An Investigation Into the Prevalence of Behavioral and Environmental Determinants of Cataract

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Introduction

• Accounting for 51% of legal blindness in the world and 18% in Qatar,[2] cataract remains the most prevalent visual impairment.
• Cataract involves the clouding of the eye's lens, which reduces the light that reaches the retina and ultimately minimizes visibility.
• As the world's population ages, cataract will remain a serious healthcare and socioeconomic burden.
• Preventing cataract formation earlier on is the key to alleviating blindness levels in Qatar.
• A study shows that current smoking, body mass index, occupational exposure to light, family history, deficiency of vitamins C, diabetes, myopia, increased the risk of developing a cataract.[3] Another study identifies hypertension, duration of calcium channel blockers use and previous eye surgeries as significant risk factors of cataracts.[4] Occurrence of dehydration was concluded as an important determinant of cataracts in an article.[5]

Methodology

Qatar (Doha):
658 surveys conducted (55% Female, 45% Male)

Pakistan (Multan):
210 surveys conducted (55% Male, 45% Female)

USA (Sacramento):
300 surveys conducted (63% Male, 37% Female)

We carried out a systematic and meta review of literature about cataract, using the Google search engine, to determine the risk factors of cataract.

Surveys were carried out in 3 different countries among individuals aged 15-50.

An interview with an ophthalmologist was conducted.

Results

• Environmental factors contribute about 65% to the risk of developing cataract.[1]
• 5% of survey takers in the 40-50 age demographic, responded positively to questions in the survey regarding certain symptoms of cataract ex. being bothered by headlight glare. 55% of people in this category did not have a college education.
• The average Qatari citizen undergoes an eye exam every 3.2 years.

• 4 in 10 South Asian individuals in Qatar reported having myopia. This figure ranks the highest among all ethnicities surveyed.
• Respondents in Qatar afflicted with hypertension represent 27% of the sample.
• 10% of participants in Qatar have undergone at least one eye surgery in the past. The most common type of eye procedure among the cohort was laser eye surgery.
• 1 in 3 people in Qatar said that they drink the daily required liters of water. Women are twice more likely than men to stay hydrated.
• 21% of the residents in Qatar have diabetes or are pre-diabetic.
• Current smokers account for 34% of the population sample in Qatar. 97% of this cohort consists of male smokers.
• Other findings of our study are shown in figures a – f.

Conclusion

The data concludes that there is a higher prevalence for some risk factors than others, generally environmental factors show the highest frequency. The aetiology of cataracts can be easily remembered by the 5 Ds (Diabetes, Diet, Drugs, Dehydration and Don’t know). Qatar’s focus should be driven towards educating the public about the 5Ds and on ways in which positive lifestyle changes can be implemented, so that there’s a decrease in the risk of potentially developing a cataract.

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References

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