

Reading Too Near, Seeing Television, Using Gadgets or Computers in a Long Time and the Decrease of Visual Acuity in School Aged Children in the Elementary School

Heru Sulistijono¹ (corresponding author), Bambang Heriyanto²

¹Department of Nursing, Poltekkes Kemenkes Surabaya, Indonesia; heru_sulistijono@yahoo.com

²Department of Nursing, Poltekkes Kemenkes Surabaya, Indonesia

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ABSTRACT

Attention to vision disorders, technological progress is one of the things that might cause visual disturbances. The facts that occur a lot in the field, there are so many children who are familiar with gadgets or PC. The general purpose of this study is to obtain a description of the get us to factors of reading, seeing TV, gadget, PC that affect the decrease of visual acuity in school-aged children. The subject were 30 students in the grade 4-6 of elementary school Kemayoran 1 Surabaya, selected by purposive sampling. Data was collected through by questionnaire. The conclusion is that the get us to factor affects the decreased sharpness of the respondent's vision.

Keywords: get us to factor; decreased sharpness of vision; school-aged children

INTRODUCTION

Background

Decrease of vision acuity in children of school age is an important health problem. The current attention on eyesight especially school children is still lacking, but not a good learning environment to be one of the triggers decline sharpness of vision as a child reading a book with a distance too close, and infrastructure of schools that are not ergonomic when teaching and learning ⁽¹⁾. The WHO data, the number of people with impaired vision around the world in the year 2010 is of 0.58% or 39 million people suffer from blindness and 3.65% or 246 million people have low vision.65% of people with impaired vision. Causes of eyesight in the rest of the world is not rectified that refracts, followed by cataracts and glaucoma.18% could not be determined and 1% is impaired since childhood ⁽²⁾. According to Basic Health Research in 2013 by the Ministry of Health of the Republic of Indonesia generated that residents who have glasses or contact lenses in urban areas about two times more compared to respondents in rural areas. The proportion of the availability of glasses or contact lenses on the highest found in DKI Jakarta (11.9%) followed in Yogyakarta (9.2%), and North Sulawesi (7.5%). The prevalence of severe low vision at the age of productive (15-54 years) of 1.49 percent and the prevalence of blindness of 0.5 percent. The prevalence in East Java the use of glasses/contact lenses 4.8%, severe low vision and blindness 1% 0.4%

The tendency of an increase in the prevalence of myopia in various parts of the world especially in asia and the increased prevalence of myopia is very prominent in children of school age. According to Suhardjo dkk in Tiharyo (2008) the prevalence of myopia in the elementary school age children ages 7-12 years in Yogyakarta of 3.69% in rural areas and 6.39% in urban areas. According to Fachrian et al. regular inspections on the eye should be started at an early age in children ages 2.5-5 years. Myopia is the most common cause on a decrease in visual acuity and can cause blindness. Some risk factors the causes of myopia is genetic factors and environmental factors. Genetic factors are hereditary factors such as the presence of a family history of suffering from myopia either parents or siblings ⁽¹⁾.

Myopia can occur at a time when the age of the children (5-7 years), young age (7-16), and adult (>16 years) ⁽⁴⁾. According to Istinasari (a division of the health and social services PMI Central, 2015): some of the environmental factors that affect the myopia is viewed near as reading a book, writing, reading, watching television, using the computer, playing games, extensive use of HP, and others. If the children are not able to read the writing or wrong due to the sight impaired, then the brain will also be wrong mempresepsikan the meaning of the inscription. The thing that will make the process of teaching and learning is hampered. In addition it will also affect the quality, creativity, and productivity. Therefore need examination and the use of refraction goggles as a tool of vision. But the problem of eye diseases in children can be prevented by performing early detection to find out the status of the sharpness of vision in children is supported by an examination of the eyes as a measuring instrument that is Snellen card.

Duties of health workers that is able to prevent the occurrence of decreased vision acuity in children of school age by conducting an examination of the eye with the Snellen card (Snellen card) as well as suggest a variety of things that can prevent or reduce the eyesight that happened like, suggest that students do not get too close look at television screens and a variety of gadgets, keep the eye with a book to read, use sufficient lighting while reading a book, food consumption healthy eyes in a balanced way, such as green and Red vegetables, fruits, protein, and the like. Don't let the hair on in the eyes because it seemed less comfortable and can be irritated skin.

