

Original article:

Evaluation of pharmacoeconomics awareness among post graduates: a questionnaire based study

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ABSTRACT:

Introduction: Economics is all about limited “resources” and unlimited “wants”. Pharmacoeconomics and health economics is a logical and explicit framework to aid health care workers. The per capita income of all middle class people is limited and the drug prices are growing extensively. Hence to satisfy the health care needs of majority of the people, knowledge of pharmacoeconomics is essential to all health care professionals.

Materials and methods: This was a questionnaire based cross sectional evaluation. The first part of the questionnaire contains respondent’s general information (age, sex, department and year of experience as postgraduate). The second part of questionnaire was in multiple choice formats with focus from awareness, knowledge and methods of application. The response was reviewed and analysis was done.

Observation and Results: The willingness to participate in the study among postgraduates was extremely poor. Those who have participated almost, 50% of participants were having awareness about the topic. Nearly 30% of the participants were having knowledge regarding pharmacoeconomics and around 35% of participants have learnt the method of application in various aspects.

Conclusions: From the results, it can be concluded that there was extremely poor response from the participants to this study. More such studies, CMEs and workshops pertaining to pharmacoeconomics and health economics should be conducted every year to create awareness, improve the knowledge and to use the technique (method of application) in their clinical practice.

Key words: pharmacoeconomics, medical professionals, level of knowledge, methods of application.

INTRODUCTION: Citizens and physicians worldwide are increasingly facing problems in deciding which treatment is most effective medically and economically. In order to survive and thrive in this recessionary world, pharma and healthcare businesses will have to rigorously analyse and

interpret comparative effectiveness research (CER) results or in other words, perform pharmacoeconomic evaluations. Economics is all about limited “resources” and unlimited “wants”. Pharmacoeconomics and health economics is a logical and explicit framework to aid health care workers. The

per capita income of all middle class people is limited and the drug prices are growing extensively. Hence to satisfy the health care needs of majority of the people, knowledge of pharmacoeconomics is essential to all health care professionals. Pharmacoeconomics is an economics discipline that evaluates the behaviour of individuals, firms and markets relevant to the use of pharmaceutical products, services and programmes. It focuses on the costs (inputs) and consequences (outcomes) of such a use. It applies the theories and tools of economics, including Managerial Economics, to the science and business of pharmaceuticals. The purpose of Pharmacoeconomics is to establish the relative worth of a product/service that can be used by decision-makers who face limited budgets. Operationally, the field of Pharmacoeconomics consists of analysis and evaluation of outcomes (clinical, economic, or humanistic), cost consequences and cost comparison (for example, considering resource consumption); identification of alternatives; and decision-making considering limited (fixed) budget/resources. [1,2,3,4,5]

Doctors are the main actors involved in the structure and performance of the health care system of a country, since they are major part of the team that required achieving the goals of the plan's health. Given the importance of health economics and rise in recent decades, doctors should have basic knowledge about it and actively implement in diagnostic decision making, therapeutic interventions, the prevention programs, epidemiology and research. [6]

MATERIAL AND METHODS: A cross sectional study was conducted among doctors who are doing postgraduation in various departments of our college. Self administered questionnaire was used to collect the data from doctors (postgraduates) who were

willing to participate in the study. I and Dr. Nagapati. Prabhakar. Bhat, Assistant Professor, Department Of Pharmacology, AIMS, took the initiative in this regard. We conducted pharmacoeconomic evaluation for the first time among postgraduates. We prepared a set of questions based on different texts of general economic health. The detailed questionnaire is enclosed in appendix 1. The first part of the questionnaire contains respondent's general information (age, sex, department and year of experience as postgraduate). The second part of questionnaire was in multiple choice formats with focus from awareness, knowledge and methods of application. The respondents were asked to select one option which is most appropriate to relevant question according to them. The response was reviewed and analysis was done.

A questionnaire is said to be standardized when each respondent is to be exposed to the same questions and the same system of coding responses. The aim here is to try to ensure that differences in response to questions can be interpreted as reflecting differences among respondents, rather than differences in the processes that produced the answers. [7,8, 9] Standardized questionnaires are often used in the field of educational planning to collect information about various aspects of school systems. The main way of collecting this information is by asking people questions – either through oral interviews (face to face or telephone), or by self-administered questionnaires, or by using some combination of these two methods. [10, 11, 12]

Although survey research, by definition, implies the use of some form of questionnaire to be administered to a sample of respondents, the questionnaire is simply one instrument that can be employed in the

study of a research problem. As such, it may or may not be the most suitable tool for the task at hand.^{[13, 14,}

^{15]} We followed standard pattern to measure the level of awareness, knowledge and methods of application of postgraduate doctors on the general topic of pharmacoeconomics.

All the survey questions related to basic definitions on concepts of pharmacoeconomics were assigned equal value, ie 1 for correct response and 0 otherwise. The results were expressed as percentage response in each of three categories from the total as 100%.

OBSERVATION AND RESULTS: we have prepared around 150 copies of pharmacoeconomics questionnaire and distributed it among postgraduates of all the departments of our college. We have given those necessary instructions and sufficient time to fill the questionnaire. At the end we have received only 43 filled copies of questionnaire out of which 40 copies duly filled were considered for further statistical analysis and the result is presented below in the tabular form (Table-1).

DISCUSSION: The willingness to participate in the study among postgraduates was extremely poor. Those who have participated almost, 50% of participants were having awareness about the topic. Nearly 30% of the participants were having knowledge regarding pharmacoeconomics and around 35% of participants have learnt the method of application in various aspects.

