CATARACT IN A RURAL SRI LANKAN POPULATION

PAUL ALEXANDER ATHANASIOV
MBBS, MMed(OphthSc)

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ABSTRACT

The aims of this study are to determine the prevalence of and risk factors for cataract, the cataract surgical coverage (CSC) and self-reported barriers to cataract surgery in a rural region of central the Kandy District of central Sri Lanka.

A population-based, cross-sectional ophthalmic survey of the inhabitants of rural villages in central Sri Lanka was conducted; 1375 individuals participated (79.9%; age >/= 40 years, average age 57) and 1318 (95.9%) had an examinable lens in at least one eye. Data collection included district, age, gender, occupation, education level, smoking history, height, weight and dilated lens assessment using Lens Opacities Classification System III grading: nuclear (≥4), cortical (≥2) and posterior subcapsular (≥2) cataracts. Aphakic and pseudophakic eyes were included as operated cataracts for statistical analysis. Participants with cataract-induced visual impairment (acuity < 6/18 in the better eye) were also invited to respond to a verbal questionnaire about barriers to cataract surgery.

The prevalence of any cataract including operated eyes was 33.1% (95% CI, 22.4 – 43.7%): 26.0% cortical; 7.9% posterior sub-capsular and 4.5% nuclear cataracts. No significant association was found between cataract and gender, smoking or outdoor occupation. Low level of education (secondary or higher vs no education: OR 0.6, CI 0.4-0.9, P=0.04) and shorter stature were associated with a higher likelihood of any cataract. (OR 1.7, CI 1.1-2.7, P=0.02) Cataract surgical coverage per individual for visual acuity cut-offs of <6/18, <6/60 and <3/60 was 41.9%, 76.8% and 82.7%, respectively; and per eye was 34.0%, 60.3% and 65.2%, respectively. Cataract surgical coverage was higher for men than women, and two thirds refused referral for surgery, for the following reasons: no desire to improve vision, fear of surgery and lack of awareness were the most frequently reported barriers.

The overall prevalence of cataract in central Sri Lanka is similar to that in other developing Asian regions except for the unusually low prevalence of nuclear cataract. Illiteracy and height appear to be significant predictors for cataract in this population and further investigation is required to explore their influence. Cataract surgical coverage in central Sri Lanka is higher than that in neighbouring developing regions, however improved community education may further increase surgical uptake.

DECLARATION

I am aware of no conflicts of interest, of any nature, pertaining to this manuscript. Pfizer Ophthalmic, Sydney, Australia, and Alcon Australia, Sydney, Australia, lent equipment for this study, but the design of the survey and its execution, analysis, interpretation, and publication were carried out independently by myself (Paul Athanasiov) and those acknowledged within this manuscript.

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Paul Athanasiov and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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Signed ………………………………………………………………..Date…10/02/2010
Dr. Paul Athanasiov (Candidate), Master of Ophthalmology, Adelaide University

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ABBREVIATIONS

BDES: Beaver Dam Eye Study

BMI: Body Mass Index

CSC: Cataract Surgical Coverage

CI: Confidence Interval

ECCE: Extracapsular cataract extraction

ICCE: Intracapsular cataract extraction

IOL: Intraocular Lens

LOCS: Lens Opacities Classification System

KES: Kandy Eye Study

OR: Odds ratio

PSC: Posterior subcapsular

UV-B: Ultraviolet B radiation

VA: Visual acuity

WHO: World Health Organisation