



Assessment of Patient Counseling on Therapeutic Outcomes and Lifestyle Modification in Diabetic and Hypertensive Patients in a Tertiary Care Hospital, Calicut

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ABSTRACT

Diabetes mellitus and hypertension are chronic, non-communicable diseases that frequently coexist and require medication and lifestyle changes. Improving medication compliance, disease comprehension, and lifestyle modifications via patient counselling is crucial to improving treatment outcomes. At PVS Sunrise Hospital in Calicut, this study evaluated the effects of patient counselling on the treatment results, knowledge, attitude, and practice of patients with Type 2 diabetes mellitus and hypertension between December 2023 and May 2024. The study included 150 participants who were 45 years of age or older. In addition to verbal and written counselling, KAP surveys were given both before and a month after counselling. Furthermore, measurements of random blood sugar and blood pressure were made at both intervals. Prior to counselling, patients demonstrated a solid grasp of the risk factors for smoking, obesity, and family history, but they were ignorant of HbA1C. Following counselling, knowledge increased by 65.6%, attitude improved by 61.9%, and practice increased by 49.4%. Increased regular exercise (72%), blood sugar and blood pressure monitoring (82%), and improved eating habits were among the notable changes in attitude and practice. Systolic blood pressure dropped from 134.6 to 130 mmHg, diastolic blood pressure dropped from 85.3 to 81.1 mmHg, and RBS dropped from 140.1 to 135.5 mg/dl as a result of the treatment. These results demonstrate how patient counselling can improve KAP and therapeutic results. Despite improvements, slight behavioural shifts point to the continued necessity of long-term adherence techniques and continual patient education to maximise illness treatment.

Keywords: Knowledge attitude and practice, Diabetes mellitus, Hypertension, Random blood sugar, Blood pressure.

INTRODUCTION

Diabetes Mellitus (DM) and Hypertension are among the most prevalent chronic non-communicable diseases globally, significantly impacting public health. DM is characterized by elevated blood glucose levels due to defects in insulin secretion or action. It is classified into type 1, type 2, gestational diabetes, and other specific types. Common symptoms include excessive thirst, hunger, urination, weight loss, and fatigue. Long-term complications can affect the eyes, kidneys, nerves, heart, and limbs. Type 1 DM requires lifelong insulin therapy, while type 2 DM is managed with oral medications like metformin and lifestyle modifications. The global burden of diabetes has increased significantly, with India being one of the most affected countries.

Hypertension, defined by a blood pressure of 140/90 mmHg or more, often presents without symptoms but can lead to severe cardiovascular and renal complications. Treatment includes lifestyle changes and antihypertensive medications such as ACE inhibitors, ARBs, calcium channel blockers, and diuretics. The prevalence of hypertension is rising, particularly in low- and middle-income countries and among older populations.

Patient counseling plays a critical role in improving treatment adherence and outcomes, involving stages from basic medication information to active support in therapy management. Additionally, Knowledge, Attitude, and Practice (KAP) studies are essential tools in evaluating public understanding and guiding health education interventions.

Aim:- To evaluate the impact of patient counselling in a tertiary care hospital on the understanding of patients with diabetes and hypertension on their medication, disease state, and lifestyle changes.



Objectives of the study:

- To update patients about the latest developments in the treatment of hypertension and type 2 diabetes.
- To evaluate the patient's quality of life and the effect of patient counselling on it; to evaluate the patient's knowledge, attitude, and practices regarding the disease.

Review of literature:-

In their study of hypertension patients at Yekatit 12 General Hospital, Taye Kebede et al. (2022) discovered that although 67.7% of the patients were informed and 54.0% had a positive attitude towards changing their lifestyle, only 38% actually did so. This draws attention to a discrepancy between behaviour and knowledge.

The importance of knowledge, attitude, and practice (KAP) in the management of Type 2 Diabetes Mellitus was examined by Sanjeev Kumar Gautam et al. in 2022. They underlined that increasing KAP, particularly in developing nations, requires patient counselling and that education is the first step towards better disease control.

