

Research Article

Eye Symptoms in Online Education, During Pandemic Period: A Cross Sectional Study

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Abstract

Albania as well as many countries of the world during the time of pandemic Covid-19 was lockdown to prevent the spread of the virus in the population. Universities were closed to maintain social distance, but teaching was conducted online. Online teaching continued for more than 1 year. The aim of our study was to determine eye problems during online learning in students who participate in this study. This study is a cross sectional study, with a self-completion questionnaire. Students have completed the questionnaire that was sent to them by email. 581 students completed the questionnaire about demographic data, use of digital devices and the symptoms they had experienced while learning online. The data were collected and analyzed. From the results obtained it was evidenced that more than 80% of students spent more than 5 hours during the day in online learning. Most of them used laptops and phones as digital tools to attend online learning. Regarding ocular problems, 76% of them answered that they had symptoms while using digital tools. 93% of them had difficulty to concentrate during online learning and 92% had eye fatigue. Less than 20% of them answered heavy eyelid, blurry vision, dry eye and blinking. In conclusion we can say that the use of digital tools does not affect ocular health. The development of online learning will become a normal part of teaching policies by changing the trend of education among young people.

Keywords: Online education; Eye problems; Covid-19 pandemic; Albania

Introduction

During the Covid-19 pandemic period, which affected the whole world, Albania took measures to close the country in order to prevent

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as much as possible the spread of the virus. Schools and universities in Albania were closed after being considered a risk for the spread of the virus. The lockdown of the country took place in March 2020, when the first two cases of covid-19 were identified. As in any other country in the world even in Albania the learning took place online through systems Zoom, Moodle and Teams. The lockdown period was more than 1 year, and the close of schools and universities lasted until October 2021. During this period students continued learning normally with the online learning system. The aim of our study is to identify the ocular problems that students have had during their online leaning time.

Methods

This is a cross sectional study that was conducted in a period of 2 months, from October 18, 2021 to December 20, 2021. A self-completion questionnaire was sent to the students to complete by their email. The format of the questionnaire was made in "google form". The students who participated in this study were the students of Aleksander Moisiu University in Durres and the students of Sport University in Tirana. The questionnaire was constructed with 11 closed questions where in demographic data; details about the use of digital devices and symptoms they had experienced during the online learning were obtained. The questionnaire with 11 closed questions in "google form" was sent to 1022 students by email, out of which a total of 581 students answered. 332 (57%) students were from Aleksander Moisiu University and 249 (43%) students were students from Sport University. Data were collected and analyzed by SPSS. Data were presented as mean, standard deviation and percentage.

Results

In table 1 we have presented the demographic data of students who participated in the study and details about the use of digital devices during online learning period. The average age of the students who participated in the study was 19.01±2.6 years, where 54% of them were female and 46% male.

Mean age	19.01 ±2.6
Gender	Nr. (%)
Male	269 (46)
Female	312 (54)
Total	581(100)
Frequency of online learning	
Never	0 (0)
Once a week	40 (7)
2-3 time a week	93 (16)
Once a day	163 (28)
Multiple times a day	285 (49)
Time spent on online learning	
< 5 hour/day	302 (52)

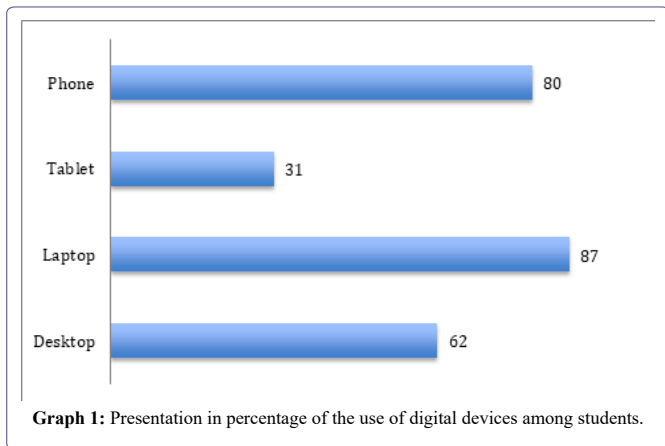
> 5 hours/day	279 (48)
Watching record lesions	
Never	52 (9)
Once a week	122 (21)
2-3 time a week	331 (57)
Once a day	64 (11)
Multiple times a day	12 (2)
Watching live class	
Never	0 (0)
Once a week	6 (1)
2-3 time a week	46 (8)
Once a day	76 (13)
Multiple times a day	453(78)
Interacting with teacher	
Never	0 (0)
Once a week	0 (0)
2-3 time a week	29 (5)
Once a day	221 (38)
Multiple times a day	331 (57)
Does you feel changes in your eye health after the use of online education?	
Yes	442 (76)
No	139 (24)

Table 1: Demographic data and details about the use of digital devices.