We selected postgraduates for our study thinking that it's their first step in their respective field which in future will grow as their practicing career. In our study we noticed that many postgraduates were reluctant to participate eventhough it was told that their identity would be kept confidential. Various reasons for the above could be (a) lack of interest in

pharmacoeconomics (b) unawareness about significance of pharmacoeconomics (c) lack of exposure to pharmacoeconomics concept in MBBS curriculum.

Hence it is advisable to include pharmacoeconomics concepts and practical exercises in MBBS curriculum to improve knowledge and interest among students. Secondly to increase the awareness it is desirable to conduct CME, workshop and symposium in medical colleges which will also help the postgraduates to refresh and update their knowledge. Future research has to be carried out on large scale involving private practitioners practicing in their clinics, polyclinics, nursing homes and corporate hospitals and practitioners of government hospitals at primary, secondary and tertiary care levels which will give more valid results on the level of knowledge of doctors on pharmacoeconomics and health economics.

CONCLUSION: The outcome of this study has revealed that the knowledge levels of medical postgraduates in day to day use of pharmacoeconomics concepts were limited. Providing them with basic knowledge at various levels of their medical education and training will go a long way in improving their basic knowledge in health economics concepts. Increasing the awareness among medical professional on the economic evaluation approach will improve their usage in their decision making.

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TABLE -1: Percentage response of participants to Feedback Questions in each category.

Q.No	Questions	Response (%), n= 40 (100%)	
		Right answer	Wrong answer
Awareness:			
1	Are you aware of the term “Pharmacoeconomics”?	50	50
2	Is every teaching hospital in India are following Pharmacoeconomic guidelines?	82.5	17.5
3	Is Health economics and Pharmacoeconomics are same?	97.5	2.5
4	What is Pharmacoeconomics?	15	85
5	ECH outcomes in Pharmacoeconomics evaluate	10	90

Knowledge:

1.	All are different types of Pharmacoeconomic analysis EXCEPT	67.5	32.5
2.	Following are different types of cost involved in Pharmacoeconomic analysis EXCEPT	12.5	87.5
3.	Pain and suffering of patients are included in-----cost	35	65
4.	Robustness of results are best tested by-----analysis	12.5	87.5
5.	Pharmacoeconomic governing body in India is	10	90

Methods of application:

1.	Most commonly used Pharmacoeconomic analysis is	35	65
2.	To compare the costs of different brands as well as brand and generic products which Pharmacoeconomic analysis is preferred	32.5	67.5

3.	Pharmacoeconomic analysis which measures outcome in monetary units is-----	40	60
4.	Quality Adjusted Life Years(QALY) measured in----- analysis	32.5	67.5
5.	To compare the costs of National Highway project and vaccination programme which Pharmacoeconomic analysis is preferred?	30	70

APPENDIX 1: PHARMACOECONOMICS QUESTIONNAIRE

Department: PG:-----yr

Age: Sex:

INSTRUCTION: select any one option for the following MCQs which is most appropriate according to you and mark it.

QUESTIONS:

I. AWARENESS

1. Are you aware of the term "Pharmacoeconomics"?
 - a) Yes b) No
2. Is every teaching hospital in India are following Pharmacoeconomic guidelines?
 - a) Yes b) No
3. Is Health economics and Pharmacoeconomics are same?
 - a) Yes b) No
4. What is Pharmacoeconomics?
 - a) Is an economics discipline that evaluates the behaviour of individuals, firms and markets relevant to the use of pharmaceutical products, services and programmes
 - b) It deals with economic survey of drugs in the health care system
 - c) Both are true
 - d) None of the above
5. ECH outcomes in Pharmacoeconomics evaluate
 - a) Economic, Clinical, Healthcare services
 - b) Environmental, Cost, Healthcare services
 - c) Economic, Clinical, Humanistic services
 - d) Environmental, Cost, Humanistic service

II. KNOWLEDGE

1. All are different types of Pharmacoeconomic analysis EXCEPT
 - a) Cost-Benefit b) Cost-Utility c) Cost-Comparative d) Cost-Effective
2. Following are different types of cost involved in Pharmacoeconomic analysis EXCEPT
 - a) Direct Cost b) Intangible Cost c) Indirect Cost d) Tangible Cost
3. Pain and suffering of patients are included in-----cost

- a) Direct b) Intangible c) Indirect d) Tangible
- 4. Robustness of results are best tested by-----analysis
 - a) Net Benefit b) Benefit-Cost c) Sensitivity d) Incremental Cost-Benefit
- 5. Pharmacoeconomic governing body in India is
 - a) Pharmacoeconomic Benefits Advisory Committee (PBAS)
 - b) National Pharmacoeconomic Pricing Authority (NPPA)
 - c) International Society of Pharmacoeconomics and Outcomes Research (ISPOR)
 - d) National Institute of Pharmacoeconomic Education and Research (NIPER)

III. METHODS OF APPLICATION

- 1. Most commonly used Pharmacoeconomic analysis is
 - a) Cost-benefit b) cost-minimization c) cost-utility d) cost-effective
- 2. To compare the costs of different brands as well as brand and generic products which Pharmacoeconomic analysis is preferred
 - a) Cost-benefit b) cost-minimization c) cost-comparative d) cost-effective
- 3. Pharmacoeconomic analysis which measures outcome in monetary units is-----
 - a) Cost-benefit b) cost-minimization c) cost-utility d) cost-effective
- 4. Quality Adjusted Life Years(QALY) measured in-----analysis
 - a) Cost-benefit b) cost-minimization c) cost-utility d) cost-effective
- 5. To compare the costs of National Highway project and vaccination programme which Pharmacoeconomic analysis is preferred?
 - a) Cost-benefit b) cost-minimization c) cost-utility d) cost-effective

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