

The reliability of deep neck flexor muscles strength measurements by using sphygmomanometer

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Abstract:

Back ground – The function of deep neck flexor muscles is very important in physiotherapy assessments.

Aim – The purpose of this study was to examine the reliability of sphygmomanometer device to measure the strength of deep neck muscles.

Materials and methods: Thirty healthy non-athlete females aged 18-24 years old voluntarily participated in this study. The maximal contraction of deep neck muscles were measured in different times, different days and by two different testers using a sphygmomanometer device. At each session subjects performed three maximum voluntary contractions and the maximum strength was chosen for data analysis. The Interclass Correlation of Coefficient (ICC), Pearson product moment and CV% were used to assess the reliability of different measurements between times, days and two different examiners.

Results: The results of ICC, Pearson product moment and CV% indicated that the strength measurement of cervical stabilizer muscles were highly repeatable between different times, days and testers (ICC ≥ 0.90 , CV% ≤ 3.8 and $r \geq 0.91$).

Conclusion: The sphygmomanometer and the method which was used in this study appeared to be a reliable and useful method to measure the force of deep neck flexor muscles. It can also be suitable for the assessment of physiotherapy or rehabilitation programs.

Key Words: Deep neck muscles, Strength measurement, Reliability

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