Development and use of early detection instruments questionnaire of emotional behavior problems (KMPE) REV.01 mobile based on android on the motivation of nurses in detecting the emotional behavior of preschool children

Winnellia Fridina Sandy Rangkuti APP., MPH
Poltekkes Kemenkes Pontianak, West Kalimantan, Indonesia
Corresponding author email: winaskw_mkia@yahoo.com

Sudarto SKp., MPH
Poltekkes Kemenkes Pontianak, West Kalimantan, Indonesia

Susito SKM., M.Kes
Poltekkes Kemenkes Pontianak, West Kalimantan, Indonesia

Siti Nur Halimah APPd., MPH
Poltekkes Kemenkes Bandung, West Java, Indonesia

Yuliastati M.Kep
Poltekkes Kemenkes Bandung, West Java, Indonesia

Sri Kusmiati SKp., M.Kes
Poltekkes Kemenkes Bandung, West Java, Indonesia.

Abstract---Introduction: Children's health efforts can be carried out as early as possible to find out developmental deviations in children while maintaining and improving children's quality of life optimally, physically, mentally, emotionally, socially and intelligence that has the potential to be developed. The quality of child development is a determinant of the child's further development. The slightest deviation in child development must be immediately detected and handled in order to develop optimally. The Golden Period is a very important period and a short period of time 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. Materials and methods: This research method is

---

carried out in several stages. The initial stage is by analyzing the initial product to be developed, this research will develop and design the KMPE REV.01 Mobile which consists of plotting, application features, input of history data, data coding, results of detection of deviations in children's emotional behavior and basic problem-solving solutions then the product developed will be validated by experts & revised, small-scale field trials. Small-scale research data collection method using primary data. The next stage will be testing the effectiveness. Prior to the effectiveness test, a feasibility test was conducted. Results: The results of this study were obtained from a feasibility test which obtained data from material experts with a very decent value (91%) which means it can be implemented, media experts obtained very decent data with a value (90%) and can be implemented too, field experts are very feasible with value (83%) can be implemented and in small groups it is very feasible with a value (88%) can be implemented. Conclusion: This study can be concluded that the use of applications for early detection of deviations in emotional behavior is categorized as feasible so that it can be carried out on pre-school children aged 3 to 6 years.

Keywords---KMPE.REV.01 application, pre-school children, nurses.

Introduction

Health development as part of national development in an effort to build quality human beings, among others, through child health efforts that are carried out as early as possible since the child is still in the womb until the first five years(1,2), which aims to maintain the survival of the child as well as improve the quality of life of the child in order to achieve optimal growth and development both physically, mentally, emotionally and socially who have multiple intelligences and talents in accordance with their genetic potential(3–5).

The quality of child development must start from the prenatal period to the toddler period because at this time the development that occurs determines the next development, so that the slightest deviation must be detected and handled properly so as not to reduce the quality of the child later in life(6–8). The quality of today's children is a determinant of the quality of human resources in the future(9,10). To prepare quality human resources in the future, a child needs to be prepared in order to grow and develop optimally(11–13).

The first five years are a very important period, namely the golden period where the first five years of life are very sensitive to the environment and this period has a very short time and cannot be repeated. Early detection of child growth and development is an activity or examination to find early developmental deviations in toddlers and preschoolers(14,15). By finding deviations or problems in child growth and development early, interventions will be easy to do, health workers also have time to make appropriate action plans, especially when they have to involve the mother or family. If the deviation is detected too late, the intervention

will be more difficult and this will affect the child's growth and development later(16).

Early detection in children is very necessary to find early deviations in child development so that there are no permanent deviations in children(17). This detection activity is not only carried out on children who are suspected of having problems but must be carried out on all toddlers and pre-school children regularly twice a year. Emotional problems and mental disorders in children are often less well known by parents, so that children who should receive treatment escape the attention of parents. Parents play a major role in minimizing the severity of emotional problems and mental disorders by paying attention to changes in children's behavior(18).

