INNOVATION COMPETITION
IC2

Mobile Application (ScoScreen) for Early Screening of Adolescent Idiopathic Scoliosis

Rachel Priyasheny Thomas[1], Asfarina Zanudin[1], NorShita Mat Nayan[3], Nor Azura Azmi[1]

[1] Physiotherapy Programme, Centre for Rehabilitation and Special Needs Studies, Faculty of Health Sciences Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia

[2] Unit Fisioterapi, Klinik Kesihatan Cheras Jalan Yaacob Latiff, Cheras 56000 Kuala Lumpur, Malaysia

[3] Institute Visual Informatic, Universiti Kebangsaan Malaysia Bangi, 43600 Selangor, Malaysia

ABSTRACT

Description: Scoscreen is a mobile application developed to detect Adolescents with Idiopathic Scoliosis (AIS) early. **Needs:** Scoliosis screening is performed for early detection of spine deformity. Recommended scoliosis screening tools are conventional scoliometer and Adam forward bending test (AFBT). The majority of scoliosis screening applications lack sufficient validation and realibility, hence undermine the confidence of healthcare professionals in utilizing them. Measuring solely using scoliometer can result in both false positive and negative results. Hence, ScoScreen was developed to address the gap in the market and the needs for a more comprehensive solution. **Unique Features:** ScoScreen application has both AFBT and built-in scoliometer. It has step-by-step instruction both virtual and written. ScoScreen application is a Malaysian application, validated and reliable equivalent to the scoliometer. It incorporates cultural sensitivity in the Malaysia context as it can also be performed at home. ScoScreen is designed to integrates into primary healthcare settings in order to recognised the risk of scoliosis. **Impact:** ScoScreen enhances the ability to detect scoliosis early, enabling timely intervention and treatment. Healthcare providers can have greater confidence in the screening results, leading to more effective patient management strategies. ScoScreen addresses barriers by offering a user-friendly and cost-effective screening solution. It also facilitates human resource allocation and long-term strategic screening plan in health care settings. **Prospects for commercialization:** ScoScreen appeals to healthcare providers, schools, parents and individuals seeking reliable scoliosis screening tools. Partnering with healthcare providers, including clinics and agencies with education ministries further expands ScoScreen's market reach and credibility of screening strategies.

Keywords: Adolescent Idiopathic Scoliosis; Scoliometer; Screening; Validity; Reliability; Mobile Application

Corresponding Author:
Rachel Priyasheny Thomas
Email: p97069@siswa.ukm.edu.my
Tel: +60165007033