

USE OF ELECTRONIC DEVICES AND ITS RELATIONSHIP WITH CERVICALGIA AND HEADACHE IN MEDICINE PROFESSORS AT A PRIVATE INSTITUTION IN ANÁPOLIS

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ABSTRACT

Objective: To analyze the prevalence of cervicgia and headaches related to screen use among professors in the Medicine program at a private university in Anápolis-GO. **Method:** This is an exploratory study that used Google Forms questionnaires for data collection. The sample was randomly composed of professors who voluntarily agreed to participate and signed the Informed Consent Form (ICF). The instruments used were the Sociodemographic Questionnaire, the Neck Disability Index (NDI), the Copenhagen Neck Functional Disability Scale, and a screen time questionnaire based on a study by Ruthes et al. (2020). Data analysis was performed using tables and graphs in Microsoft Excel 2013. **Results:** Most of the participating professors are female, with an average age of 45.1 years and 14.7 years of experience. Of the total, 57.1% presented mild disability according to the Copenhagen Neck Functional Disability Scale, and 51.56% had minimal disability according to the NDI. Additionally, 81.3% use screens before going to bed and 59.4% continue after lying down, although 75% are aware of the potential harm. About 57.8% reported feeling tired upon waking. **Conclusion:** Most professors show minimal to mild disability related to prolonged screen use, which may contribute to cervicgia and headaches. Despite being aware of the negative effects, many continue using electronic devices before and after sleeping, which may contribute to morning fatigue.

Keywords: Headache; Cervicgia; Screen time; Teaching

INTRODUCTION

Cervicgia affects between 30% and 50% of the population, with 15% potentially developing chronic pain (LOPES et al., 2021; CASTRO et al., 2021). Inadequate posture and prolonged use of electronic devices are common factors (ROZA, 2008). Screen time refers to the period an individual uses devices such as cell phones and computers, being associated with sedentary behavior and risks of cardiovascular and metabolic diseases (NOBRE et al., 2021). Head flexion when using screens increases the load on the cervical spine, causing musculoskeletal alterations and dysfunctions such as arthritis and headaches (RIBEIRO et al., 2019).

Headaches, especially migraines and tension-type, are aggravated by prolonged screen use and exposure to blue light (XAVIER et al., 2015; CRUZ et al., 2017). Excessive screen use, especially before sleeping, is associated with sleep

disorders and reduced rest quality (NOBRE; ROCHA; PEREIRA, 2021; VIEIRA et al., 2022).

METHODOLOGY

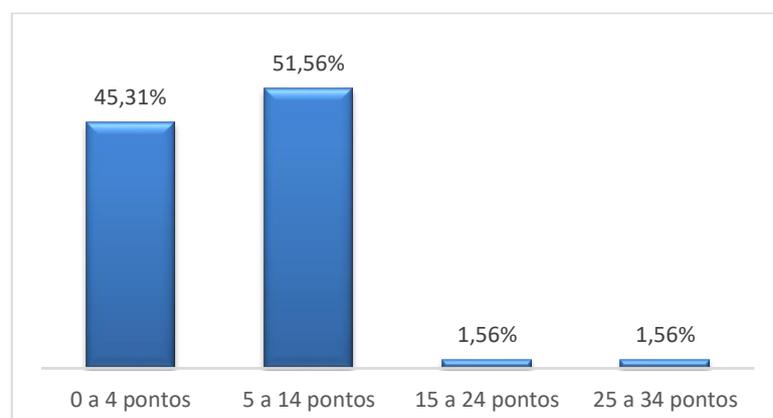
This exploratory study investigated the functionality of medicine course professors with cervicgia and headaches related to screen use. Data were collected through virtual questionnaires sent via Google Forms to 64 professors who participated voluntarily and signed the Free and Informed Consent Form (FICF).

Four main instruments were used: a sociodemographic questionnaire, the Neck Disability Index (NDI), the Copenhagen Neck Functional Disability Scale, and a screen time questionnaire. Data were analyzed with graphs and tables in Microsoft Excel. The study followed the ethical guidelines of CNS Resolution No. 466/2012, approved with the opinion number: 7.036.064. At the end of the study, participants received a booklet containing detailed guidance on practices for healthy screen use.

RESULTS

The study included 64 participants, 73.4% female and 26.6% male. Age ranged from 28 to 71 years, with an average of 45.1 years, and teaching experience ranged from 1 to 50 years, with an average of 14.7 years. The average daily screen time was 6.7 hours, with 5.2 hours dedicated to teaching activities and 2.4 hours to leisure. The Neck Disability Index (NDI) indicated that 51.56% of participants presented mild disability in the cervical spine.

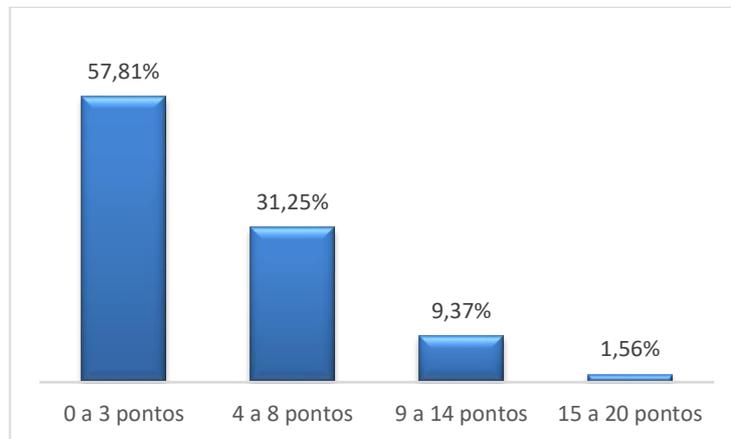
Figura 1. Resultado da pontuação do Questionário de Incapacidade Cervical (Neck Disability Index, NDI) no estudo.