Most of the developmental delays in children are not detected, making it difficult for children to develop their potential. Currently, an instrument is needed that can facilitate the early detection of emotional problems and mental disorders in children. A good instrument is designed with very simple language, images and skills and is very easy to understand by health workers and can improve the performance and motivation of nurses(19).

Materials and Methods

This research method was carried out in several stages. The initial stage is to analyze the initial product to be developed(20). Then the products are developed. The types of data in this development research are qualitative and quantitative data obtained verbally (primary data) from material experts/experts in their fields/experts, experienced field experts, media experts. The form of this qualitative data is in the form of suggestions, criticisms, notes, comments, suggestions and opinions. While quantitative data is in the form of assessment results in the form of scores and percentages of questionnaires obtained from material experts, field experts, IT experts (Media) and from small groups. The data is obtained from the validation results of the expert team to see the feasibility value. The next stage will be testing the effectiveness. Prior to the effectiveness test, a feasibility test was conducted(21).
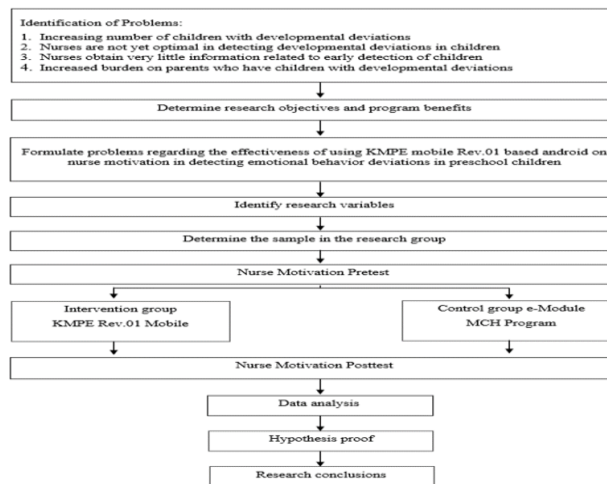
Figure 1: Flow diagram for participant assignment in this study

Results

Products Application Development KMPE REV.01 in collaboration with the IT team. The researcher then revised the application based on input from material experts/experts in their field/experts, experienced field experts, media experts. Researchers conducted a small-scale trial in the use of the KMPE REV.01 mobile application based on Android, before Phase 2 was carried out in the form of the effectiveness of using the application on a large number of respondents. The results of the trial use of this application are in the form of data and language revisions so that it will be easier for implementing nurses.

Discussion

This research is product development research for the application of KMPE REV.01. This research begins by collaborating with IT experts, then validity testing conducted by material experts, field experts, small groups. The Trial (Validity) is carried out by Material Experts (Child Development Experts). The trial questionnaire for child development experts includes aspects of the suitability of the material and the purpose of the assessment, the suitability of the material with the developmental stage of preschoolers, ease of understanding and obtaining complete information in using the application, Presentation of attractive media displays according to the material. Trial (Validity) is also carried out by Field Experts. Trial questionnaires for field experts include aspects of the suitability of the material and objectives, the suitability of the material for detecting the development of preschool children and emotional behavior problems, ease of understanding and obtaining complete information in the use of applications, presentation of media displays can increase the motivation of implementing nurses. Trial (Validity) conducted by Small Group. The trial questionnaire for small groups includes aspects of the usefulness of using the KMPE REV.01 Mobile, the suitability of the material for detecting deviations in the development of preschool children, the suitability of the material for detecting emotional behavior problems, ease of understanding and obtaining complete

information in using the application, Presentation of media displays can increase the motivation of nurse executor. The Trial (Validity) is carried out by the IT Team (Application Developer). The trial questionnaire for the IT team includes 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 the use of the application, the suitability of image variations and color composition.

