

## A study on factors affecting the formation of cataract

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With the objective of determining the factors contributing to cataract formation, an unmatched, clinic based, case-control study was designed, in which cases are respondents having cataract and controls are those who do not have cataract. A total of 197 cases and 190 controls were taken. Initially, univariate analysis was used to select a small set of possibly significant variables from among the large number of variables. Then binary logistic regression modeling was used to determine the factors affecting cataract formation and to quantify this effect.

After adjusting for confounding effects age, injury and drug, the risk factors minor indoor smoke, and ventilation near wood stove were found to be significantly associated with the development of cataract on eyes. Apart from the main effects, interactions of age and minor sources of indoor smoke like coils, joss sticks, age and duration cooked using wood for years, age and hypertension and drug and duration cooked using wood for years are also significantly associated with the formation of cataract.

These findings highlight that smoke affects the formation of cataract. The exposure to biomass smoke (i.e. smoke which comes from wood stoves), smoke from minor sources of indoor smoke like mosquito coils and joss sticks are high risk factors for getting cataract. In addition, the risk of having cataract for elderly people exposed to mosquito coil smoke throughout the night daily is high. Also elderly people with hypertension or involved in cooking for more than 20 years using wood as a fuel are more likely to develop cataract.

Diabetics exposed to smoke from coils and joss sticks are at a high risk of developing cataract. Ultimately, it can be said that other than the already discovered risk factors of cataract, like age, family history, medical problems such as diabetes, injury to the eye, medications especially steroids, long-term unprotected exposure to sunlight, previous eye surgery, the exposure to biomass smoke and mosquito coil smoke can also make an impact on cataract formation. According to the observed data, there is no evidence however to conclude that cigarettes smoke increases the risk of cataract.

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