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Improving nurses motivation through Android-based mobile screening tools for stunting and emotional behavioral problems, autism, and hyperactiveness (MPEAH) in detecting stunting and emotional behavioral problems in preschool children

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Abstract---Growth problems and mental and emotional problems, if not handled immediately and appropriately, will have a negative impact on adulthood and influence the development process. *Show* and Education. Stunting is a current problem that constitutes a double burden (*double load*) for the country. Stunting conditions not only affect physical growth in children but can also affect brain development, resulting in a decrease in intelligence and health levels of children, thus affecting future generations and posing a major threat to human resources. The Golden Period is a very important and short period because it cannot be repeated. The Golden Period is the first 5 years of a child's life, which is very sensitive to the environment. The purpose of this research is to develop an Android-based MPEAH Mobile application to detect deviations in stunting

problems and emotional behavior problems in preschool children. This research method is carried out in several stages. The initial stage is by analyzing the initial product to be developed, then the developed product will be validated by experts & revised, small-scale field trials. The method of collecting small-scale research data uses primary data. The next stage will be an effectiveness test. Before the effectiveness test, a feasibility test is carried out. The results of this study were obtained from the feasibility test obtained data from material experts with a very feasible value (90%) which means it can be implemented, media experts obtained very feasible data with a value (88%) and can be implemented as well, field experts are very feasible with a value (80%) can be implemented and in small groups it is very feasible with a value (85%) can be implemented. This research can be concluded: The use of the application for early detection of emotional behavioral deviations is categorized as feasible so that it can be carried out on preschool children aged 36 months to 72 months.

Keywords---MPEAH application, preschool children, nurses.

INTRODUCTION

The number of preschool children in Indonesia is very large, around 10 percent of the total population. Therefore, as the future generation of the nation, the quality of child growth and development in Indonesia needs serious attention, namely in the form of quality health services, including screening and early intervention for growth and developmental disorders that can be eliminated early (5). Stunting is a condition where a child experiences impaired physical growth, namely a child's height that is not appropriate for their age, as well as impaired brain development and intelligence. Stunting is a problem that occurs in Indonesia today, and still poses a double burden (*double load*) in the country which must be addressed immediately by the government and related cross-sectoral agencies. Stunting conditions can affect the level of intelligence and health of children, thus affecting future generations and posing a major threat to the quality of Indonesia's human resources (2). Efforts to accelerate the reduction of stunting is The mandate of Government Regulation Number 72 of 2021 is in line with health transformation, namely the transformation of primary services that emphasize preventive and promotive efforts. This aims to provide education on stunting prevention in children and improve primary services in the community (2). WHO (2020) stated that Indonesia's condition is at a stunting prevalence rate of 27.67% and UNICEF (2020) also stated that the stunting prevalence rate in Indonesia is ranked 115th out of 151 countries in the world. Government efforts to overcome stunting include a national strategy to accelerate stunting prevention with a target of 14% by 2024. Meanwhile, the results of the Indonesian Nutritional Status Survey (SSGI) obtained a stunting rate of 24.4% in 2021 and a stunting rate of 21.6% in 2022 (6). Problems with growth disorders, intelligence problems and mental emotional problems, behavioral problems, autism and hyperactive attention deficit disorder in children are often less known by parents, so that children who should receive treatment are overlooked by parents. Parents play a major role in minimizing the severity of growth problems, intelligence problems, mental

emotional problems with parental awareness to detect growth delays, intelligence problems and emotional problems of autism and attention deficit hyperactivity disorder in children (7). Children with intelligence problems and emotional behavioral problems also experience unpreparedness for school (8). Research conducted by Dudley & Vasche stated that many children who experience intelligence problems and developmental disorders as well as emotional behavioral problems are not detected, and the deviations will be visible when the child enters elementary school (9). Most developmental delays or intelligence problems in children are not detected, resulting in children having difficulty developing their potential (10). Currently, it is very necessary *equipment* which can facilitate early screening for stunting, emotional and mental disorders in children (11). *Equipment* the good is in *design* with language, images, and skills that are very simple and very easy for nurses to understand and can improve and enhance nurse performance. Based on a preliminary study conducted by researchers, it was found that some nurses currently tend to be more interested in using interactive media such as android rather than classical learning. Therefore, with the existence of *application* This Android-based application is expected to help in understanding the screening of stunting problems and emotional behavioral problems, autism and hyperactivity in preschool children.

