



Assessment of knowledge of Health Economics among Medical professionals: A study in Jimma University Medical school, Ethiopia.

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ARTICLE INFO

Received : 12/09/2012
Accepted : 26/11/2012
Published : 01/06/2013

KEYWORD

Health economics,
Medical curriculum,
Ethiopia

ABSTRACT

Introduction: Health is a fundamental human right and integral to human-well being. Health and economy of a nation is always interrelated. Health economics is the sub-discipline of economics dealing with the issues of scarcity of resources, opportunity cost, prioritization and choice in health sector. Even though this field of specialization is gaining its importance all over the world, not included in the medical curriculum of many developing countries and knowledge of health economics among health professionals are limited. **Objective:** to assess the extent of knowledge and awareness on health economics and economic evaluation techniques among medical doctors, Ethiopia. **Methods:** qualitative explorative study. Information collected through interviews with randomly selected 25 medical professionals from Jimma University specialized hospital. **Results:** out of 25 respondents nobody has any academic exposure on health economics and related concepts at undergraduate/ postgraduate level. Medical professionals who are holding administrative positions also never got the chance of getting trained in this field. 28% of the respondents heard about economic evaluation techniques and 88% of them believe that application of health economic techniques will improve the performance of health care delivery system of Ethiopia. **Conclusion:** Medical curriculum should be updated according to the need and health economics should be included. Health professionals and policy makers must familiarize the ways to allocate valuable resources in an effective manner. Medical educators must therefore adapt their curricula to teach future physicians the skills for practicing medicine in an evolving health care environment especially in the context of poor resource settings.

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Introduction

People must be healthy in order to contribute the development of the economy of a nation. Health also be seen as a multifaceted dimension of human life, and as a 'reserve stock' (1) of vitality, fitness and strength (whether psychological or physical or both) which individuals can draw upon to pursue their goals and actions. Health is a fundamental right of all people and integral to human well-being, which is the ultimate goal of development (1, 2). World Development Report, 1993 explained good health as a crucial part of well-being and spending on health can also be justified on purely economic grounds. Improved health contributes to economic growth in four ways [1] it reduces production losses caused by workers illness, [2] it permits the use of natural resources that had been totally or nearly inaccessible because of disease, [3] it increases the enrollment of children in schools and makes them better able to learn, and [4] it makes alternative uses of resources that would otherwise have to be spent on treatment called as opportunity cost. Health, health care and economy are always interrelated and inter-dependent and integrate to the development of a nation (3).

Economics is the study of how people and society end up choosing, with or without the use of money, to employ scarce productive resources that could have alternative uses, to produce various commodities and distribute them for consumption, now or in the future, among various persons and groups in the society. It analyses the costs and benefits of improving patterns of allocation of resources (4, 5). There is an article (1963) by Kenneth Arrow, is credited with giving rise to the concept of health economics as a discipline, drew conceptual distinctions between health and other goals (6-8). In 1972 Michel Grossman gave a conceptual frame work for demand for health (9-11). The distinguishing features of health economics from other areas include extensive government intervention, intractable uncertainty and risk in several dimensions, asymmetric information, and externalities, more dependence on professional

opinions etc. But the developing world is always looking the solutions of scarcity of resources, cost concepts, prioritization and choice among alternative decisions in health sector. These problems can be solved with the help of application of health economics in policy making and implementation and evaluation of health systems.

Many questions can rise to the relevance of studying health economics to health care professionals. Why studying health economics? What economics has to do with health and health care? Should health and health care, as fundamental concerns, not have an absolute priority? Is traditional theories and concepts of economics is applicable to health? Health professionals must have known the answers. Resources are inevitably scarce and choices have to be made in the allocation of resources in health care. Health economics is about making choices to employ resources in a way that improves health status and service delivery among community. Though economics is an old discipline, its systematic application economics in health systems is relatively new concept. It is only during the last 30 years that health economics has established itself as a sub-discipline of economics and gained its influence in the health sector. Health economics has progressed rapidly from an infant state in the 1960s to a distinct sub-discipline of economics today. It draws its disciplinary inspiration from the fields of finance, insurance, industrial organization, econometrics, labor economics, public finance and development studies (12). Arrow's (1963) article gave health economics its present form as a separate field of study, with its parallel development in human capital theory. The Economic thinking has gained influence on decision making and economic ideas have fuelled health sector reforms (13) recently. These changes are the part of public sector reform since the 1980s, which has been shaped by economic ideas in developing and developed economies of the world. In pursuit of these reforms, multilateral agencies, such as the World Bank, have been aiming to redefine the health policies to promote efficient government services especially in developing countries (14).

