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Prevalence of refractive errors among South Korean children in Chuncheon

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Background & Aim: Visual impairment due to refractive errors is the most common problem for children and is one of the main causes of blindness. The World Health Organization (WHO), which aims to eliminate preventable visual impairment and blindness, announced that myopia can also be a threat to eye health due to myopic macular degeneration. The purpose of this study is that a total of 200 randomly selected 13 and 14 years old children who visited the optometrist in Chuncheon were eye tests.

Method: The tests are objective refraction using auto refractor and subjective refraction using phoropter. We defined myopia as ≤-0.50 D SE (low myopia [-0.50 D≥SE>-3.00 D]; mid myopia [-3.00 D≥SE>-6.00 D] and high myopia [-6.00 D≥SE], emmetropia as +0.50 D >SE>-0.50 D, hyperopia as ≥+0.50 D SE (low hyperopia [+2.00 D>SE≥+0.50D]; mid hyperopia [+5.00 D>SE ≥+2.00 D] and high hyperopia [SE≥+5.00 D]. Astigmatism was further analyzed by dividing the subjects into three types: Hyperopic astigmatism (simple hyperopic and compound hyperopic astigmatism), myopic astigmatism (simple myopic and compound myopic astigmatism) and mixed astigmatism.

Result: The prevalence of refractive correction and uncorrection were 65.0% and 35.0%. The prevalence of 0.00, 0.05, 0.10, 0.15≥ logMAR was respectively 65.0%, 20.5%, 11.0%, 7.0%. The prevalence of low, mid and high myopia, emmetropia and hyperopia were respectively 41.0%, 44.0%, 5.0%, 9.0% and 1.0%. The prevalence of hyperopic and myopic astigmatism is 1.0% and 51.5%.

Conclusion: Reduced vision is an important health problem in children globally. Further research is necessary to investigate the prevalence of refractive errors in various ages, regions and to find solutions to these problems.

Biography

Jaeyoung Lee is currently studying for Department of Optometry at Graduate School of Public Health Eulji University, South Korea and for Master of Science in Clinical Optometry at Marshall B. Ketchum University, U.S.A. He had the internship for training and observation in contact lenses, vision therapy and pediatric optometry at Michigan College of Optometry clinical about three weeks, in 2015.He had submitted the poster about cases study “Spectable Prescriptions due to Glare at Night Driving to the Korean Society of Vision Science” in 2017. He obtained Korea Optician License in 2016 and worked and Davich Global Optical Chain store from 2016 to 2018 in South Korea. His main job have been prescribing glasses or contact lens.

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