

NONSPECIFIC NECK PAIN AND PHYSICAL FACTORS OF THE NECK: A QUANTITATIVE ANALYSIS IN OFFICE WORKERS

Aegerter AM¹, Felder S¹, Furrer R¹, Elfering A², Melloh M^{1,3-5}, Sjøgaard G⁶, Luomajoki H¹, Johnston V⁷

1 ZHAW Zurich University of Applied Sciences, School of Health Sciences, Winterthur, CH
2 University of Bern, Institute of Psychology, Bern, CH
3 Victoria University of Wellington – Te Herenga Waka, Faculty of Health, Wellington, NZ
4 Curtin University, Curtin Medical School, Bentley, WA, AUS

5 The University of Western Australia, School of Medicine, Perth, WA, AUS
6 University of Southern Denmark, Department of Sports Science and Clinical Biomechanics, Odense, DK
7 University of Southern Queensland, School of Health and Medical Sciences, AUS

Background | Aim

Nonspecific neck pain is a major burden in office workers. The aim of this study was to investigate the relationship of nonspecific neck pain and physical factors of the neck.

Methods | Design and Participants

This quantitative analysis is among a subset of our stepped-wedge cluster-randomized controlled trial “Neck exercise for productivity” (NEXpro).

Office workers from two Swiss organisations without severe neck problems were included (N=95). All data were collected in January 2020 before intervention commencement (at baseline).

Methods | Outcomes and Statistics

Neck pain was quantified with a measure of intensity (Numeric Rating Scale NRS 0-10), disability (Neck Disability Index NDI 0-100%), and frequency (number of days with neck pain in the last four weeks).

Among physical factors of the neck (Fig. 1), we assessed strength [Newton] and endurance [seconds] of neck flexors, as well as movement control of the neck [number of positive tests results out of seven].

Pearson correlation coefficients were calculated.

Results

A total of 95 office workers with a mean age of 43.9 years (SD 9.6) participated in the study, 74% of whom were women.

Participants reported a mean neck pain intensity of NRS 3.0/10, a mean neck disability of 14.9%, and a mean neck pain frequency of 8.6/28 days.

Mean strength of neck flexors was 48.7 N, mean endurance of neck flexors was 58.3 seconds, and mean movement control of the neck was 4.9/7 positive tests.

A moderate and negative significant correlation was found between neck pain intensity and strength of the neck flexors ($r=-0.360$, $p=0.003$).

Conclusion

We have only been able to demonstrate a relationship between neck pain intensity and strength of neck flexors, but not for movement control of the neck, endurance of neck flexors, neck disability, or neck pain frequency.

Further research is needed to draw causal inferences and investigate factors other than physical, e.g., psychological.

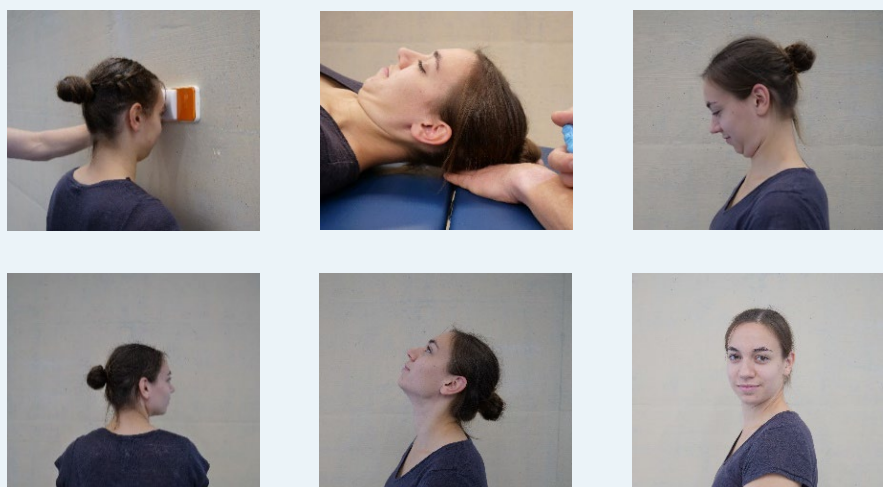


Fig 1: Examples of physical factors

Contact

✉ andrea.aegerter@zhaw.ch
☎ +41 58 934 67 91
www.zhaw.ch/gesundheit/nackenschmerzen



References

Aegerter et al. 2020, doi: 10.1186/s12891-020-03388-x
Racle Fotodesign, geschäftsfrau hat verspannungen im nackenbereich. Accessed 07.02.2022, stock.adobe.com (lic)