Economic aspects of relationship between health, health care and productivity of the nation, financial aspects of health service provision, health manpower production according to demand, health manpower distribution, and decision making of health care institutions all these areas covered under health economics. The table 1 gives some major health policy issues faced by the developing countries calls application of health economics.

Now a growing number of countries are using economic techniques to prioritize health services and to evaluate new health care technologies, managers and policy makers rely heavily on economic evaluation techniques. The drugs industry also has started to provide information on cost-effectiveness as this may provide a competitive advantage in promoting their products and started teaching pharamcoeconomics in their curriculum. But the major problem is that for most health care interventions, information on effectiveness and efficiency is not available or still not known to health care providers as well as consumers. Patients were little informed about the cost and consequences of interventions so very limited chance of making choices and decisions on their own treatment. The medical professionals are also not well aware about the cost and effectiveness of each intervention of their choices and its economic impact on patients. There are limited literatures available on this topic. The findings of the first study in UK, published in 2009 in the journal *Academic Medicine*, detailed how less than half the nation's graduating medical school students felt they had received adequate training in health care systems and medical economics. The study finds out that "There's a huge gap". Recently another study conducted in Chennai, south India among health care professionals revealed that overall knowledge score was very poor and limited knowledge related to economic evaluation techniques (15). No such studies conducted in Ethiopia so we hope that this study will give some preliminary insights on this issue.

Methods

The study conducted in Jimma university specialized hospital which is located south west zone of Ethiopia. The main objective of the study was to assess the extent of knowledge and awareness of health economics and economic evaluation techniques among physicians in Jimma University specialized hospital, Ethiopia. We used a qualitative explorative study design to track the objective of the study. Data collected through in-depth interviews with 25 randomly selected medical doctors, residents and house surgeons from 5 selected departments (Internal medicine, Surgery, Gynecology, Pediatrics and Ophthalmology) of Jimma University have graduate and postgraduate courses during the month of May 2012. A structured interview guideline was used for interviews. Convenient time and location selected for interviews. The purpose of the study was explained before the interview to all participants and oral consent obtained before the interview. Respondent rate was 100%. Data recorded and analyzed manually for developing major themes. Collected data analyzed and interpreted thematically.

Results

The results of our interviews revealed the following facts. Medical schools and residency programs regularly update their curricula to reflect the latest advances in medical science and clinical care. When it comes to education about health policy and health economics, however, timeliness and comprehensiveness are the exception rather than the rule. Medical education has long been struggled with the questions of how and when to educate physicians about subjects such as health care systems, quality improvement, and medical economics — matters that are affected by health policy and that, in turn, ultimately affect patient care. Example, successful implementation of new approaches to care based on comparative effectiveness research will be contingent on adequately training physicians to interpret scientific results and practice evidence-based medicine within the health care system in which they work.

Many countries in Asia and Africa still far away from this concept and this important area of specialization not become the part of curriculum for medical students' .E.g. Ethiopia; health economics is not included in the curriculum of undergraduate medical students but in health officer, pharmacy and environmental science curriculum. In specializations courses like MPH, M&E, MHA etc health economics included as a core course. The medical students are coming through the science stream and have limited awareness about concept of economics .Today's medical students are becoming tomorrow's policy makers or evaluators of health sector, so their knowledge in the field of economics must be strengthened and they must be familiarize with the concept of rational choice, decision analysis and economic evaluation techniques. One respondent said *"we are indirectly practicing health economics, most of the time when we are making prescriptions looking for the affordability of the patient. But we never had gone through any training on economic evaluation techniques"*.

A resident responded like this *"yes it is really interesting to study and practice health economics especially in our country settings. Doctors must be familiar with cost effective interventions which will reduce burden to patients and will avoid unnecessary prescriptions and investigations."*Doctors who had experience on administrative field also said the same word, they never exposed to any training on health policy or economics but got training on management subjects like human resources and financing when they holding administrative positions. They expressed their interest on health economics and argued that medical curriculum should be revised on need base and new concepts should be included.