Purpose

The general purpose of this study is to obtain a description of the get us to factors of reading, seeing TV, gadget, PC that affect the decrease of visual acuity in school-aged children.

METHODS

The design of this research was descriptive. Sampling technique by purposive sampling with the population were student in the grade 4-6 of elementary school in Kemayoran 1 Surabaya, the sample were 30 students based on sample criteria. Data was collected through by quistionnaire

RESULTS

Table 1 shows that the majority of the respondents i.e. 12 12 year old respondents. Table 2 shows that the majority of respondents from the class 6 i.e. 12 respondents. Table 3 shows that the majority of respondents already using glasses for 1 year i.e. 14 respondents. Table 4 shows that the habit of reading too closely, look at television, wearing a gadget or computer PC time affecting acuity of vision decline most respondents i.e. 28 respondents.

Table 1. Distribution of age respondents in elementary school 4-6 Surabaya Kemayoran March 2017

| Age | Frequency | Percentage |
|-----|-----------|------------|
| 9 | 2 | 6.7 |
| 10 | 10 | 33.3 |
| 11 | 6 | 20 |
| 12 | 12 | 40 |

Research data indicates that most respondents aged 12 years (40%).

Table 2. Distribution of respondents based on grade 4-6 students Kemayoran 1 Surabaya March 2017

| Class | Frequency | Percentage |
|-------|-----------|------------|
| 4 | 10 | 33.3 |
| 5 | 8 | 26.7 |
| 6 | 12 | 40 |

Research data indicates that most respondents class 6 (40%).

Table 3. Distribution of respondents based on their long use of sunglasses in in elementary school Kemayoran 1 Surabaya March 2017

| Use sunglasses | Frequency | Percentage |
|----------------|-----------|------------|
| 6 months | 4 | 13.3 |
| 1 year | 14 | 46.7 |
| 2 years | 8 | 26.7 |
| 3 years | 4 | 13.3 |

Research data indicates that most respondents long use sunglasses 1 year (46.7 %)

Table 4. Distribution of factors of the habit of reading too closely, look at television, wearing a gadget or computer PC long time in school age children in elementary school Kemayoran 1 Surabaya March 2017

| Factors read too closely, see the gadgets/PC a long time | Frequency | Percentage |
|--|-----------|------------|
| Influencing | 28 | 93 |
| Does not affect | 2 | 7 |

Research data indicates that most respondents influencing 28 (93%).

DISCUSSION

The results showed that most of the light intensity factors affecting acuity of vision decline respondents because of the results tabulate detailed questionnaire shows there are 28 respondents (93.3%) meet the criteria affect. While as many as 2 respondents (6.7%) meet the criteria does not affect. Then tabulate the results of the questionnaire to each matter according to three parameters are answered the respondents i.e. found the average answer of 30 people on each parameter about 33.6% of respondents answer pertanyaan the parameters read too close to score at most, 18.8% of respondents answered the question parameters see the most television and 17.9% of the respondents answered the question parameter is wearing a computer with score at most. The average yield of students who use glasses by filling out a detailed questionnaire which includes parameters (reading too closely, look at the television and put on the computer) shows that the intensity of light can influence the decrease in sharpness of vision. It can also be seen from the data 30 the respondent, scores most of the parameters read too closely, so that shows that the habit of reading too closely the most instrumental in influencing the decline in sharpness of vision. It is possible it could happen because the child does not maintain eye health with good early on at school age. The habit of reading books too closely is often done because most of them feel comfort when reading the writings of the closer the more obvious but when it continues it can affect the ability of the accommodation eyes to see.

The television viewing habits of the old intensity with close proximity often isn't realized by children, because they're fun in viewing of television shows they enjoy doing. It is usually done in quite a long time to spend a few hours so that it can cause eyestrain. Later on when wearing the computer in the task or when playing games often are not aware of their eyes can experience fatigue when forced to work too long in front of a computer screen. It can happen because the rays of light too bright computer can dazzle the eye. While just over half the respondents belonging to the category does not affect, it can happen because respondents can minimize the bad habits that are able to make health his eyes diminished and the respondents did not do those bad habits in a long period of time even though the respondents use glasses. Therefore, the very need to pay attention to the explanation of a fairly long period of time because it will have an impact on eyestrain if not balanced by adequate lighting intensity. Long use of glasses belonging to the respondents can also affect the sharpness of vision decline, of Tables 3 concluded that of the 30 respondents who researched obtained 4 respondents (13.3%) use glasses for 6 months, 14 respondents (46.7%) use glasses for 1 year, 8 respondents (26.7%) use glasses for 2 years and 4 respondents (13.3%) use glasses for 3 years.

