

PHARMACOECONOMIC ANALYSIS OF ANTI-DIABETIC DRUGS IN PANDHARPUR AREA

*M.M.Bhore¹,

MBA department, SVERI's College of Engineering
Pandharpur, India.,

S.K.Patil²

B.P.Sulakhe Commerce College
Barshi, India

Abstract—Pharmacoeconomics is a field of study that deals with the study of the usage and benefits of pharmaceutical products. This study is based on the concept of pharmacoeconomics of anti-diabetic drugs in Pandharpur area. It has been carried out from marketing point of view to identify the prescription patterns, demographic and clinical characteristics as well as the cost factor involved in the treatment of diabetes. The study was carried out through survey method with a structured questionnaire and random convenience sampling, with sample size of 50 diabetes patients. It is observed that 38% of respondents belong to the age group of 45-54 years, 28% of respondents have been suffering from diabetes for the last 6-10 years., 72% of the respondents suffer from associated ailments like hypertension and heart ailments, 76% respondents prefer to combine the allopathic and ayurvedic treatments for better management.

Keywords – Pharmacoeconomics; anti-diabetic; drugs; hypertension

I. INTRODUCTION

A. Pharmacoeconomics

Increased cost of health care has led to great interest in the evaluation of health care systems in terms of economic value, this is more so in case of medicines and pharmaceuticals. Pharmacoeconomics is a field of study that evaluates the behavior or welfare of people, firms, and markets relevant to the use of pharmaceutical products, and services. Pharmacoeconomics, as well as outcomes research, have become part of the background study and expertise of majority of health care professionals, like pharmacists. Health care technology has grown rapidly, leading to more expensive pharmaceutical tools and treatments to treat a variety of illnesses. At the same time health care professionals are dealing with limited resources. This forces society to decide on the services and products that it is able to afford for patient care. In this context, drugs represent the most readily identifiable part of expenditure on healthcare, both in the inpatient and outpatient settings.

Pharmacoeconomics has been defined as 'The field of study that deals with the behavior of person, firms and markets relevant to the use of pharmaceutical products and services which focuses on the costs (i.e. inputs) and consequences (i.e. outcomes) of that use'. (Leelavathi D, 2013)[1]

B. Diabetes Mellitus (Dm):

The word diabetes which is the Greek word for "siphon" was coined by Aretaeus the Cappadocian, the Greek physician, around 2 AD. He observed that patients suffering from diabetes exhibited a disease which was caused by the siphoning of structural components of the body into the urine.

Diabetes is a cluster of metabolic disorders characterized by increase in blood sugar levels termed as hyperglycemia, which is caused by abnormalities in the

fat, carbohydrate, and protein metabolism. It results in long term complications like microvascular, macrovascular, and neuropathic disorders. Diabetes is a disorder which requires treatment throughout the patient life to maintain the blood glucose levels. If the blood glucose levels are not kept controlled they lead to number of complications in the health of the individual, leading to degradation in the individuals quality of life.

According to the International Diabetes Federation report of year 2013 approximately 381 million population all over the world had diabetes Its incidence is growing steadfastly, and by 2030, this number is expected to multiply further. As stated by the Indian Heart Association, India has become the diabetes capital of the world with an approximate 109 million individuals with diabetes by 2035. This high incidence of diabetes in developing countries including India may be due to urbanization and changes in lifestyle like consumption of high-calorie food along with sedentary lifestyle in individuals who are genetically susceptible.

Diabetes has social as well as economic implications; that is one of the important reasons why cost of antidiabetic therapy is one of the main factors for patient compliance. (Abidi, Rizvi, Ahmad, 2016)[2].

II. METHOD

The study is a marketing based survey of the diabetic patients and chemists in Pandharpur area. Although the study is based on pharmacoeconomic analysis, only the basics of the concept has been incorporated and used in the study. Conventional methods of pharmacoeconomics are not utilized for the study. It is purely a qualitative study with some aspects of cost incurred by the patients has been taken into consideration. Convenience and random sampling technique has been used for the study. The sample size used was 50 diabetic patients from the Pandharpur area. A structured questionnaire was prepared and the personal interview method was used for the collection of primary data for the study.

III. RESULT

TABLE I. DEMOGRAPHIC CHARACTERISTICS

Particulars	Number	Percentage (%)
Gender		
Male	26	52
Female	24	48
Age		
Less than 34	03	06
36-44	04	08
45-54	19	38
55-64	15	30
65 and above	09	18
Occupation		
Student	01	02
Service	12	24
Self employed	06	12
House Wife	23	46
Other	08	16

TABLE II. CLINICAL CHARACTERISTICS

Particulars	Number	Percentage (%)
Duration of disease		
1-5 years	22	44
6-10 years	14	28
11-15 years	09	18
more than 16 years	05	10
Type of medication		
Allopathy	09	18
Ayurveda	03	06
Homeopathy	00	00
Allopathy & Ayurveda or Allopathy & Homeopathy	38	76
Other Associated diseases		
Yes	36	72
No	14	28
Fasting Blood sugar level (md/dl)		
<70	00	00
70-130	14	28
131-179	24	48
180-299	11	22
Above 300	01	02
Physician visits		
Fortnightly	00	00
Monthly	34	68
Quarterly	09	18
As per need	07	14

TABLE III. COST DATA

Particulars	Number	Percentage (%)
Medication Expenditure per month (Rs.)		
250-500	23	49
501-750	11	23
751-1000	07	15
1001 and above	06	13
Pathology Expenditure per month (Rs.)		
150-250	43	86
251-500	07	14
501-1000	00	00
Above Rs.1001	00	00
Expenditure per month on alternative medicine (Rs.)		

150-250	19	50
251-500	11	28
501-1000	04	11
Above Rs.1001	04	11
Physician Charges (Rs)		
100	24	48
200	22	44
300	04	08
Above Rs.500	00	00

IV. CONCLUSION

It was observed that majority of the patients (38%) belong to the age group of 45-54 years and 28% of respondents have been suffering from diabetes for the last 6-10 years, indicating that majority of them suffer from Type 1 diabetes. The gender wise distribution i.e. male and female is nearly equal (52 & 48% respectively) indicating the disease affects both genders equally. It is also interesting to observe that 76% respondents prefer to combine the allopathic and ayurvedic treatments for better management and lesser side effects. Also, 72% of the respondents suffer from associated ailments like hypertension and heart ailments. And 48% have a blood sugar level of 131-179mg/dl. The cost data indicates that 49% respondents incur an expenditure of Rs.250-500 per month on medications, 86% incur an expenditure of Rs. 150-250 on pathology tests, 50 % incur an expenditure of Rs. 150-250 on alternative medicines and 48% incur an expenditure of Rs. 100 on physician fees.

REFERENCES

- [1] Abidi et al (2016) Pharmacoeconomic and Drug Utilization Study of Antidiabetic Therapy in a Tertiary Care Teaching Hospital of Northern India, Asian Journal of Pharmaceutical and Clinical Research, (9), pp 371
- [2] Acharya, Leelavathi D (2013), Evaluation of prescription patterns and cost of illness of Type-2 Diabetic Patients in a Tertiary, Ph.D thesis, Manipal University, Manipal, pp 6

AUTHORS PROFILE

Author is an Assistant Professor in MBA Department, SVERI's College of Engineering, Pandharpur, with an academic experience of 11 years of teaching. The educational qualifications are B.Pahrmacy, MBA (Marketing) and currently pursuing M.Phil in Marketing.