Validitas dan Reliabilitas Prototipe Siroma dalam Pengukuran Rom Bahu Dibandingkan dengan Goniometer Konvensional = Validity and Reliability of the Siroma Prototype in Measuring Shoulder ROM Compared to Conventional Goniometer

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Abstrak

Istilah gangguan muskuloskeletal (MSD) mengacu pada penyakit yang mempengaruhi otot, tendon, ligamen, sendi, dan saraf. Sekitar 1,71 miliar orang di dunia mengalami MSD. Salah satu parameter penting dalam keperawatan MSD adalah pengukuran ROM, biasanya menggunakan goniometer. AI berbasis smartphone menawarkan efisiensi dan fleksibilitas yang lebih baik. Siroma adalah prototipe AI untuk mengukur ROM bahu. Penelitian ini bertujuan untuk mengetahui validitas dan reliabilitas prototipe Siroma dibandingkan dengan goniometer. Metode penelitian eksperimental dengan sampel 116 bahu menunjukkan Alpha Cronbach 0.993-0.999, dan hasil uji T-Independen >0.05. Prototipe Siroma memiliki korelasi yang sangat kuat, konsistensi dan kehandalan yang sangat baik, serta tidak ada perbedaan signifikan dibandingkan goniometer konvensional. Aplikasi ini mempermudah tenaga kesehatan dalam mengukur ROM, mendokumentasikan hasil secara digital, dan memantau rehabilitasi pasien, sehingga meningkatkan efisiensi proses keperawatan dan inovasi dalam teknologi kesehatan.<

.....Musculoskeletal disorders (MSD) refer to diseases affecting muscles, tendons, ligaments, joints, and nerves, impacting approximately 1.71 billion people worldwide. One critical parameter in nursing care for MSD is measuring the range of motion (ROM). Traditionally, a goniometer is used for ROM measurement. Smartphone-based AI is considered more efficient and flexible than conventional tools. Siroma is a prototype using AI machine learning for ROM measurement. This study aims to evaluate the validity and reliability of the Siroma prototype compared to a goniometer. This experimental study involved 116 shoulder samples. The Cronbach's alpha ranged from 0.993 to 0.999, and independent t-test results were >0.05. The Siroma prototype demonstrated a very strong correlation, excellent consistency, reliability, and no significant mean difference compared to conventional goniometers. This application facilitates healthcare providers, including nurses, in measuring ROM, documenting results digitally, and monitoring patient rehabilitation progress, thus enhancing nursing efficiency and promoting continuous innovation in healthcare technology with significant potential benefits in various clinical settings.