

Cost Effectiveness Analysis of Standard and Premium Intraocular Lenses Implemented in the Treatment of Cataract Under Different Insurance Schemes in Egypt

AUTHOR(S)

Zaky H1, Sharkawy M2, Eldessouki R3, Nassar H4

1Central Administration of Pharmaceutical Affairs, Nasr City, Egypt, 2Aham Canadian University, Cairo, C, Egypt, 3Fayoum University-, Cairo, Egypt, 4Cairo University, Cairo, Egypt

ABSTRACT

OBJECTIVES: Our study aims to evaluate the cost-effectiveness of different types of IOLs under different health insurance schemes.

METHODS: The population is astigmatism-free and astigmatism Egyptian patients aged 65 years old performing bilateral cataract surgeries, using standard or premium IOLs. The outcomes are the visual acuity and the quality adjusted life years (QALY). The costing is from the patient's perspective using a 3.5% discount rate. We calculated the life time direct medical costs in three health facilities; public, governmental, and private. Both outcomes for each type of IOL; 1-piece monofocal, multifocal and toric monofocal-IOLs are obtained from literature .The incremental cost effectiveness ratio (ICER) is calculated for both multifocal and toric-IOLs against the standard monofocal-IOL.

RESULTS: For social-health insured patients; only standard IOLs are available with no out of pocket (OOP) so ICER wasn't calculated. For OOP patients at the public hospital, standard IOLs are covered but premium are not, while at the private hospital, patients incur costs of both IOLs. OOP payments for astigmatism-free and astigmatism patients using premium-IOLs at public hospital were (1,263.53 and 771.6064USD) respectively. At private hospital; OOP, medical-union and private-health insured patients expenses for astigmatism-free and astigmatism patients were (1,555.698, 1,133.366 and 1,282.705USD) and (1,054.814, 633.2585 and 783.1354USD) respectively. In terms of QALY gained, ICER for multifocal-IOLs were (10,574.54, 7,832.071, 7,845.87 and 7,845.87USD) while for toric-IOLs ICER were (6,806.289, 3,018.924, 3,033.739 and 3,033.739USD) respectively. Using national cost-effectiveness threshold, we found that bilateral implementations of multifocal-IOLs for OOP and different types of insured astigmatism-free patients are non-cost-effective. On the other hand, toric-IOLs are cost-effective for medical-union and private-health insured and OOP astigmatism patients in the private health facility only.

CONCLUSIONS: Bilateral implantation of multifocal-IOLs for astigmatism-free patients is not cost-effective meanwhile; bilateral implantation of toric-IOLs for astigmatism patients is a cost-effective intervention in the private hospital.