The Relation between Refractive Error and Learning Achievement Among Elementary Students at Surakarta

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Background :

Refractive error is eye disorders in processing a vision due to an imbalance of optic eye, resulting in a blurry shadow. Nowadays, refractive error is one of the most prevalent eye disorders, especially in children. This health problem is faced seriously by the world, especially developing countries such Indonesia.

Vision is the main information pathway and important factor in the learning process. Vision ability develops optimally until 9 years old, so delay in correction of refraction can lead reduction ability to absorb learning material. This condition will have impact on learning achievement.

Because there are still contradictions from several studies that have been conducted and absence of similar research in Surakarta city, further research is needed.

Research methods :

Design of this research is observational analytic with a cross-sectional approach and conducted in one of the primary schools in Surakarta City with total of 599 students. Sampling by total sampling technique that meets the inclusion and exclusion criteria.

Results :

Myopia simplex is refractive error found mostly in the right eye, 42 students (56.8%) and left eye in 46 students (62.2%). Other types that suffered quite a lot were astigmatism myopia simplex in right eye as many as 16 students (21.6%) and left eye 15 students (20.2%). The remaining types of astigmatism, myopia, composites, astigmatism and simplex hypermetropia with proportions ranging from 1.4%-16.2%.

Based on statistical tests, no significant association was found between refractive abnormalities toward learning achievement (P = 1,00).

Conclusion :

Visus examination is used to detect refractive errors and school ranking is used as learning achievement reference. Prevalence of refractive errors was found at 16%. Results of statistical tests didn't show differences on learning achievement of children with/without refractive errors. Therefore, this research concluded that there was no effect of refractive errors on learning achievement.

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Biography :



Muhammad Ilham Malda,was born on July 11th 1998 at Bangkinang, Riau. I entered of Sebelas Maret University Faculty of Medical in 2016, and now in 3rd year. Me and my friend have so much interest with Ophthalmology. So we hope, we can join this chance in Hongkong Conference and learn a lot about Ophtalmology.



Atika Sri Raharjani, was born on born January 2nd 1998 at Sukoharjo, Central Java. I entered Medical of Sebelas Maret University which one of the best University in Indonesia in 2016. I am on 3rd year of Medical Student and interest with Ophthalmology especially Pediatric Ophthalmology. With this Abstract's submission, me and my friend hope can improve and learn a lot about Ophthalmology and join the conference in Hongkong.