RESEARCH METHODS

This research method is carried out in several stages. The initial stage involves analyzing the initial product to be developed. Then, the product is developed. The types of data in this development research are qualitative and quantitative data. The data were obtained verbally (primary data) from subject matter experts/experts in their fields, experienced field experts, and media experts. This qualitative data consisted of suggestions, criticisms, notes, comments, proposals, and opinions. Quantitative data consisted of assessment results in the form of scores and percentages from questionnaires obtained from subject matter experts, field experts, IT (media) experts, and small groups. The data were obtained from validation by a team of experts to determine the feasibility value. The next stage will be an effectiveness test. Before the effectiveness test, a feasibility test will be conducted.

RESULTS AND DISCUSSION

The MPEAH Application Development Product collaborated with the IT team. Researchers then revised the application based on input from subject matter experts/specialists in their fields, experienced field experts, and media experts. Researchers conducted a small-scale trial of the Android-based MPEAH mobile application before conducting Phase 2, which tested the application's effectiveness on a large number of respondents. The results of this trial included revised data and language, making it easier for nurses.

Table 1. Feasibility Test

NO	FEASIBILITY TEST	PERCENTAGE	QUALIFICATION	FOLLOW UP
1	MATERIALS MEMBER	90%	Very worthy	Implementation
2	MEMBERS OF THE MEDIA	88%	Very worthy	Implementation
3	FIELD MEMBERS	80%	Very worthy	Implementation
4	SMALL GROUP	85%	Very worthy	Implementation

The results of this study were obtained from the feasibility test which obtained data from material experts with a very feasible value (90%) which means it can be implemented, media experts obtained very feasible data with a value (88%) and can also be implemented, field experts were very feasible with a value (80%) can be implemented and in small groups it was very feasible with a value (85%) can be implemented.

DISCUSSION

This research is a product development research of the MPEAH application. This research began with collaboration with IT experts, followed by a validity trial conducted by material experts, field experts, and small groups. The trial (Validity) was conducted by Material Experts (Child Growth and Development Experts). The trial questionnaire for child growth and development experts included aspects of the suitability of the material and assessment objectives, the suitability of the material with the growth and development stages of preschool children, ease of understanding and obtaining complete information in using the application, and the presentation of attractive media displays according to the material. The trial (Validity) was also conducted by Field Experts. The trial questionnaire for field experts included aspects of the suitability of the material and objectives, the suitability of the material for detecting preschool children's growth and emotional behavior problems, ease of understanding and obtaining complete information in using the application, and the presentation of media displays that can increase the motivation of implementing nurses. The trial (Validity) was conducted by Small Groups. The trial questionnaire for small groups included aspects of the usefulness of using the MPEAH application. *Mobile*, the suitability of the material for detecting stunting problems and behavioral problems in preschool children, the ease of understanding and obtaining complete information in using the application, the presentation of media displays can increase the motivation of implementing nurses. The Trial (Validity) was carried out by the IT Team (Application Developer). The trial questionnaire for the IT team included aspects of the suitability of writing with clear images, the suitability of the material with the objectives to be assessed, the ease of understanding the flow in using the application, the suitability of image variations and color composition.

CONCLUSION AND SUGGESTIONS

Based on the research results, it can be concluded as follows: The use of early detection applications for stunting and emotional behavioral problems can be carried out at the age of 36 months to 72 months. The use of early detection

applications for stunting and emotional behavioral problems can save time. The use of early detection applications for stunting and emotional behavioral problems is very efficient and can be carried anywhere. The use of early detection applications for stunting and emotional behavioral problems is considered feasible to operate. Based on the research results and conclusions above, the researcher suggests that for implementing nurses, the results of this study can be used as a reference in making policies for implementing the early detection program for stunting and emotional behavioral problems using MPEAH *MobileAndroid*-based at the Community Health Center in the Singkawang City area to the maximum in efforts to develop health and achieve Sustainable *Development Goals* (SDGs). Nurses are expected to be more active in implementing activities to increase detection and discovery of stunting and behavioral problems in toddlers in an effort to overcome toddler health problems, both in the form of support and energy. The community can be more responsive to every toddler health problem that is known to be the root of toddler health problems in stunting and emotional behavior in toddlers. For further researchers It can be used as a comparison material for other researchers and can conduct research on a wider scale or larger sampling so that more targets receive additional knowledge of toddler health through training or research activities carried out. In addition, the development of a more in-depth research design, namely in analytical research to find the cause-and-effect relationship of a condition.

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