Is Aspirin Cost-Effective for the Primary Prevention of Stroke among Women in Iran? A Pharmacoeconomic Evaluation

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Abstract

Introduction: In spite of undebated benefits of the use of aspirin for the prevention of cardiovascular disease (CVD), due to the side effects of aspirin, which are mainly gastrointestinal bleeding and hemorrhagic stroke, its use in primary prevention is still contentious. Stroke is one of the important CVD events which is responsible for a major cause of death among Iranian women. For the first time, the cost-effectiveness and cost-utility of the use of aspirin for the primary prevention of stroke among women in Iran with an average risk of CVD was evaluated in this study.

Methods and Results: The incremental cost-effectiveness ratios (ICERs) were estimated using a semi-Markov model in which the cost-effectiveness of the use of 80mg aspirin was compared to control group The adopted time horizon was life-long and the analysis was performed from the payer's perspective. The target population was a hypothetical cohort of 55-year women with a 10-year CVD risk of 15% and no history of previous CVD. A loss of 0.4 QALYs (Quality-Adjusted-Life-Years) and 0.58 LYG (Life-Years-Gained) with an extra cost of 6,150,946 Rials per patient were estimated in this study,. The implemented one-way and probabilistic sensitivity analyses represented the robustness of the model.

Conclusion: The use of aspirin for the primary prevention of stroke among women with an average CVD risk, seems not to be a cost-effective intervention in Iran. However the cost-effectiveness of the use of aspirin for other CVD including myocardial infarction (MI) needs to be taken into account in decision making.

Keywords: Cost-effectiveness, Cost-utility, Stroke, Primary prevention

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