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Abstract Title (max 200 char):

VALIDATING A NOVEL TONGUE PRESSURE MEASUREMENT DEVICE: RESEARCH CHALLENGES

Abstract text (max 2000 char):

Introduction: There is a need to develop valid, reliable tools to measure tongue strength and endurance. Current methods, such as the Kay Pentax Swallowing Signals Workstation (KSW) and Iowa Oral Performance Instrument (IOPI), present many drawbacks. Hand held devices (e.g IOPI) are prone to placement error making it difficult to capture accurate test-retest data. Fixed devices (e.g KSW fixed tongue pressure array) are invasive, leading to difficulties swallowing and discomfort. The validation process of novel tongue pressure measure devices involves testing its validity and reliability against a reference standard. In the absence of a robust reference standard, we selected popular hand held and fixed tongue pressure devices. The aim of this study was to compare measurements from a novel wireless fixed device (OroPress) against handheld and fixed reference standard devices (KSW and IOPI). A further aim was to examine the comfort level of devices. **Methods:** Isometric tongue strength and endurance was collected from 38 healthy participants (male and female; 18-39 years). Measures from OroPress were compared with three devices (IOPI, KSW splined and non-splined). Participants rated all devices on a likert scale, to compare comfort. Captured data was inputted into an Excel spread sheet and statistical analysis was applied. **Results:** Measures of isometric tongue strength and endurance, measured on all four devices (IOPI, OroPress, KSW splined and non-splined) will be presented. The results show variability highlighting limitations with current reference standard tools. OroPress was rated as most comfortable.**Conclusions:** Challenges exist in the validation of new tongue pressure measurement devices without an ideal reference standard. Proposed solutions are discussed.

Heading Attachment

Topics

03 Instrumental diagnosis

Presentation:

Oral

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