The prevalence of anisometropia and its associated factors in an adult population from Shahroud, Iran

BACKGROUND:

The aim of this study was to evaluate the prevalence of anisometropia in an urban adult population in the north of Iran.

METHODS:

This cross-sectional study was conducted among the ٦٤-٤٠-year-old population in Shahroud , Iran. Random cluster sampling was applied to select ٦,٣١١people. Following an interview, optometric and ophthalmologic examinations, including objective non-cycloplegic refractions, were carried out. The prevalence of anisometropia was reported according to non-cycloplegic refraction and with cut-off points of ٠.٥٠, ١.٠٠, ٢.٠٠and ٣.٠٠D.

RESULTS:

Of the sampled people, ٥,١٩٠(٨٢.٢per cent) took part in the study. After considering exclusion criteria, data from ٤,٩١٨participants were included in the final analysis. Most participants were female (٥٧.٦per cent) and the average age (with standard deviation) was ٥٠.٧± ٦.٢years. The prevalence of anisometropia with cut-off points of ٠.٥٠, ١.٠٠and ٢.٠٠D were ٢٣.١(%٩٥CI: ٢٤.٣-٢٢.٠), ٧.٧(%٩٥CI: ٨.٤-٧.٠) and ٣.٢per cent (%٩٥CI: ٣.٧-٢.٧), respectively. The prevalence of severe anisometropia (٣.٠٠D or more) was ١.٩per cent (%٩٥CI: ٢.٣-١.٥). The odds ratio (OR) of anisometropia was ١.٠٦times higher for every year of increasing age. The OR of anisometropia in participants with cataract was ٢.٧٨times more than in those without (p > .(٠.٠٠١Anisometropia was more frequent among participants with unilateral cataract (٢١.٧per cent) compared to those with bilateral cataract (١٣.٤per cent). Anisometropia of ١.٠٠D or more was significantly more prevalent among myopic participants compared to hyperopic participants (١٣.٨versus ١٢.٧per cent, p (٠.٠٠١ > and there was a stronger association between anisometropia and myopia (OR = ٢.٩٣) than hyperopia (OR = ٢.٢٣). With increasing educational level, the prevalence of anisometropia decreased significantly (p .(٠.٠٠١ > The prevalence of aniso-astigmatism of ١.٠٠D or more was ١١.١per cent (%٩٥CI: .(١١.٩-١٠.٢

CONCLUSION:

In the present study, the prevalence of anisometropia in Iran was not negligible; however, it is less than in Eastern Asia. Myopia, cataract, age and educational level were associated with anisometropia.