



Digital Based Innovation

Web-based Self-mental Health Screening and Emotional Mental Problem Management in Incarcerated Juvenile

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ABSTRACT

Background: In Indonesia, The Strength and Difficulties Questionnaire (SDQ) is a standard for emotional and mental problems screening in incarcerated. However, according to the Ministry of Law and Human Rights regarding the Standards of Health and Care Services Based on Information Technology, there is no information about mental health self-screening computerize-based. During incarceration, incarcerated adolescents have more significant emotional and mental problems than adolescents in the community. Therefore, the focus of developing mental health screening applications is juvenile incarceration, but not limited to adolescents in the community.

Purpose: The study aims to develop an application for the early detection of emotional and mental problems in juvenile offenders that can be monitored by staff, and the juveniles can manage their mental health status during incarceration.

Method: This study conducted the ADDIE model, namely, Analysis, Design, Development, Implementation, and Evaluation.

Results: An application called MyBehave, a web application-based using the computer, has been created, which has a feature of detecting emotional and mental problems and management of emotional and mental problems through mental health promotion while in incarceration. Users can carry out early detection independently, and the staff can monitor the development activities to improve mental health. The results of trials conducted on juvenile incarcerated found that this application system was more effective than the manual.

Conclusion: This application is helpful for health workers in incarceration in conducting early detection of emotional and mental problems and promoting mental health for juvenile incarcerated. This application was cost-effective (paperless), easy to access, can store vast amounts of database information, repeat over time, and does not need clinical training.

PICTURE



Figure 1. A Main Menu



Figure 2. Login



Figure 3. First information



Figure 4. Identity



Figure 5. Instructions



Figure 6. Screening

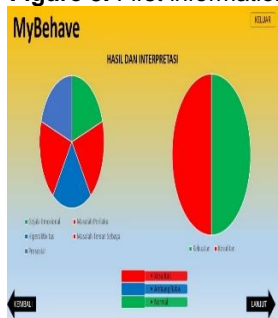


Figure 7. Results and Interpretation



Figure 8. Mental Health Promotion

Innovation in Clinical Practice

Innovation Relaxation Belts to Reduce Labor Pain Intensity and Increase β -endorphine Levels

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ABSTRACT

Background: Labor pain feels tremendous, and only 2-4% of mothers low pain during labor. Heat therapy is a non-pharmacological method. The heat therapy is still conventional, and this study uses a relaxation belt with more stable, dry heat media, and comfortable.

Objective: This study aims to develop and test a relaxation belt for efforts to reduce labor pain intensity and increase β -endorphin levels in the primigravida of the active labor phase.

Method: This study Research and Development (R&D). It consisted of 5 stages; stage I (literature study), stage II (product development), stage III (expert validity and phase I trials), stage IV (product revision and final product), and stage V (phase II trials).

Results: The relaxation belt has been created, it has been validity experts test and field trials. The result that the relaxation belt is more effective in reducing pain and increasing β -endorphin levels than warm water compress (mean different pain labor 2.40; $p < 0.01$; effect size 1.72 and mean different increasing β -endorphin levels 53.34; $p < 0.01$; effect size 2.42).

Conclusion: The relaxation belt is effective in reducing labor pain intensity and increasing β -endorphin levels.

PICTURE

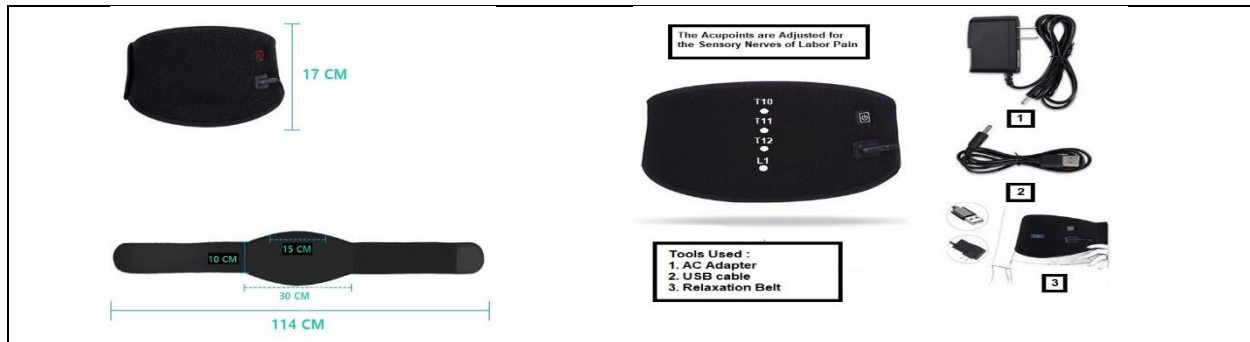


Figure 1. Relaxation belt



Figure 2. A way of using the relaxation belt



Innovation in Clinical Practice

Design and Development of Electronic Stethoscope for Auscultation

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ABSTRACT

Background: Currently, several companies offer Bluetooth-based electronic stethoscopes. However, the stethoscopes are pretty overpriced. In this case, we need a stethoscope innovation with a more affordable price that carries the same function and improves ear sensitivity during auscultation of heart and lung sounds.

Technic: This stethoscope is equipped with a condenser mic that functions as a sound catcher on the stethoscope membrane. The analog data of the condenser mic is regulated by the potential of the pre-amp mic amplifier; then, analog data is forwarded using Bluetooth 5.0 A2DP BT600 USB Wireless Audio Transmitter and received by Bluetooth receiver using earphones.

Conclusion: A electronic stethoscope has been successfully developed, which can function adequately to detect, increase heart, lung, bowel sounds, and prenatal sounds.

PICTURE



Figure 1. Design of the Electronic Stethoscope



Figure 2. Application of the Electronic Stethoscope to the Patient



Innovation in Health Education

An Innovative Cardiopulmonary Resuscitation Mannequin for Common People

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ABSTRACT

Background: The success of basic life support is determined by the role of the individual(s) who first encountered a patient with a heart attack, and he will be a helper in the situation. Lack of socialization and training for laypeople makes them unable to implement a right first aid in cases of cardiac arrest. There is a need for innovations in cardiac, pulmonary resuscitation for ordinary people to facilitate them in practicing compression measures.

Technic: CPR mannequin is made of a plywood material in the shape of the human body; it is 34 cm long, 34 cm wide, and 6.5 cm high. There are 2 LED lights to detect the accuracy of the compression depth.

Conclusion: CPR mannequin can facilitate and improve the skills of laypeople in performing cardiopulmonary resuscitation

PICTURE



Figure 1. CPR mannequin



Figure 2. An easy way of using the mannequin