MATERIALS AND METHODS

The study was conducted at PVS Sunrise Hospital Calicut, over a period of six months from December 2023 to May 2024. It was a prospective interventional study involving patients above 45 years of age diagnosed with type 2 diabetes mellitus and hypertension, including both in-patients and out-patients. Patients below 45 years, pregnant women, and lactating mothers were excluded. A total of 150 eligible patients were enrolled based on the inclusion and exclusion criteria. Patient counseling was provided in both verbal and printed formats. The patients' knowledge, attitude, and practice (KAP) were assessed using a structured questionnaire before counseling and one month after counseling. Additionally, their blood pressure and random blood sugar (RBS) levels were recorded at both points. Relevant case sheets and literature were also reviewed. The collected data were analyzed to determine the impact of counseling on diabetic and hypertensive patients.

RESULTS

A total of 150 patients were enrolled and assessed using a KAP (Knowledge, Attitude, Practice) questionnaire. After initial data collection, the patients received counseling on disease management, medications, and lifestyle changes. The same questionnaire was administered after one month to evaluate improvements. Of the 150 patients, 78 were males (52%) and 72 females (48%). The majority (38%) were aged 66–75 years. Most patients (36%) weighed between 71–80 kg.

In terms of knowledge, around 90% were aware of family history risks, 74.6% recognized obesity as a risk factor, and 94% acknowledged the impact of smoking. However, only 32% were familiar with the term HbA1c. Regarding attitude, 72% showed willingness to exercise regularly, and 82% supported regular monitoring of blood pressure and blood sugar. Practice scores improved modestly, with 57.3% incorporating fruits and vegetables into their diet, 65.3% reducing salt intake, and 46.6% adopting regular exercise. Stress management remained low.

Post-counseling, knowledge improved by 65.6%, attitude by 61.9%, and practice by 49.4%. Therapeutic outcomes also showed improvement: average RBS decreased from 140.1 mg/dL to 135.5 mg/dL, systolic BP from 134.6 mmHg to 130 mmHg, and diastolic BP from 85.3 mmHg to 81.1 mmHg.

Comparison of knowledge, attitude and practice scores of the study population

Parameters	Before counseling	After counseling
Knowledge	33.1%	65.6%
Attitude	32%	61.9%
Practice	30.8%	49.4%

Impact of patient counseling on therapeutic outcome

	RBS	Systolic BP	Diastolic BP
Before counseling	140.1	134.6	85.3
After counseling	135.5	130.06	81.1



DISCUSSION

The study primarily evaluated the knowledge, attitude, and practice (KAP) among hypertensive patients and the impact of patient education. Most participants belonged to the 66–75 age group, differing from the study by Puvvada RC et al., where the majority were between 51–60 years. Males were more prevalent in the study population, consistent with findings by Lavu C et al. Following patient counseling, there was a significant improvement in KAP scores. Knowledge scores increased from 33.1% to 65.6% (49% rise), similar to the findings of Herath HMM et al. Attitude scores improved from 32% to 61.9% (48% rise), while practice scores rose from 30.8% to 49.8% (36% increase). Although knowledge and attitude showed substantial improvement, the lower increase in practice could be due to the short follow-up period of one month. In contrast, a study by Thomas JA et al. reported greater increases across all areas, with practice scores improving by 86%. Therapeutic outcomes also showed positive changes, with RBS decreasing from 140.1 mg/dL to 135.5 mg/dL, systolic BP from 134.6 mmHg to 130 mmHg, and diastolic BP from 85.3 mmHg to 81.1 mmHg. These results are consistent with those reported by Puvvada RC et al., indicating that patient education has a favorable impact on both knowledge and clinical parameters.

CONCLUSION

The study emphasizes the impact of patient counseling on the treatment outcome, knowledge, attitude and practice of patients with coexisting diabetes and hypertension. One of the most important finding of this study was the gap between knowledge and their attitude and practice towards diabetes and hypertension and its managements. Even though the majority had above average knowledge it was not reflected in the practice towards DM and hypertension. Therefore, we believe that it is necessary to provide more resources to improve the knowledge and change the attitude of general public for the better management of diseases. Knowledge does not always result in good attitude or positive behavioral changes.

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