

## RISK OF CATARACT FORMATION WITH EXPOSURE TO BIOMASS SMOKE

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### Abstract

Nearly 80% of the 18 million Sri Lankans depend on biomass as the fuel for food preparation and cottage industries. Use of low quality biomass fuels in inefficient stoves, poor ventilation conditions and lengthy cooking practices often lead to high levels of exposures which may elevate the health risks and aggravate the existing health problems. Yet, assessments on indoor exposure and the health implications are limited to handful of studies. We have initiated several research projects, including this and on cataract, to investigate the health risks associated with biomass smoke exposure.

Cataract is a lens opacities associated with some degree of visual impairment. Among the known risk factors for cataract are exposure to cigarette smoke and exposure to direct sunlight. In this study, a questionnaire was drafted to extract the confounding factors for cataract which included, age, sex, type of fuel used, type of stove, ventilation, cooking hours per day, total number of years involved in cooking, number of years exposed to biomass smoke, smoking habits, passive smoking, exposure to direct sunlight and the health conditions such as hypertension and asthma.

Patients from National Eye Hospital in Colombo were surveyed over the period of April to September 2004. 197 patients who were treated for cataract in one or both eyes contributed to the survey along with 190 non-cataract patients as controls. Univariate analysis method was used to evaluate the association between the cataract formation and variables associated with cooking. Primary analysis of the data suggests a strong correlation of cataract to biomass exposure having  $p < 0.05$ .