

## ASSESSING THE IMPACT OF PHARMACISTS IN PATIENT COUNSELLING IN IMPROVING KNOWLEDGE, ATTITUDE AND PRACTICE OF DIABETES AND HYPERTENSION PATIENTS

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### ABSTRACT

Counselling the patients plays an important role in this study. This study aimed to evaluate the impact of pharmacist-led patient counseling on the knowledge, attitude, and practice (KAP) of patients with diabetes and hypertension. At the first visit, participants' KAP was assessed using a structured questionnaire, followed by pharmacist-led counseling sessions. The counseling sessions focused on medication adherence, lifestyle modifications, and self-monitoring of blood glucose and blood pressure levels. At the second visit, participants' KAP was reassessed using the same structured questionnaire. The results demonstrated a significant improvement in KAP scores among patients following the pharmacist-led patient counseling. The study highlights the crucial role of pharmacist-led patient counseling in enhancing knowledge, attitude, and practice among diabetes and hypertension patients, ultimately contributing to improved disease

management and clinical outcomes. These findings underscore the importance of incorporating pharmacists into multidisciplinary healthcare teams for optimal patient care and support.

**KEYWORDS:** At the second visit, participants' KAP was reassessed using the same structured questionnaire.

## I. INTRODUCTION

Pharmacist-led patient counseling plays a critical role in the successful management of chronic diseases like diabetes and hypertension. As healthcare professionals, pharmacists possess the knowledge and skills necessary to bridge the gap between patients and their treatment regimens, empowering them to make informed decisions about their health. In this comprehensive review titled "Assessing the Impact of Pharmacist in Patient Counseling in Improving Knowledge, Attitude, and Practice of Diabetes and Hypertension Patients," we aim to evaluate the effectiveness of pharmacist interventions in enhancing the self-management capabilities of patients suffering from these two chronic diseases. Diabetes and hypertension often referred to as the "twin epidemics," represent significant public health challenges worldwide. They are major risk factors for cardiovascular diseases and can lead to severe complications, such as kidney failure, blindness, and stroke, if not managed appropriately. As the prevalence of these diseases continues to rise, there is a growing need for effective strategies to promote better patient engagement, education, and adherence to prescribed treatments.<sup>[1,2]</sup>

In this context, the role of pharmacists in patient counseling has gained increased attention. Their expertise in medication therapy management, drug interactions, and patient education, coupled with their accessibility, positions them as key players in the multidisciplinary healthcare team. The main objective of this review is to analyze the impact of pharmacist-led interventions on the knowledge, attitude, and practice [KAP] of diabetes and hypertension patients, as well as to identify the key factors that contribute to the success of such interventions.<sup>[3]</sup> To achieve this, we will systematically examine the existing literature on pharmacist interventions and their effect on diabetes and hypertension management. Specifically, we will explore the following aspects: 1. The design and implementation of pharmacist-led counseling interventions, including the methods and tools used to engage patients in their disease management.

2. The impact of these interventions on patients' knowledge of their diseases, their understanding of the prescribed treatments, and the factors influencing their adherence to medication regimens.

3. The influence of pharmacist-led counseling on patients' attitudes towards their diseases and the healthcare system, as well as the development of self-efficacy in managing their conditions.

4. The effects of pharmacist interventions on patients' self-care practices, including lifestyle modifications, medication adherence, and monitoring of disease parameters.
5. The key factors contributing to the success of pharmacist-led interventions, such as the level of pharmacist training, the duration and frequency of counseling sessions, and the use of tailored, patient-centered approaches.<sup>[4,5]</sup>
6. The role of technology and digital health tools in pharmacist-led interventions: With the rapid advancement of digital health solutions, pharmacists have access to innovative tools to facilitate patient counseling and monitoring. We will explore the impact of telepharmacy, mobile health applications, and other digital platforms on the effectiveness of pharmacist led interventions in diabetes and hypertension management.<sup>[6]</sup>
7. The cost-effectiveness of pharmacist-led counseling interventions: Healthcare systems are constantly striving to optimize resources while maintaining or improving patient outcomes. We will examine the economic impact of pharmacist-led interventions in diabetes and hypertension management and assess their cost-effectiveness in comparison to traditional healthcare models.<sup>[7]</sup>
8. The impact of pharmacist-led counseling on healthcare utilization and clinical outcomes: Effective management of diabetes and hypertension may lead to reductions in hospitalizations, emergency room visits, and other healthcare utilization. We will assess the influence of pharmacist interventions on healthcare utilization rates, as well as their effects on clinical outcomes such as blood pressure and glycemic control.<sup>[8]</sup>

By assessing the impact of pharmacist-led patient counseling on diabetes and hypertension management, this review seeks to contribute valuable insights into the potential benefits of involving pharmacists in chronic disease care. Furthermore, it aims to identify the best practices and strategies for optimizing pharmacist interventions, thereby fostering better patient outcomes and reducing the burden of these chronic diseases on healthcare systems worldwide.

