

THE RELATIONSHIP OF JOB FACTORS AND CLOSE READING HABITS WITH MYOPIA SUFFERING IN TEENAGERS

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ABSTRACT

Based on the concept of static refraction, myopia is a condition in which parallel rays entering the eyeball are refracted by the refractive media in front of the retina. As a result, objects that are far from the eyeball do not appear clearly in the patient's vision. The inability of a person to see distant objects clearly can occur, among others, due to heredity, work and reading habits or position, work environment, etc. To overcome refractive errors in myopia sufferers, minus spherical correction lenses can be given in front of the patient's eyes, so that the light that falls in front of the retina can be shifted and focused right on the retina. The purpose of this study, the authors want to explain the existence of a mutually influencing relationship between near work vision and close reading habits, as well as room lighting used by people with myopia. This research was conducted using a quantitative research method with a sampling technique "systematic random sampling". The results of this study found that myopic refractive errors occupied the highest percentage, namely 65.5%, that there was a mutually influencing relationship between work vision and close reading habits, as well as room lighting used by people with myopia.

Keywords: Subjective Refractive Examination, Myopicus Astigmatism, Fogging Method

BACKGROUND

The refraction of light in the eye is determined by the visual medium which consists of the cornea, aqueous humor, crystalline lens, and glass body, where these four light refracting media are known as refractive media. In normal people, the refractive structure of the refractive medium is quite clear and the length of the eyeball is balanced so that the image of objects entering the eyeball through the refractive medium can be refracted precisely on the retina so that they have good sharp vision. Ilyas, S., stated in his book *Penuntun Ilmu Penyakit Mata* Normal eyes are referred to as emmetropic eyes where the image is located directly on the retina and when the eye does not accommodate or the eye is at rest and sees far away. If there is a sharp decrease in vision, there may be an abnormality in the refractive media or visual pathway. The cause of this reduced visual acuity must be sought so that later services and rehabilitation can be provided to future patients.

In accordance with PERMENKES RI NO. 554 / Menkes / SK / VI / 2002, optical refractionists must have the ability and authority to carry out basic eye examinations, carry out refraction checks, determine, prepare and make glasses based on the size of the glasses lenses. One of the activities of an optometrist refractionist is carrying out refractive procedures where the refraction examination carried out is an investigative action to find out whether the visual impairment the patient is facing is caused by refractive errors (Myopia, Hypermetropia, and Astigmatism), organic abnormalities, presbyopia, or just a simulation.

Borish, I. M, stated in his book *Clinical Refraction, Vol. 1, Third Edition* Myopia (nearsightedness), which is a condition where the image of an object falls in front of the retina, so that the sufferer cannot see distant objects clearly. Myopia is often caused by hereditary factors, habits, work environment, etc. Habitual factors and the work environment are factors that without realizing it, sufferers can cause deterioration in visual acuity. For example, the lighting used in the working environment is less than optimal, which results in the eyes being constantly pushed to work optimally by trying to open the eyes wide, so that the eyes become tired quickly. Or it can also be caused by using too much light which actually triggers glare. Using the eyes to work at close range continuously without paying attention to a good working distance will trigger excessive muscle work which results in accommodation muscle spasms, so that when the eyes look far away the sufferer will feel blurry, this is because the crystalline lens cannot return to its original shape, and the image The object falls in front of the retina. Myopia sufferers usually experience blurred distance vision, eyes get tired quickly, watery, dizzy, sleepy quickly, and when reading they often move objects closer to the object they are looking at. If sufferers of mild myopia are not treated immediately or treated from the start, the degree of refraction will continue to increase

and can become moderate myopia or even high myopia. If the degree of myopia refraction becomes more severe, it will be difficult to overcome the myopia disorder that is experienced.

In another study Lighting Levels and Reading Distance Increase Occurrence Nearsightedness (Myopia) in Adolescents Metro Sai Wawai Health Journal Volume 10, No 2, December 2017, Obtained an overview of respondents regarding their habit of reading books or reading materials < 30 cm is 44.70% of people. The results showed that the reading distance factor increased the incidence of myopia in adolescents. Previous research was conducted on a sample of 92 SMA N students 2 Temanggung obtained results that there was a relationship between reading distance. Teenagers with habits Reading at close range increases the incidence of myopia 13 times compared to teenagers who read with an optimal distance or > 30 cm

To be able to prevent the occurrence of Myopia, we must pay attention to the correct reading distance, use sufficient lighting, eat foods that are beneficial for the eyes, occasionally get used to looking at objects at a distance (6 meters/more), and adjust the distance when using a computer, etc. To rehabilitate the myopic refractive error, this can be done by providing a minus spherical correction lens that is appropriate to the degree of the refractive error, so that parallel rays entering the eyeball are refracted by the refractive medium directly on the retina.

Based on the statements above, the author tries to present a Final Assignment Report with the title "The Relationship between Occupational Factors and Close Reading Habits with Myopia Sufferers in Adolescents at the Semarang Community Sensory Health Center".

METHOD

The type of research is This research was conducted using quantitative research methods with the sampling technique "systematic random sampling". The independent variable in this research is close reading habits. The dependent variable in this research is reading in adolescence. The study population here is all patients with refractive errors who come to BKIM Semarang. The research sample here is the number of BKIM Semarang sufferers. The research instruments used in this research include: check list, examination card.

RESULT AND DISCUSSION

NO	Refractive error	Non Presbyopia 7-39 years old	Presbyopia 40-60 years old
1	MYOPIA	13	5
2	HYPERMETROPIA	1	5
3	ASTIGMAT	1	-
4	EMMETROPIA	-	5
Amount		15	15

The results of research conducted at BKIM Semarang in April 2023, it was found that the number of myopia refractive errors was in the highest percentage, namely 65.5%, for teenagers it was higher, namely 30.53%. Of the entire myopia population who visited the Semarang Community Sensory Health Center on 17-29 May 2023. Meanwhile, the percentage of myopia in children was 11.45%, the percentage of myopia in early adulthood was 13.74%, the percentage of myopia in middle adulthood amounted to 24.43%, and the percentage of myopia in the elderly was 19.84%.

CONCLUSION AND SUGGESTION

The results of a survey at the Community Sensory Health Center obtained the following data. The number of people suffering from visual impairment is 30 people, consisting of 60% myopia, 20% hyperopia, 3.4% astigmatism and 16.6% emmetropia. The number of presbyopia sufferers is 10 people, consisting of 46.7% women and 53.3% men. Determining the size of reading glasses for presbyopia sufferers with emmetropia refractive status is based on the following formula: $KB = KJ + ADD$

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