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PREVALENCE AND OUTCOMES OF CATARACT SURGERY IN BRAZIL: THE SÃO PAULO EYE STUDY

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Purpose: To investigate the prevalence and visual acuity (VA) outcomes of cataract surgery in a low-middle income population in São Paulo, Brazil.

Methods: Cluster sampling based on geographically-defined census sectors was used in randomly selecting individuals ≥ 50 years of age for visual acuity measurement, refraction, and slit-lamp examination during 2004-2005. Cataract patients were queried as to the year and place of surgery. The surgical procedure any evidence of surgical complications were recorded during the examination. The principal cause of vision impairment was identified for eyes presenting with VA $< 20/40$.

Results: A total of 4224 eligible persons were enumerated and 3678 (87.1%) were examined. The prevalence of cataract surgery was 6.28% (95% confidence interval [CI]: 5.29%-7.27%). Cataract surgery increased dramatically with a 1999 government initiative that improved access to subsidized surgery. Surgical coverage among those with presenting visual impairment or blindness $< 20/63$ in both eyes because of cataract was 61.4%. Age and no formal schooling were associated with un-operated impairment/blindness. Among 352 cataract-operated eyes, 41.2% presented with VA $> 20/40$, 28.1% with VA 20/40 to 20/63, 14.2% with VA $< 20/63$ to 20/200, and 16.5% with VA $< 20/200$. With best-correction, the corresponding percentages were 61.9%, 17.6%, 8.2%, and 12.2%. Intra-ocular lenses were in 90.6% of cataract-operated eyes, and half of these had phakoemulsification. Next to refractive error, retinal disorders were the main cause of vision impairment/blindness in operated eyes. With logistic regression, phakoemulsification was associated with presenting VA $\geq 20/63$; age, gender, formal schooling, time or place of surgery were not significant. With best corrected vision, only formal schooling was significant.

Conclusions: The volume of cataract surgery has increased in low-middle income areas of São Paulo, but many remain visually impaired/blind because of cataract. Refractive error and other causes of visual impairment amenable to treatment are common in cataract operated eyes. Greater emphasis on the

quality of visual acuity outcomes along with sustained government subsidy to provide access to affordable modern cataract surgery are needed.