One senior specialist responded like this *"we are getting some information regarding cost effective therapies, quality adjusted life years etc through medical journals only .But without a basic knowledge on these kind of techniques, very difficult to apply."* Table 1 gives the factors revealed through the interviews.

Discussion

Health economics is becoming a subject of increasing significance particularly in the developing countries primarily because of (I) an economic climate where resources are extremely scare and decisions on priorities are crucial but difficult; (ii) a growing appreciation among health professionals and policy-makers that health economics and economists can help them formulate policies and make decisions; (iii) the increasing maturity of the sub-disciplines of health economics; and (iv) the growing of interest among economists and others in applying their economic skills to health issues (16).It is, thus, concerned with such matters as the allocation of resources between various health promoting activities, the quantity of resources used in health services delivery; the organization and funding of health service institutions, the efficiency with which resources are allocated and used for health purposes, and the effects of preventive, curative and rehabilitative health services on individuals and society (15,16).Table 2 gives the factors revealed through the interviews

The scarcity of resources (not in the sense of 'rarity' but in the sense of resource availability relative to demand) becomes the fundamental problem to which economists attempt to address (17, 18). Opponents claimed that health is primarily a medical issue, free of economic considerations, and thus beyond the scope of economics. However, the issues such as User fees in health sector, concept of universal health coverage, equity and efficiency in distribution of resources and costs concepts of medical care and interventions are ideal for economic analysis. Although some issues related to health make it a unique field, like information asymmetry (patients have less decision making power on his/her treatment), non- profit motive and market failures, Supplier induced demand etc , but economic tools of analysis can help policy makers to identify and settle these issues.

Recently a growing demand for economic evaluation techniques can be seen in health sector. Especially cost-effective analysis which

is mainly focusing on cost and effectiveness of alternative methods or drug therapies, cost – utility analysis, giving importance to value of life and quality of life years gained through a particular intervention etc (19,20). The task before health economists is to elicit the valuations which may be useful to formulate health services policies. First, it might be in the form of demand studies, or by trying to discover what policy makers' preferences are. Second, there is a need to establish the true costs of delivering health care or to estimate all real costs like the use of patients' time, loss of output elsewhere in the system etc. Third, it is necessary to evaluate the relative costs and benefits of particular policy options. Fourth, the effects of certain economic variables like user charges, time and distance costs of accessibility, etc on the utilization of health services may be estimated. Fifth, planning and budgeting systems and possible changes within the health care delivery system are to be made (21).

In the early 1980s, growing numbers of International authorities warned that "Medical students must understand the structural and economic underpinnings of the health care system to function optimally" in that system. Even thirty years later, not much appears to have changed. Even if the job of health economists are mainly attached to the medical departments the concept of economics in health should be strengthened, and the methodologies applied should be refined (22 23, 24).

Conclusion

The countries like Ethiopia, the resources are limited and unlimited demand for health care. The task before a health economist is quite challenging and manifold. While aligning the basic principles of economics with health economics may bring in certain pertinent solutions to the problems that faced by the health sector. In any case, health professionals and policy makers must familiarize the ways to allocate valuable resources in an efficient and effective manner. Medical educators must therefore adapt their curricula to teach future physicians the skills for practicing medicine in

an evolving health care environment especially in the context of poor resource settings. So this is the best time to think about updating medical curriculum according to the need of the country.

Acknowledgement

We are acknowledging medical professionals of Jimma University who participated in this research. Our sincere thanks will go to Jimma University and to the unknown reviewers of this article also.

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Table 1: Results of the In-Depth interview

Factors Reveled through Interviews	Total Number (n=25)
1.Any training on Health Economics	0
2.Heard about economic evaluation techniques in health care	7(28%)
3.Getting the information on new interventions through medical journals	10 (40%)
4.Getting information through web sites	12(48%)
5.Intrested to study and practice health economics	25(100%)
6.Health economics must be included in undergraduate curriculum	10((40%)
7.Health economics should included in postgraduate curriculum	15(60%)
8.Medial curriculum should be updated based on new approaches and must be need based	25(100%)
9. Public health interventions must be focused on cost-effectiveness.	20(80%)
10. Health economics is applicable in Ethiopia and will improve current health system performance.	22(88%)