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EDITORIAL

Role of pharmacoeconomics in developing countries

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INTRODUCTION

The high price of medicines and increasing expenditure on pharmaceuticals is a serious concern for governments in low-income countries where already over half of the population lacks regular access to essential medicines [1]. Currently, pharmaceuticals in low-income countries consume 30-60 percent of the recurrent healthcare budgets, yet the unmet need for medicines has been strongly associated with insufficient public spending on pharmaceuticals [2]. Poor families mostly rely upon public healthcare systems, where shortages of drugs are rampant [3]. In this situation the use of pharmacoeconomic principles is inevitable when an objective is to ensure that the limited resources are efficiently spent on drug therapies with large potentials to improve health. While developing countries commonly use National Essential Medicine Lists to prioritize the allocation of scarce public funds between drug therapies, little is known about the role of pharmacoeconomics in such decisions. In this editorial we therefore examine how pharmacoeconomics has influenced prioritization decisions between drugs in developing countries.

WHAT IS PHARMACOECONOMICS?

Pharmacoeconomic analysis involves the identification, measurement, valuation and comparison of costs and outcomes of alternative drug therapies. The underlying aim is to maximize treatment outcomes within limited budgets [4]. Due to the high alternative costs of scarce funds, it may be argued that pharmacoeconomics is relatively more important in developing countries than in developed countries. By alternative costs in this context we mean the health losses from making sub-optimal decisions.

ROLE OF PHARMACOECONOMICS IN DEVELOPING COUNTRIES

Most developing countries lack policies that encourage the use of economic evaluations in medicine selection, be it for public funding, prioritization of aid or health insurance. In addition, relevant guidelines for reporting pharmacoeconomic analyses are not available in the majority of countries. Most developing countries do have National Essential Medicine Lists to guide procurement and donation of medicines in the public sector [5]. However, the extent to which they employ the WHO's evidence-based approach or other guidelines advocating the use of economic evaluation criteria in drug selection has not been established. Studies conducted by Mori et al. [6] and Gavaza et al. [7-9] in a number of countries in East, South and West Africa have documented a very low availability of pharmacoeconomic studies. Some of these studies were too poor in quality and narrow in scope to be appropriate as evidence to inform decision-making. A similar trend has also been reported for developing countries in Asia [10-12].

Another important observation is that, even when pharmacoeconomic studies are available, they are not systematically or consistently applied in decision-making [6,13]. Experience shows that many pharmacoeconomic studies were conducted long after the decisions had been made, sometimes simply to justify or disqualify those decisions, but more often for academic purposes. Cost-effectiveness studies of artemisinin-based combination therapies for malaria control, for example, were conducted in a number of countries after the decisions to recommend the treatment in the respective malaria treatment guidelines had already been made [14-16]. Low availability and inconsistent application of pharmacoeconomic data implies that pharmacoeconomics so far has had a limited role

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in evidence-based decision-making for drug selection in developing countries.

THE WAY FORWARD

Developing countries have limited financial resources to address the high burden of communicable and non-communicable diseases. As a consequence, policy makers and politicians are looking for politically acceptable solutions to bridge the gap between available resources and existing healthcare needs. We argue that pharmacoeconomics is one such solution to increase efficiency in resource allocation to drug therapies.

Reference pricing and the use of generics has been advocated by a number of scholars as cost containment mechanisms [10,17]. We concur with this focus, but argue that in addition, it is important to take into account the potential of pharmacoeconomic analyses to maximize the health benefits of the limited resources available. Reference pricing, use of generics and pharmacoeconomic analyses have complementary roles as cost containment and efficiency seeking strategies. Pharmacoeconomics is also needed for reimbursement purposes for the health insurance industry, which is growing rapidly in many developing countries.

It is possible to increase the application of pharmacoeconomics in developing countries, despite the existing challenges. In a number of countries the seeds of pharmacoeconomics have been sown. But much remains to be done to facilitate expansion of the field through training, advocacy and legislation. For example, in 2000 the government of Tanzania successfully employed pharmacoeconomic analysis to inform the change of policy from chloroquine to sulphadoxine-pyrimethamine as first-choice drug for the management of uncomplicated malaria [18]. We see no substantial reasons why pharmacoeconomic principles should not be gradually introduced at different levels of the healthcare system. There are several steps that can be taken to improve the conduct of more pharmacoeconomics studies and increase their utilization in decision-making in developing countries:

- first, more should be done to accelerate the introduction of pharmacoeconomics and health economics in training curriculums for medical and health science schools. At the same time, short courses and seminars should also be offered to practicing healthcare professionals;
- second, efforts should be made to improve the availability of high-quality evidence to inform decision-making and to ensure that such evidence and the processes are also transparent;
- third, given that pharmacoeconomic studies are relatively expensive and time consuming to conduct, policy makers and health planners should be ready to invest the necessary resources in order to make informed policy decisions;
- fourth, healthcare authorities in developing countries have not done enough to ensure systematic use of economic evaluation in drug selection. It is now time to put in place legislation and policies that encourage the application of pharmacoeconomic principles in drug selection. At the same time, we realize that health systems may also wish to consider other criteria than efficiency when setting healthcare priorities. Other arguments, such as severity of disease and patients' ability to benefit from the treatment, may be considered separately.

CONCLUSION

The field of pharmacoeconomics is in its infancy in most developing countries and has therefore had little influence on medicine selection for treatment guidelines and National Essential Medicine Lists. Despite some challenges, we believe it is time to increase the use of pharmacoeconomic analyses in developing countries through better training, advocacy and legislation.

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