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### PHARMACOECONOMICS SOCPE IN PHARMACY PRACTICE

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#### ABSTRACT

Pharmacoeconomic evaluations have become an important tool on therapeutic decisions making in chronic illness. It is comparatively a young science in health care team which is still in the sample of methodologies. In the current world of rising medical costs, pharmacoeconomic evaluations provide a basis for resource allocation and utilization. Its need is undeniable in developing countries like India. The PE study results will help to improve the patient care with social perspective.

#### KEYWORDS

Pharmacoeconomic, Cost analysis, Cost benefit, Cost utility and Cost illness.

#### INTRODUCTION

The demand for the cost of healthcare is growing in all countries in the world as the improvement and sophistication of health technologies increase. The field of healthcare is becoming more and more case sensitive. The increasing cost of healthcare is causing concern in the society, so it is a challenge for all healthcare professionals to provide quality patient care with minimum cost. In this era, many governments are focusing on promoting the effective economic use of resources allocated to healthcare<sup>1</sup>. In recent times, healthcare researches from various disciplines managed to develop new techniques called health economics / pharmacoeconomics in the field of study that evaluates the behavior of

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individuals, firms and markets in healthcare and that generally focuses on cost and consequences of healthcare interventions<sup>2</sup>. The pharmacoeconomic evaluation has become an important tool in therapeutic tool in therapeutic decision making in chronic illness where there is limited resources<sup>3,4</sup>. It can be defined as the study of how individuals choose to allocate scarce pharmaceutical and health resources among competing alternatives and opts to distribute the products and services among members of the society. According to the international society for pharmacoeconomics and outcome research (ISPOR), pharmacoeconomics is the field of study that evaluates the behavior of individuals, firms and markets relevant to the use of pharmaceutical products, services and programs and which frequently focuses on the costs and consequences of that use analysis is an integral part of pharmacoeconomics studies<sup>5</sup>.

The first step in any cost analysis is identification of the various costs.

#### **CLASSIFICATION OF HEALTHCARE COSTS**

Costs are more than transactions of money.

##### **Direct Medical Costs**

Direct medical costs are associated with monetary transactions and represents costs that are incurred during the provision of care. This includes the cost of drugs, supplies, laboratory tests, payments for doctors fee, fee or salaries for other healthcare professionals, time and labour and hospitalization.

##### **Direct Non-Medical Costs**

These are costs of non medical services arising due to illness but do not involve purchasing medical services, They include cost of transportation to hospital or doctor's office, cost of special clothing or other items needed, expenses incurred on accommodation needed near the treatment center, on food, family care expenses for aids and related items.

##### **Indirect Non Medical Costs**

Indirect non-medical costs are really the indirect costs and are the cost from the perspective of society as a whole. It includes lost productivity from a disease, loss of earnings, loss of leisure time. These indirect s non-medical costs are costs of reduced

productivity and include wages and salaries lost due to morbidity and income forgone due to premature death or resignation from the job due to inability to work.

##### **Intangible Costs**

These are costs incurred, which represent other non-financial outcomes of disease and medical care, which cannot be clearly expressed in money vale or rupees. It includes costs of mental agony, pain, suffering, grief etc. The costs can be described as the psychic cost of diseases. The costs are difficult to measure as a part of a pharmacoeconomic study. Presently, these costs are often omitted from clinical economic research sometimes these intangible costs are included in the indirect costs.

##### **Opportunity Costs**

Opportunity costs form an important part of the cost analysis and should always be ascertained. Opportunity costs are costs of economic benefits forgone when one therapy is used instead of the next best alternative therapy.

##### **Other Groups of Costs**

Costs are also classified as average costs, fixed costs, variable costs, marginal costs and incremental costs in healthcare. Average costs are the simplest way of valuing the consumption of healthcare resources. Fixed costs are those that are independent of the number of units of treatments undergone and include heating, lighting and fixed staffing costs. Variable costs depend on the number of units of treatment. Marginal cost is the cost associated with the production of an extra unit of a particular service. The incremental costs is the term used to define the differences between the costs of alternative interventions<sup>5,6,7</sup>.

#### **METHOD OF PHARMACOECONOMICS**

The commonly used pharmacoeconomic methods are:

1. Cost Minimisation Analysis (CMA)
2. Cost Benefit Analysis (CBA)
3. Cost Effectiveness Analysis (CEA)
4. Cost Utility Analysis (CUA)
5. Cost of Illness (COI)

**Cost Minimisation Analysis**

Cost minimization analysis involves the determination of the least costly alternative when comparing two or more treatment alternatives. The primary assumption for cost-minimization analysis is that the outcomes of the alternatives are not different. The alternatives must be therapeutically equivalent, that is, they shall have same benefits/consequences/outputs or results<sup>8</sup>.

**Cost Benefit Analysis**

Cost benefit analysis medical care compares the cost of medical intervention to its benefit. It is an economic analysis method that facilitates for the identification, measures and comparison of the benefits and costs of a program or treatment alternative.

**Cost Effectiveness Analysis**

Cost effectiveness analysis is a pharmacoeconomic method which summarizes the health benefits and resources used by competing healthcare programs.

Cost effectiveness involves analysis of programs or treatments with different safety and efficacy profiles<sup>9,10</sup>.

**Cost Utility Analysis**

Cost utility analysis is an economic evaluation method of pharmacoeconomic which is very much similar to CEA in certain aspects. In this evaluation method, drugs /interventions with different outcomes can be compared CUA is used comparing treatment programs or alternatives with different outcomes<sup>11,12</sup>.

**COST OF ILLNESS EVALUATION**

Cost of illness evaluation is also known as burden of disease. It is an evaluation method used to identify and estimate the overall cost of a particular disease for a defined population. It involves measuring the direct and indirect costs attributable to a specific disease. Cost of illness is often termed as burden of illness<sup>12</sup>.

**Table No.1: Method of Pharmacoeconomic Evaluation**<sup>11,12</sup>

S.No	Methods	Outcome unit	Type of outcomes being compared	Use
1	Cost effectiveness analysis(CEA)	Natural unit, e.g saved in rupees effectiveness in non money.	Similar	Evaluate new drugs in same class/disease
2	Cost minimization analysis(CMA)	Natural units or clinical effects (equal efficacy, cost in rupees)	Similar	Commonly used in me-too-cases.
3	Cost utility analysis(CUA)	Quality adjusted life (QALY) cost in rupees, utility as patient preference	Different	To measure across therapeutic areas/diseases
4	Cost benefit analysis(CBA)	Monetary units (both cost and benefit expressed in rupees)	Different	Field of healthcare economics.

**CONCLUSION**

Pharmacoeconomic is comparatively a young science in health care which is still in the trial test of its methodologies. In the era of rising medical costs, PE focuses on value for money and educate about its importance. Pharmacoeconomic evaluations provide

a basis force resource allocation and utilization. Its need is undeniable, more so in a developing country likes India. Its potential value in improving patient care. The PE study results will help to improve the patient care with the social perspective. By understanding the principles, methods and

application of pharmacoeconomics, pharmacist will be more equipped to make better and more informed decisions regarding the use of medicines and services in healthcare. So there is much scope and potential for pharmacoeconomic studies in india<sup>12</sup>.

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