NUCLEAR MEDICINE

A Review on the Paper Entitled: "The Cost-Utility Analysis of PET-Scan in the Diagnosis and Treatment of Non-Small Cell Lung Carcinoma in Iran

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Dear Editor,

We read with interest the paper by Sari et al. titled "The Cost-Utility Analysis of PET-Scan in the Diagnosis and Treatment of Non-Small Cell Lung Carcinoma in Iran" (1). Undoubtedly, one of the most important tools for decision making about effective treatment protocols (taking into account its costs) is the economic evaluation methods (2). The advent of expensive medical technologies alongside their different levels of efficacy and safety in the market and also due to resource constraints, economic evaluation studies in different levels of prevention and treatment are necessary (3). Economic evaluation is a way of thinking, backed up by a set of tools, which is designed to improve the value for money from investment in health care and welfare (2). Nonetheless, it is hard to find full economic evaluation with reliable quality in the field of economic evaluation studies (4). For example, in a review of all major submissions to the Department of Health and Aged Care in Australia, it was found that, of the 326 submissions, 67% had significant problems (2). There are a few ambiguous issues in the study conducted by Sari et al. that require careful consideration and scientific review. The first is that according to its title (utility cost that indicates an economic evaluation study), it must conform to the structure of economic evaluation studies. According to the checklist provided by Drummond et al., economic evaluation studies should have the below ten main characteristics in their structure:

1) Well-defined and answerable questions
2) Comprehensive description of the competing alternatives
3) Establish the effectiveness of programs or services
4) Identify all important and relevant costs and consequences
5) Measure costs and consequences accurately

6) Value costs and consequences credibly
7) Adjust the costs and consequences for differential timing
8) Perform the incremental analysis of the costs and consequences of alternatives
9) Allowance made for uncertainty in the estimates of costs and consequences
10) Present and discuss the study results.

But the structure of the study suffers from noted economic evaluation structure and it seems that its structure is similar to health technology assessments. Considering the points mentioned, a few issues of the present study will be criticized. First, despite referring to the strategies used, the authors failed to present adequate explanations and scientific evidence on the effectiveness of technical and clinical aspects of PET scan alternatives that are currently being used (second case of the checklist). Second, reference is not made to a precise source of collecting data about costs. This is despite the fact that it has been mentioned that there is no technical and clinical data regarding PET scan in Iran, and part of the costs are derived from the previous studies in other countries for which no reference has been presented. To estimate the cost of each treatment strategy, the experts' opinions were used. It is clear that part of the costs and consequences of using PET scan technology will happen in the upcoming years that for decision making at the present time require the use of an appropriate discount rate for the adjustment of costs and outcomes. Unfortunately, it is not mentioned in this study. A part of the study is about predicting costs of running a complete PET scan unit after 20 years, in which only an increase in staff salary assuming a zero discount rate was considered. While appropriate prediction of the future costs requires a reasonable compound and inflation rate

based on various scenarios (item 7 in checklist). And finally, in the sensitivity analysis, effect and magnitude of some variables such as cost, utility and incidence variation is not included. Changes of these variables can affect the results of the study. Furthermore, sensitivity analysis has not been reported and also the impact and importance of each variable in the results has not been studied in detail (ninth item of the checklist).

References

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