## KNOWLEDGE, ATTITUDE AND PRACTICE

KAP survey is a representative study of a specific population to collect information on what is known, believed and done concerning a particular topic. In most KAP surveys, data are collected orally by the interviews using a structured standardized questionnaire. These can be analyzed quantitatively or qualitatively depending on the objectives and design of the study.

KAP surveys are more useful in health sciences. Through these surveys, we can assess health related beliefs and behavior changes on specific illnesses and treatments.<sup>[33]</sup>

The proposition of the KAP is an effective system to help to understand the current services of druggists. As one of the generally used propositions in public health, the proposition of KAP is easy to be applied and interpreted which is also characterized by quantifiable data and generalized by small samples. It has been extensively used around the world to understand the current state of service of healthcare workers including a pharmacist. In a particular area and to lay a foundation for taking measures to optimize it.

The proposition of KAP holds the knowledge and attitude which plays a decisive part in practice in addition it has been proved that the characteristics of pharmacists similar to working senility will affect complaint management grounded on the proposition of KAP. The first draft of the questionnaire was designed on the aspects of knowledge attitude and practice of pharmacist on the education of HTN and DM cases.

The knowledge section was developed and grounded on the etiologic, transmission and symptoms of HTN and DM. However, the attitude section of the questionnaire was developed grounded on the proposition, while the practice was grounded on the preventative strategies for hypertension and diabetes.

KAP survey data are essential to help plan, implement and evaluate. KAP surveys can identify knowledge gaps, cultural beliefs or behavioural patterns that may facilitate understanding and actions, as well as pose problems or create barriers to developing efforts.<sup>[34]</sup>

Knowledge of diabetes and hypertension can help the imminent habitual co-morbidities of DM and HYPERTENSION, which impact the quality of life of diabetes and hypertension cases.

Information can help people to assess their threat of diabetes and hypertension, and motivate them to seek proper treatment and care.<sup>[35]</sup>

## **PATIENT COUNSELLING**

Safe and effective medicine remedy depends on the patient is well informed about their medication. Care is provided in India at primary, secondary and tertiary health care levels and

at each level more patients receive medication as a part of treatment due to the heavy patient load, numerous prescribers have little time to explain the proper use of the medication to patients.

Patient counselling is defined as providing medication information orally or in written form to the patients or their representatives on providing proper directions on the right use of medication, advice on common side effects, storage, precautions, diet maintenance and also advice about patient's illness and lifestyle modifications or It is professional counselling given by a practising pharmacist to the patient representatives on layman language on matters related to prescribed medications, health care, and lifestyles with the objectives increasing patient compliances to the prescribed medication and providing rational, scientific and use of medications.

Pharmacists should assess the patient's knowledge about his or her illness, and treatment and provide information or advice accordingly to fill the information understanding gap to take their medications safely and effectively.

- Remembering the right patient about taking the right drug at the right dose at right time, but in the wrong way can still compromise drug effectiveness and patient safety.
- Review the patient record prior to counseling.
- Explain the purpose of counseling session.
- Conduct an appropriate patient counseling.
- Provide accurate advice and information.
- Good communication skills are required to gain the patient confidence and to motivate the patient to adhere the recommended regimen.<sup>[36]</sup>

The counselling process includes two types of communication skills.

#### **Verbal communication skills include**

1. Language.
2. Tone.
3. Volume.
4. Speed.

#### **Non-verbal communication types include**

1. Proximity.

2. Eye contact.
3. Facial expression.<sup>[37]</sup>

## STEPS DURING PATIENT COUNSELLING

Following are the steps to be followed during patient counseling,

Step-1: Preparing for the session.

Step-2: Opening of the session.

Step-3: Counseling content.

