

Abstract

World has experienced dramatic improvements in longevity. The longer the older people remain in good health, disability free and productive, the better will be their quality of life and greater their contribution to society. The most common cause of blindness and the most common cause of visual impairment in the world is cataract. The decrease in functional well being leading to a decline in quality of life is associated with visual impairment.

This study was aimed at determining the vision related quality of life among elders with cataract and risk factors for age related cataract. It was conducted in the Gampaha District of Sri Lanka.

The study comprised of four parts. First part was a cross sectional descriptive study to assess the prevalence of cataract and to describe the socio demographic factors associated with age related cataract. In the second part of the study, potential risk factors for age related cataract was assessed using the case control design. Psychometric properties of the National Eye Institute Visual Functional Questionnaire (NEI VFQ) were assessed in the Sri Lankan context in the third part. It was used to measure the quality of life among elders with cataract in the forth part of the study. In addition to NEI VFQ, Short Form -36 (SF 39) which measure the general health status and Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) scale (which is the commonest tool used to assess the disabilities among elders) was used in the forth part of the study.

The descriptive cross sectional component included a stratified random sample of 614 elders over 60 years of age. The overall prevalence of visual disability among the elders residing in Gampaha district was 68.1%; with 51.8% being visually impaired and 16.3% blind. The prevalence of age related cataract was 56%. The prevalence increases with advancing age. Cataract was more common among females (65.3%). Low income levels ($\chi^2_{\text{Linear trend}}=39.32, P<0.001$) and low education levels ($\chi^2 = 44.14, df =4, p<0.001$) were found to be associated with high prevalence of cataract.

Only 15% of the elders with cataract had it operated. Majority (78.7%) of the elders had cataract on both eyes, but only 5% had their cataract operated on both eyes.

The second part of the study which used 136 cases and 136 controls found, that advancing age, female gender, lower educational levels, low social class and low income groups to be potential risk factors for age related cataract. Elders, who had employment which exposed them to sunlight and intense light than others had 2.85 times high risk of getting cataract. (95%CI 1.50 – 5.46). Use of protective glasses shows a protective effect toward the development of cataract.

Current smokers [OR =3.22(95 % CI, 1.07- 9.90)] have a higher risk of developing cataract than ex-smokers [OR =2.51 (95% CI, (0.73 – 8.84))]. Presence of diabetes mellitus [OR (95%CI) = 1.88(1.02 – 3.48)] and hypertension [OR (95%CI) = 2.88(1.26 – 3.80)] was found to be major determinants for the development of cataract. Family history of cataract and BMI were not found to be risk factors for development of cataract.

The multivariate analysis after controlling for confounding factors revealed that, low social class, presence of hypertension, presence of diabetes, exposure to sunlight/ intense light, current smokers, female gender and advancing age to be significant risk factors for the development of cataract.

Third part of the study, which measured the psychometric properties of the NEI VFQ, which was widely used to assess the subjective visual functional status, was found to be having sufficient internal consistency and construct validity to measure the effect of subjective visual functional status. Correlation between the same dimensions using a different scale has higher values showing strong convergent validity with correlation between that item and subscale. It was greater than 0.40 in all dimensions of the NIE VFQ. The intra class correlation coefficient in this study was 0.57-0.89 in all dimensions giving a good overall repeatability. Cronbach α for those seven dimensions which have more than one item ranges from 0.71 – 0.94. All are greater than the accepted Cronbach α of 0.70.

The part four of the study endeavoured to quantify the quality of life by comparison of subjective visual functional status among elders with cataract and without cataract. It revealed that presence of cataract has significantly affected the visual functional status of these elders. Physical health status of the elderly was mainly affected than mental health status due to the visual disability caused by cataract. Majority (57%) of the elders with cataract have poor ADL status.

It shows that mental health status of these elderly with cataract was not affected compared to that from the elderly without cataract indicating that the elders were not psychologically affected due to the presence of cataract.

Presence of age related cataract has greatly reduced the functional wellbeing of the elders affecting their quality of life.

Cataract is a significant and increasing health issue, which needs prompt action. The challenges are to prevent or delay cataract formation and treat if it occurs, which will dramatically enhance the quality of life.

It is recommended that the preventive strategies for cataract must be identified early as the application of preventive measures will help at least to delay the onset. The integrated preventive programmes for the control of non-communicable diseases will be the more appropriate strategy to prevent age related cataract.

Short-term policies should be adapted to reduce the waiting lists for cataract surgery. On the long term, planning and implementing policies to ensure adequate services to cater to the increasing demands should be considered.

Utilization of available services should be enhanced through improving the accessibility by providing transport and organizing outreaches cataract surgery centres and camps targeted to the elderly.

