

## Assessment of Self Perceived Awareness about Digital Display Terminals

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### -----ABSTRACT-----

*Use of digital display devices has become routine and is being used by a major proportion of the population. Also, the side effects of the digital technology are becoming widespread simultaneously. The measures to make the users aware about these ill effects and the methods to curtail them do not seem to be stringent. Hence, this short survey was conducted to assess the self-perceived awareness about the availability and use of the digital display terminals. It was observed that the use of smart phones is the most common among the digital devices studied and majority of the users are using them for very long durations per day.*

*Keywords - Blue light, Digital display terminals, Digital eye syndrome.*

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### I. INTRODUCTION

Digital technology has etched its permanent place in our daily life and a routine without the use of digital devices seems impossible. It has eased the life to a great extent. Digital display terminals are a common source of communication and entertainment. However, no scientific invention comes without its associated adverse effects if not put in use judiciously.<sup>[1]</sup> The phenomenon of Blue light and Digital Eye Syndrome are born out of the digital devices.<sup>[2]</sup> There are no standard established guidelines for the use of digital display terminals and sound recommendations for their use. This short survey was planned to assess the self-perceived awareness about the availability and use of the digital display terminals.

### II. METHODOLOGY

An online survey was carried out using Google Forms. The survey included hundred subjects from various age groups. Online invitation was sent to participate in the survey with sufficient time permitted to submit the response. The aim of the survey was to assess the self-perceived awareness about digital display terminals. The online form was designed comprising of two sections. The first section included the general vital information about the subjects regarding their age, gender and occupation. The second section included questions that explored the information about availability of various digital display devices with the subjects and the self-perceived assessment of the duration of their use. The awareness about the Blue Light and the Digital Eye Strain was also assessed.

### III. OBSERVATIONS

There were 60% male and 40% female subjects who participated in the survey. Age range of the subjects was from 14 years to 51 years with mean age of 27 years. 55% were employed while 45% were unemployed. Among the subjects, 85% used smart phone, 75% watched television, 35% used laptop, 20% played video games and tablet was used by 15% of the subjects. Smart phone user had Watsap as the most commonly installed app in the smartphones with use in 80% of the smartphones, followed by Facebook in 65% of the smartphones. Instagram and Messenger were used by 40%, other apps were used by less than 20% and We Chat was the least used app. The subjects with smartphone reported that 30% of them used phone for up to 2 hours in a day, 40% used more than 2 hours and less than 4 hours, 20% used more than 4 hours while 10% used more than 8 hours in a day.

Among the digital device users 35% were aware of the Blue Light and 65% were not aware of it. 30% were aware of harmful effect of the Blue Light and 70% were not aware of it. Only 25% of the digital device users had an idea how to reduce the eye strain and 75% did not know about it. Also, only 25% took action to reduce the eye strain and 75% did not take any action.

Digital devices are being used by persons of varied age range. Smart phone is the most commonly used digital device among the devices studied and Watsap is the most commonly used app among the smart phone users. Majority of the user i.e more than two third subjects used the smart phones for more than two hours in a day while 10% used even more than 8 hours a day.

Only one fourth of the subjects were aware of ill effects of the phenomenon of Blue Light and the ill effects of the digital screen. Only a quarter of the subjects took measures to prevent the digital eye strain.

#### **IV. RESULTS**

Digital devices are being used by persons of varied age range. Smart phone is the most commonly used digital device among the devices studied and Watsap is the most commonly used app among the smart phone users. Majority of the user i.e more than two third subjects used the smart phones for more than two hours in a day while 10% used even more than 8 hours a day.

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#### **V. DISCUSSION**

Technology has become the integral part of daily life. In fact, it has become indispensable. No sphere of life is untouched by the digital technology. The advancements in technology are growing in leaps and bounds and at the same time getting assimilated swiftly in to the routine as well. The utilization of digital display devices brings usefulness and comfort with them but only if used judiciously. A word of caution is always desirable regarding the use of digital devices especially digital display terminals as these are not totally free from the adverse effects.<sup>[3]</sup> The ill effect of Blue Light emitted from the digital display devices and the electromagnetic field around the digital devices are the potential hazards. There is a bleak line between their use and misuse that may get crossed easily. We indisputably observe extensive use of digital display terminals around us. This survey assessed the awareness about the use of digital display terminals. Sufficient time was permitted to the subjects to submit their response. The results established the fact that there is excessive use of devices more than the safe limit.<sup>[4]</sup> The short sample size is the limitation of this study and large sample size would substantiate the results. The inputs submitted regarding the use of digital display terminals were as per self-perceived by the subjects and it lacked objectivity. There is alarmingly high use of smart phones and most of the users crossed the permissible safe duration of use of two hours a day. Also, the measures are not being adopted by the majority of the subjects under study to curtail the digital eye strain caused due to excessive use of digital display terminals.

It is evident from the present study and the existing literature that there is dire need to observe discipline regarding the use of digital display devices in view of their effects especially on the eyes.<sup>[5,6]</sup> The safe duration of their use has not been standardized, however, use exceeding two hours per day is considered beyond safe limit. Maintaining the appropriate position of the digital terminal in relation to the eyes is significant factor in maintain the health of the eyes and the body as a whole.<sup>[7]</sup> A safe distance is to be observed always to reduce the adverse effects.<sup>[8]</sup> Lightening around the display terminal is a critical factor that significantly influence the effect of blue light emitted from the device and needs to be handled appropriately.

#### **VI. CONCLUSION**

In today's world, use of digital technology seems mandatory. It is extensive and following the increasing trend. Although the adverse effects of the digital display terminals have not been well established by the support of the scientific research, however, their use cannot be considered as absolutely safe. Hence, self-check is desired till the time conclusive evidence is established and regulatory check is implemented. It is advisable to keep the use to a minimum required so as to reduce the potential adverse effects.

#### **REFERENCES**

- [1] Park JH, Kang SY, Lee SG, Jeon HS. The effects of smart phone gaming duration on muscle activation and spinal posture: Pilot study. *Physiother Theory Pract.* 2017;33(8):661-9.
- [2] Singh A. Use, Overuse and Abuse of Digital Display Devices: A Critical Counterpoise. *International Journal of Scientific & Engineering Research* 2017;8(8):1605-7.
- [3] Rosenfield M. Computer Vision Syndrome (a.k.a digital eye strain). *Optometry in Practice* 2016;17(1):1-10.
- [4] Singh A. Electromagnetic Field Exposure: A Health Hazard. *International Journal of Emerging Trends in Scientific and Technology* 2017;4(10):6250-2.
- [5] Tsubota K, Nakamori K. Dry eyes and video display terminals. *N Engl J Med* 1993;328,584-5.
- [6] Miyake-Kashima M, Dogru M, Nojima T et al. The effect of antireflection film use on blink rate and asthenopic symptoms during visual display terminal work. *Cornea* 2005;24:567-70.
- [7] Loh KY, Reddy SC. Understanding and Preventing Computer Vision Syndrome. *Malaysian Family Physician* 2008;3(3):128-30.
- [8] Parihar JK, Jain VK, Chaturvedi P, Kaushik J, Jain G, Parihar AK. Computer and visual display terminals (VDT) vision syndrome (CVDTS). *Med J Armed Forces India.* 2016;72(3):270-6.