Step-4: Closing the session

Step-1: Preparing for the session.

- Counseling develops upon the knowledge and skills of the counselor.
- Pharmacist should know as much as possible about the patient treatment details.
- In community pharmacy, the source of information includes, patient and prescription or a record of previous dispensing.

If the pharmacist is unfamiliar about the drug which is received from the patient, go for drug information reference.

- Before counseling, you must have to consider about mental and physical status.

Step-2: Opening of the session.

- Reviewing the patient's records.
- Introducing yourself.
- Explaining the purpose of counselling.
- Assessing the patient's understanding of the reason for therapy.
- Assessing any actual and or potential concerns or problems of importance to the patient.

Obtaining drug-related information such as allergies, use of herbals etc.

- Using open-ended questions. For Example, what do you about the disease?
- Avoid asking questions directly in an embarrassing way.

Step-3: Counseling content.

- Generic and brand name of the medication.
- How it helps patients?
- How long it takes to begin working?
- How much amount to take at one time?

- When to take the medication?
- How to take the medications?
- What to do when you forget to miss a dose?
- Restrictions on activities.
- When to seek help if they are the problem?

The issue regarding manner:

- Use language that the patient understands.
- Use appropriate counselling.
- Use open-ended questions.
- Explaining the concept in simple words in logical order.

Step-4: Closing the session.

- Verify the patient's understanding through feedback.
- Summarize by emphasizing key points.
- Allow the patient to put forward any concerns.
- Help the patient to follow up.

## **SOME IMPORTANT ASPECTS OF COUNSELLING**

Patient counselling may not take place in community pharmacies due to various reasons known as barriers. These barriers are classified as,

1. Patient-based barriers.
2. Provider-based barriers.
3. System-based barriers.<sup>[38]</sup>

## **AIM AND OBJECTIVES**

### **AIM**

- The aim of this study is to assess the impact of pharmacist counseling on improving the knowledge, attitude, and practice of diabetes and hypertension patients.

### **OBJECTIVES**

1. To determine the baseline level of knowledge, attitude, and practice of diabetes and hypertension patients before pharmacist counseling.
2. To evaluate the impact of pharmacist counseling on improving patients' knowledge, attitude, and practice of diabetes and hypertension management.

3. To determine the factors that influences the effectiveness of pharmacist counseling on improving patient outcomes.
4. To assess the impact of pharmacist counseling on medication adherence, glycemic and blood pressure control, and quality of life.
5. To identify the barriers to pharmacist counseling and strategies to improve the utilization of pharmacist counseling services.
6. To provide evidence-based recommendations to policymakers, healthcare providers, and pharmacists on the role of pharmacist counseling in diabetes and hypertension management.

## **METHODOLOGY**

### **STUDY DESIGN**

- It is a prospective observational study.

### **STUDY PERIOD**

- Study is going to be conducted over a period of 3 months [December 2022 to March 2023].

### **STUDY POPULATION SIZE**

- 104 patients are taken into consideration.

### **STUDY SITE**

- This study is going to be conducted in tertiary care hospital, Government General Hospital [GGH], GUNTUR.

### **INCLUSION CRITERIA**

- Patients with age group of above 25 years are included.
- Patients with Hypertension/Diabetes type -2 are included.
- Obese, cardiac and nephropathy patients with Hypertension or Diabetes type -2 are included.

### **EXCLUSION CRITERIA**

- Patients with age group below 25 years.
- Patients with type -1 DM.
- Patients with chronic infections for example [HIV, CANCER].



## STUDY METHOD

- It is a prospective observational study, where the study is going to be conducted among the patients with HTN and DM-type -2 over a period of 3 months [December 2022-March 2023].
- In this study, we include 104 patients with HTN/DM and written consent was taken from patients who are willing to participate in the study.  
Patient's demographic details with suitably designed patient data collection form and validate KAP questionnaire was prepared and was used to evaluate the baseline of KAP score.
- There was a total of 24 questions in the questionnaire form in which 14, 4, 6 on knowledge, attitude, practice.
- Patient's response opinion 'YES' and 'NO' were taken into considerations for baseline KAP scoring.
- Patients leaflets were prepared and provided to patients after counseling.
- After 45 days patients were followed up and their KAP scores was reassessed and the data was assessed by statistical analysis in which t- test / frequencies and p values are used to analyze the data where the significant results were found.