"OPHTHALMIC INTERVENTION ON VISUAL DISCOMFRT AMONG CHILDREN FOLLWING ONLINE CLASSES DURING COVID -19 PANDEMIC"

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ABSTARCT

The COVID-19 has resulted in schools shut all across the world. Globally, over 1.2 billion children are out of the classroom. As a result, education has changed dramatically, with the distinctive rise of e-learning and online class, whereby teaching is undertaken remotely and on digital platforms. About 90% of school-aged children in access to a computer. In fact, the use of computers and other digital devices has become so common during childhood that a 2019 report by The Vision Council. Many Ophthalmologists say sustained computer use puts kids at higher risk for childhood near sightedness. They point out that, though myopia affects approximately 25%of the U.S. population, nearly 50% of adult computer users with an education are near sighted. Ophthalmic exercise on visual discomfort among children watching online classes during covid-19 pandemic helps to improve the vision.

Keywords: COVID-19, Online classes, Ophthalmic exercise, visual discomfort.

INTRODUCTION

Online education plays a crucial role in helping schools, instructors, and universities ensure the continuity of the education process during the COVID-19 pandemic[1].The American Optometric Association defines digital eye strain (DES) or computer vision syndrome as a wide range of visual and ocular symptoms causes by eye fatigue from prolonged exposure to screens[2]. If a person spends more than 2 hrs /day in front of a digital screen, they will be more prone to develop those Computer Vision Syndrome symptoms[3,4].

Other factors, such as usage duration, number of breaks, screen brightness, distance from the screen, and sitting posture, have been addressed in previous studies and established as risk factors for CVS[5,6] .

As we enter yet another year of the COVID-19 pandemic, the wide-ranging health impacts continue to be seen. This includes children's eye health. Online learning and a significant increase in digital device use have contributed to a number of eye and vision issues. Once seen primarily in young adults, myopia is on the rise in even younger people. Dry eye disease and digital eye strain (DES)—also known as computer vision syndrome—are increasing in this age group as well[7].

Online learning may also be contributing to the "alarming rate" of myopia, or nearsightedness, in children. Eye doctors need to be communicating the long-term risks of high myopia to the parents of their young patients and discussing treatment options. "Parents concerned about their children's risks of myopia are seeking information and solutions to this vision-threatening condition [7].

While eye exercise are more important to checking of eye discomfort which was associated with prolonged electronic digital usage. After watching online classes for sometime always, remember to take a break in order to give your eye muscles an opportunity to loosen up and rejuvenate. Make it a point to do eye exercise on routine basis such eye exercise may also help to prevent or fix eye problems from causes other than the computer[8].

STATISTICAL REPORT

Several studies have shown it 25% - 30% of computer using children need corrective glasses[9]. A study performed at the University of California at Bekerly School of Optometry Increased from 12.1% to 20.4% since 2020[10]. Indian Journal of Ophthalmology found an increased prevalence of digital eye strain in children attending online classes for more than two hours per day, compared to the pre-COVID era shows 50% reported experiencing DES[11]. In one study, more than 50% of children attending online classes for more than two hours a day reported symptoms of digital eye strain[12]. According to Centre for Vision Improvement, at Raju Park New Delhi for 1-2 months program there was an improvement in their vision when they compared with the pre and post-test of the samples (2020)[13].

VISUAL DISCOMFORT

Visual Discomfort is also known as Computer Vision Syndrome or Digital Eye Strain , refers to eye discomfort and vision problems associated with viewing digital screens for extended periods of time. The level of discomfort appears to increase with the amount of digital screen use[14].

ONLINE CLASS:

An online class is a class conducted over the Internet. They are generally conducted through a learning management system, in which students can view their class and academic progress, as well as communicate with their class instructor or teachers[15].

Signs of Visual Discomfort

- Headaches
- Complaints about tired eyes
- Light sensitivity
- Frequent rubbing of eyes
- Squinting
- Blurry or double vision
- Watery eyes
- Neck/shoulder pain
- Eye strain
- Dry or irritated eyes
- Reduced attention span
- Irritability

Treatment for Visual Discomfort

Eye exercise

Making these changes may help to eliminate the visual discomfort in children.

If you have an underlying dry eye problem, your eye care provider might advise the following;

- Using lubricating drops
- Treating allergies, if you have
- Drinking more fluids (staying hydrated)
- Taking a prescription medicine to increase tear production

Everything we need to know about Visual Discomfort in children:

Visual Discomfort is a common condition, which leads to many people just brushing it aside. While it may not usually be a cause of condition, it's important to still pay attention to it as it could be a sign of more serious vision problems. Detecting visual discomfort can

be easy for an adult, but for children, it is more of a challenge. In fact, studies show that around 25% of school- age children need eyeglasses, yet their vision problems remain undetected. REMEMBER: It is so important to visit your local kid's eye doctor because what may start out as simple visual discomfort in children can worsen if left untreated[16].