Fonte: Elaborado pelo autor, 2024.

To assess how cervical pain and headache affect people's lives, the Copenhagen Neck Functional Disability Scale (CNFDS) was used. This questionnaire evaluates how neck pain interferes with daily activities and quality of life (LOPES; LOBO; GAMA, 2022), with the results presented in Figure 2.

Figura 2. Resultado da pontuação da Escala Funcional de Incapacidade do Pescoço de Copenhagen no estudo.



Fonte: Elaborado pelo autor, 2024.

While the Neck Disability Index (NDI) indicated a predominance of mild disability, the Copenhagen Neck Functional Disability Scale revealed a higher prevalence of minimal disability (57.81%), with mild disability following at 31.25%.

Screen time refers to the total time a person spends exposed to electronic devices, such as cell phones, smartphones, tablets, and computers (NOBRE; ROCHA; PEREIRA, 2021). To assess this exposure, a specific questionnaire developed by Ruthes et al. (2020) was used. The results obtained are presented in Table 1.

Quadro 1. Resultados sobre o uso de tela pelos docentes pesquisados

Variáveis	n(%)
Utiliza aparelho eletrônico antes de dormir?	
• Sim	81,3%
• Não	18,8%
Utiliza aparelho eletrônico após se deitar?	
• Sim	59,4%
• Não	40,6%
Tempo de uso de aparelho eletrônico após se deitar	
• Média	0,53 horas
• Desvio Padrão	0,64
Tempo de uso de celular durante o dia	
• Média	4,89 horas
• Desvio Padrão	3,39
Tempo de TV e/ou videogame durante o dia	
• Média	1,19 horas
• Desvio padrão	1,04

Acredita que o uso de aparelhos eletrônicos prejudica seu rendimento escolar e sono?	
• Sim	75%
• Não	25%
Se sente cansado ao acordar?	
• Sim	57,8%
• Não	42,2%

Fonte: Elaborado pelo autor, 2024.

Most professors use electronic devices before going to bed (81.3%) and after going to bed (59.4%), even though they know it can harm their work performance and sleep quality (75%). This behavior may be associated with the fact that many wake up tired (57.8%).

CONCLUSION

Most professors present minimal to mild disability due to cervicgia and headaches associated with prolonged screen use. Many continue to use electronic devices before and after sleeping, despite being aware of the harm to work and sleep quality, which can cause tiredness upon waking.

It is recommended to conduct additional studies to explore in more detail the impact of prolonged screen use on the health of professors, including musculoskeletal problems, visual, mental, and cognitive fatigue, in addition to stress, anxiety, and sedentary behavior.

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REFERENCES

- CASTRO, A., *et al.* Alterações posturais da coluna cervical e cervicgia associadas ao perfil dos acadêmicos de medicina: uma revisão integrativa. **Brazilian Journal of Development**, v. 7, n. 3, p. 25540-25555, 2021.
- CRUZ, M. C. da, *et al.* Cefaleia do tipo tensional: revisão de literatura. **Archives of Health Investigation**, v. 6, n. 2, 2017.
- LOPES, T. F. R.; LOBO, B. P. L.; GAMA, A. C. C. Escala Funcional de Incapacidade do Pescoço de Copenhague: análise em cantoras disfônicas e em cantoras sem queixas vocais. **CODAS**. ISSN 2317-1782 (Online version), 2022.

NOBRE, J. N. P., *et al.* Fatores determinantes no tempo de tela de crianças na primeira infância. **Ciencia & saude coletiva**, v. 26, p. 1127-1136, 2021.

NOBRE, L. C.; ROCHA, R. M.; PEREIRA, F. S. Exposição prolongada a telas e seus efeitos na saúde: uma revisão sistemática. **Revista Brasileira de Medicina Digital**, São Paulo, v. 18, n. 4, p. 125-130, 2021.

RIBEIRO, P. V. B., *et al.* Análise postural cervical em usuários de telas digitais. **Revista Ciência e Saúde On-line**, v. 4, n. 3, 2019.

ROZA, F. A. M. L. A influência da altura da tela do computador na ocorrência da dor cervical. **Campinas: Universidade Estadual de Campinas**, v. 30, 2008.

RUTHES, E. M. P., *et al.* Análise da qualidade do sono e tempo de tela em adolescentes obesos. **Revista Brasileira de Qualidade de Vida**, v. 12, n. 2, 2020.

VIEIRA, V. L. F. A., *et al.* Cefaleia, alterações visuais e no sono/vigília devido ao excesso de exposição a tecnologias. **Anais da Mostra Científica do Programa de Interação Comunitária do Curso de Medicina**, v. 5, 2022.

XAVIER, M. K. A., *et al.* Prevalência de cefaleia em adolescentes e associação com uso de computador e jogos eletrônicos. **Ciência & Saúde Coletiva**, v. 20, p. 3477-3486, 2015.