From data collected, 48% of students answered that they spent more than 5 hours a day with online learning and 57% answered that they watched recorded lesions 2-3 times a week. The interaction with teacher was reported by multiple times a day by 57% of students.

To the question if they feel any changes in their eye health after the use of online education, 76% of them answered yes.

In graph 1 we have represented the percentage of the use of digital devices among students. Most of them used laptop (87%) and phone (80%) to attend online learning.

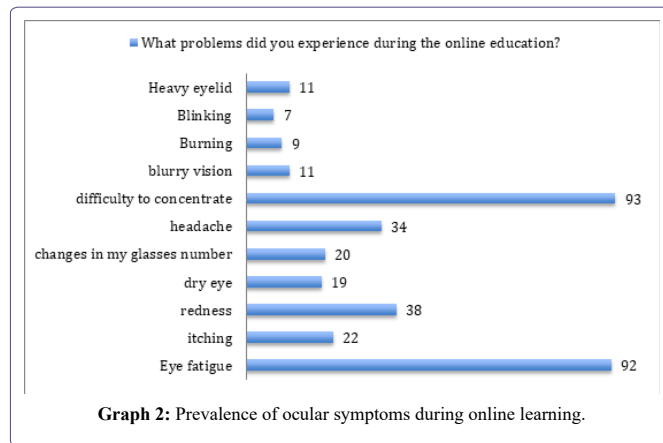


Graph 1: Presentation in percentage of the use of digital devices among students.

Tablet and desktop were other digital devices used by more than 50% of students. One student had used more than one digital device to attend the online learning.

In graph 2 we have presented the prevalence of ocular symptoms that students have felt while using digital devices to attend online

learning. The most common symptoms they experienced were difficulty to concentrate in 93% of them, eye fatigue in 92%, followed by redness of the eyes and headache.



Graph 2: Prevalence of ocular symptoms during online learning.

Less than 10% of students answered for blinking and burning. Only 20% of students answered for changes in glasses number during the online learning.

Discussion

Albania lockdown affected not only the economy but also the psychology and social life of people. Social distance was one of the ways to prevent the spread of covid-19 [1]. In Albania as in other part of the world the schools and universities continued teaching through digital online learning through various platforms such as zoom moodle and teams [2]. In Albania online learning started in March 2020 and lasted until October 2021. In this study we considered reasonable to evaluate the effect that the use of digital devices had on eye health. Other studies have been investigated about the impact of online learning and eye health [3,4].

In this study we found that more than 50% of students studied more than 5 hours a day online and over 90% of them had experienced ocular problems. Other students in other studies around the world had reported ocular problem during online learning during pandemic [3,5].

The most digital devices used for teaching in our study were laptops and telephones in over 80% of students. Also most of them responded that they had used more than one digital tool during online learning. In other studies desktop and laptops were the most used devices for online learning [2].

The most common ocular symptoms experienced by students in our study were difficulty to concentrate and eye fatigue, followed by redness and headache. Other studies have identified eye stain as a symptom during online learning [6]. Other has reported difficulty to concentrate [7].

In conclusion, we can say that the use of digital devices for more than a year, did not affect eye health. The development of online learning in the near future will become a normal part of teaching policies by changing the trend of education among young people in Albania.

Limitations

Since this study included the students of Aleksander Moisiu University of Durrës and students of Sports University of Tirana, the

data are only for this population group. A more detailed and multi-center study would better determine the symptoms experienced while learning online during pandemic period. However our study was a quantitative study; the data suggested that students while using digital devices had difficulty to concentrate and eye fatigue.

Declaration of Conflicting Interest

The authors declare that they have no conflict of interest.

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