Benefits of eye exercises:

- ✓ Eye exercises are safe for children to do.
- ✓ These exercises are easy and can be done within a short period.
- ✓ Even young children can be taught basic eye exercises designed to improve vision.
- ✓ Eye exercise can help correct poor vision, while a lens, either in the form of eyeglasses or contacts, does nothing to improve vision.
- ✓ Eye exercises are ideal for children of all ages[16].

STEPS FOR PRACTICING EYE EXERCISE

S.no	Eye Exercise	Duration	Benefits
1.	***Pencil exercise*** Make your child hold a pencil at an arm's length and tell him to focus on it. Let your child slowly bring the pencil closer this nose. Make him move the pencil farther from his vision until he can no longer keep in focus.	This exercise can be repeated about 9 to 10 times a day. Time duration: 10 seconds	• Feeling less stress can help to focus better • Fixing your eyesight • Improve binocular vision

2.	***Eye rotation exercise*** Make your child roll his eyes in a clockwise direction for a few seconds. After this, he /she should roll them counter-clockwise for a few seconds.	This exercise that four to five times a day. Time duration: 30 seconds.	• Helps to stretch and strengthen the eye muscles. • Helps to relax eyes. • Helps to improve weak eyesight should be repeated
3.	***Eye blinking exercise*** Try to make your child rapidly flutter their eyelids by repeatedly blinking 20 to 30 times. After this, they should close their eyes for some time to give them a little rest.	This should be done twice daily. Time durations: repeat every 20 minutes a day	• Improve dry eyes • Helps to keep out dust • Lubricates and cleans eyes.
4.	***Eye exercise with sun*** Take your child outside when the sun is shining and tell them to close their eyelids. Allow the sun to shine on your child's closed eyelids. Instruct them to breathe deeply.	Do this exercise daily for a five minutes.	• Improve vision • Prevents eye dryness • Reduce strain on eyes • Enhances concentration
5.	***Eye exercise with clock***	This exercise should be repeated at least 10 times a day. Time duration 1-2 minutes	• Improves eye muscles • Keeps eye muscles active

	Tell your child to imagine a large clock. Ask them to look at where the centre of the clock would be, then imagine a number and look at where the number would be on the clock. Once done, they should look back to the center		

How to improve eyesight in kids;

- **Blink eyes every 5 minutes. Not blinking for a long time can cause dryness in eyes.**
- **Try to avoid reading from a book, mobile or laptop while traveling.**
- **Do not stay late into the night as straining to look at objects in the dark are bad for the eyes.**
- **Do not read in very bright or dim light. Read-only when the lighting is appropriate.**
- **Avoid staring too long at screens of devices such as television and mobile phone[17].**

Parents should keep these five tips in mind To Prevent Visual Discomfort

1. Remember the 20-20-20 rule: Every 20 minutes, make sure your child takes a 20 seconds break and looks at an object at least 20 feet away.
2. Remind your kids to blink! Staring at digital devices decreases our blink rate. Blinking will prevent dry eyes by keeping their eyes moist.
3. Position the computer screen so that it is between 16 to 30 inches from your child's eyes and the top is level with, or slightly below , their eyes.
4. Adjust the brightness of screens and increase test size.
5. If your child wears glasses, consider purchasing eyewear with blue light filtering capabilities[18].

Schedule a routine eye examination:

Regular eye exam are vital to your child's health and success. Early detection and treatment provide the best chance to correct vision problems before they interfere with or cause difficulties with learning. Speak with your eye care professional about your child's vision and schedule a routine eye exam today![19]

As parents, it is our duty to ensure that our children begin doing the above-mentioned eye exercise early on. An early start will not only make your child's eyesight strong but also ensure they do not have to rely on eyeglasses and contacts later in life. Simple eye exercise coupled with a good diet can help your little one enjoy the naturally healthy eyes.

IMPLICATIONS

Educate the Parents and Teachers to identify the children's visual discomfort and associated vision problems during online classes. Encourage the children to perform the Eye exercise to improve the vision. In nursing services, nurse can advise the parents to monitor the children during watching any electronic digital devices and also during performing eye exercise.

CONCLUSION:

Visual Discomfort is a common condition, which leads to many people just brushing it aside, it's important to still pay attention to it as it could be a sign of more serious vision problems. An effect of giving Ophthalmic Intervention on Reducing Visual Discomfort outcomes in children. This shows that eye exercise are useful in controlling the visual discomfort among children during following online classes.

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