DEVELOPMENT AND UTILIZATION OF NEW INSTRUMENTS IN ASSESSING HANDGRIP STRENGTH FOR OCCUPATIONAL AND PHYSICAL THERAPISTS

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ABSTRACT

Handgrip strength is essential to perform activities of daily living (ADL), instrumental activities of daily living (IADL), and work. Handgrip weakness is associated with hand dysfunction and diseases. Handgrip strength assessment is commonly performed by physiatrist, occupational and physical therapists with the use of instruments. Several instruments are can be used in assessing handgrip strength, however, there is still a problem when it comes to accuracy and comfortability, especially in persons with hand dysfunction. With these problems, the researcher developed a new instrument for assessing handgrip strength that occupational and physical therapists can utilize. The study was conducted in five (5) hospitals and one (1) clinic. The respondents were thirty (30) occupational and physical therapists, and thirty (30) patients diagnosed with cerebrovascular accident (CVA) with Brunnstrom stage 4 motor recovery. Three (3) valid researcher-made questionnaires were distributed to the respondents. Samar Dynamometer and Jamar Dynamometer were used for assessing the handgrip strength of the respondents. Jamar Dynamometer is the most commonly used instrument in assessing handgrip strength. The occupational and physical therapists encountered a problem in using the instrument is “difficult to calibrate”, “inaccurate”, and “no numerical value”. The Samar Dynamometer is reliable in assessing the handgrip strength of a population with or without hand dysfunction. However, Samar Dynamometer and Jamar Dynamometer had a significant difference in average scores due to different characteristics such as weight, design, and force detection. Samar Dynamometer is highly usable in the practice of occupational and physical therapists. Also, it has a high satisfaction level among the patient. The researcher recommends modifying and upgrading Samar Dynamometer for future utilization. Additionally, deploying the instrument to a larger population of patients for the provision of intratester and intertester reliability and to establish the normative value of handgrip strength among the different populations. Lastly, conduct a study to determine the viability of the Samar Dynamometer as an alternative device to be utilized by the occupational therapist, physical therapist, and hand therapist in assessing handgrip strength.

Keywords: Handgrip Strength, Dynamometer, level of satisfaction, level of usability