of the hour for better control and management of the disease both in urban and rural areas. Present study reflected a lack of knowledge among hypertensive patients regarding normal BP, symptoms and complications. A positive attitude and practice were observed among the patients except for practice of regular exercise. Hence, emphasize on awareness about symptoms, complications and importance of physical activity should be improved particularly among male patients. In order todecrease the disease burden, focus on KAP of hypertensive patients by implementing well planned educational intervention is essential.

LIMITATIONS

KAP assessment from the population surveys invariably poses the problem of social desirability, whereby study participants are reluctant to admit socially poorly acceptable KAP's to avoid giving a negative impression. This study is limited by the small sample size and the KAP data is based on a self-reported questionnaire. One potential drawback in the current study is a single location data collection and authors recommend more studies in different rural locations to make results truly representative at the national level. Further the results of the study may not be extrapolated to the entire diabetic population. Also that the authors could not retrieve HbA1C levels from study subjects due to non-availability of reliable lab reports which would have otherwise given a clearer picture of past glycemic control.

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