**Economic burden of glaucoma on patients attending two health facilities in Tema Metropolis, Ghana**

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# ABSTRACT

**Introduction:** Glaucoma is the leading cause of irreversible blindness worldwide. Ghana ranks second in the prevalence of glaucoma globally. Glaucoma poses a considerable economic burden on its patients since victims have to be on treatment for the rest of their lives. The cost of managing glaucoma increases as the disease progresses. The evidence on the cost and burden of the disease on patients is limited. This study therefore aims to determine the economic burden of glaucoma on patients.

**Methods:** A cross-sectional Cost of Illness (COI) study from the perspective of the patient was used. The study sample (n=180 participants) was drawn using proportional sampling technique to select participants from a public and private eye care facilities in the Tema Metropolis. A simple random sampling method was then used to select glaucoma patients from the two facilities. Three main costs were estimated over a one month period. Direct cost, was the sum of medical and non-medical costs related to the treatment of glaucoma. Indirect cost was estimated using the human capital approach to determine patients and caregivers productive time lost due to seeking glaucoma care. Sensitivity analysis was performed to determine changes in total cost by varying variables that were uncertain. Intangible cost was determined using tertile statistic approach to assess fear, emotional pain, social isolation and depression.

**Results:** The total cost of seeking glaucoma care from the perspective of the patient for both facilities was GHS45, 889.28 (USD10, 525.06) with an average cost of GHS254.94 (USD 58.47) per patient per month. The average direct medical cost for the private and public facilities were GHS192.60 (USD 44.2) and GHS221.10 (USD 50.7) representing 78.8% and 82.7% of total cost respectively. Direct non-medical cost were GHS 36.34(USD 8.33) and GHS 29.41(USD 6.65) for private and public facilities per patient per month respectively. Indirect cost (all facilities) was GHS 16.18(USD 3.71) per patient per month. Direct cost constituted about 93.7% of overall cost and indirect cost 6.3% of total cost. The cost estimates were sensitive to changes in wage and cost of medicines. Patients also expressed low to moderate intangible burden of glaucoma.

**Conclusion**: Glaucoma poses a significant economic burden on patients. The direct costs of glaucoma are high and constitute more than two-thirds of the total cost of glaucoma with the main cost driver being medicines.

**Keywords:** Direct cost, indirect cost, intangible cost, glaucoma, Ghana