Respondents who use glasses up to 2 to 3 years are not seeking health his eyes awake or make matters better. So they keep doing bad habit like reading with illumination is not enough or impose the eyes to keep working up to experience eyestrain. While respondents who use glasses for 6 months to 1 year old can still prevent a minus lens spectacles did not increase as long as the respondent is able to execute the activities good and not doing any activities that may exacerbate the condition his eyes are like reading a well-lit and can rest the eyes for a moment while reading. According to Ilyas ⁽⁵⁾: the intensity of the light can determine the range of accommodation, in a low-light intensity far point moving away then the speed and accuracy of accommodation could be reduced. So when the intensity of the light is lower then the speed and accuracy of accommodation will also be on the wane. The old accommodation can give pain in eye. Pain on the eyes reading time can berakomodasi eye caused abnormally mightily. Then look at close range would result in the eye interested (convergence) into. Muscle attracts eyeballs into work constantly so be weary and eyes will hurt. When working in places with strong lighting then eyes will be exhausted due to the muscles of the eye beads are hard at work regulating the incoming rays. So that the eyes would feel tired after work if viewing distance is too close. Maintaining healthy eyes early on is very important. The role of the parents in providing the much-needed attention to the child so that the child is able to maintain the health of their eyes by avoiding bad habits like reading too closely, watching television and put on the computer too long. If the parents do not concern for the child then the child can suffer from myopia. Myopia is the most common

cause on a decrease in visual acuity and can cause blindness. And the distance read close and longtime computer use also will accelerate the speed of progresivitas induces the degree of myopia ⁽⁶⁾. The statement is based on the degree of myopia can still grow despite already use glasses when a child still run bad habits that can lead to a decrease in acuity of vision.

Children's eyesight continues to develop at the time have been born and maturasi has not occurred in full for up to 2 years. The development of normal vision in both eyes is important for the child to mempersepsi the world, education, and social interaction. Measurement of sharp vision in children requires skill and patience, but just simple techniques can be used to check your vision and soothe the hearts of parents ⁽⁷⁾. Parents can actually prevent the occurrence of impaired vision early on in a child with simple checks and give attention to customs done by children at the time of being at home. Because in children who experience impaired eyesight, the ability to communicate will be hampered and the development of cognitive disorders also occur. The child must be determined level of eyesight; What is low vision eyes. This disorder specifically handled by low vision eye piece. At the age of 5-16 years, keen eyesight checked with the snellen chart. If normal, check for sharp eyesight every 2 years until age 16. Color vision checked at age 8-12 years. Examination of objective refraction is very important in a child's eye examination, particularly if there is any trace of the sight impaired ⁽⁷⁾. The function of the eyes so big then guardianship of the eye needs to be done since the infants and children. Some things to look for in order to keep the eyes to stay healthy, clear and full of benefits according to Murtie ⁽⁸⁾, namely clean face and shit in the corner of the eye slowly, do not get on the eyeball so that infants and children do not feel painful, give the stimulus on the eye toy memindah-mindahkan babies with from the top, left side, and right in order to be balanced and avoid the eyes squint, take your infants and children for a walk outdoors, view fresh green trees regularly to maintain the health of their eyes, avoid children too close look at television screens and a variety of lively gadget currently such as hp, ipad, laptop, give up foods that nourish the eyes in a balanced way, such as green and Red vegetables, fruits, protein, and the like, do not let the hair of the young on in the eyes because it seemed less comfortable and can irritated skin as well as if the eye irritated then drop a drug is safe and if it does not also bring reduced to the eye doctor.

CONCLUSION

Conclusion is that the get us to factor affects the decreased acuity of the respondent's vision. For that conclusion, researcher suggest to respondent to stop bad habits in reading too closely, viewing the television at close proximity to a long time and use the computer in a long time. Because of that, respondent can prevent the decrease of visual acuity.

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