Table 1. Feasibility test

No	Feasibility test	Procentage	Qualification	Follow-up
1	Material expert	91 %	Very feasible	Implementation
2	Media expert	90 %	Very feasible	Implementation
3	Field expert	83 %	Very feasible	Implementation
4	Small group	88 %	Very feasible	Implementation

The results of this study were obtained from the test the feasibility of obtaining data from material experts with a very feasible value (91%) which means it can be implemented, media experts obtained very decent data with a value (90%) and can be implemented as well, field experts are very feasible with a value (83%) can implemented and in small groups very feasible with a value (88%) can be implemented.

Conclusion

Based on the results of the study, it can be concluded as follows: The use of applications for early detection of emotional behavior deviations can be carried out at the age of 36 to 6 years. The use of applications for early detection of emotional behavior deviations can save time. The use of applications for early detection of deviations in emotional behavior is very efficient and can be carried anywhere. The use of applications for early detection of deviations in emotional behavior is considered feasible to operate. Based on the results of the study and the conclusions above, the researchers suggest for implementing nurses. The results of this study can be used as a reference in making policies for the implementation of the Early Detection Program for Emotional Behavior Problems by using Android-based KMPE REV.01 Mobile at the Singkawang City Health Center to the maximum in health and development efforts. achieve the Sustainable Development Goals (SDGs). Nurses are expected to be more active in participating in the implementation of activities to increase the detection and discovery of developmental deviations and behavioral problems in toddlers in an effort to overcome toddler health problems, both in the form of support and personnel. Communities can be more responsive to any health problems under five that are known to the root of the health problems of toddlers in under-five developmental deviations. For further researchers, it can be used as a comparison material for other researchers and can conduct research on a wider scale or take a larger sample so that more targets will receive additional knowledge of toddler health through training or research activities carried out. Besides, the development of a more in-depth research design, namely in analytical research to find a cause-and-effect relationship of a situation.

Conflict of Interest
Conflicts of interest have not been disclosed by any authors.

References

1. Miller J, Ritchie B, Tran C, Beggs S, Lada CO, Whetter K, et al. Seasonal variation in the nutritional status of children aged 6 to 60 months in a resettlement village in West Timor. Asia Pac J Clin Nutr. 2013;22(3):449–56.
2. Rosales FJ, Reznick JS, Zeisel SH. Understanding the role of nutrition in the brain and behavioral development of toddlers and preschool children: Identifying and addressing methodological barriers. Vol. 12, Nutritional Neuroscience. 2009. p. 190–202.
3. Santos DN, Assis AMO, Bastos ACS, Santos LM, Santos CAST, Strina A, et al. Determinants of cognitive function in childhood: A cohort study in a middle income context. BMC Public Health. 2008;8.
4. de Onis M, Onyango A, Borghi E, Siyam A, Blössner M, Lutter C, et al. Worldwide implementation of the WHO Child Growth Standards. Public Health Nutr. 2012;15(9):1603–10.
5. Hockenberry MJ, Wilson D. Essential of pediatric nursing. St. Louis Missoury: Mosby. 2009.
6. Komang I, Buana S. Interactive Website Application for Pediatric Developmental Growth Detection. Citec Journal. 2016;3(2).
7. Kruizinga I. Early detection of emotional and behavioural problems in preschool children. 2015.
8. Drotar D, Stancin T, Dworkin P, Sices L, Wood S. Selecting Developmental Surveillance and Screening Tools. Pediatrics in review/American Academy of Pediatrics. 2008 Nov 1;29:e52-8.
9. Berman A, Snyder SJ, Kozier B, Erb G, Levett-Jones T, Dwyer T, et al. Kozier and Erb's fundamentals of nursing. Vol. 1. Pearson Australia; 2010.
10. Soetjiningsih GR. Child Development. Jakarta: EGC; 2013.
11. Kemenkes. Guidelines for Implementing Stimulation for Early Detection of Child Growth and Development at the Basic Health Service Level Jakarta: Ministry of Health RI. 2016.
12. Grover D. Partnering with Families: Improving Home Visits in Europe and central Asia. Bernard van Leer foundation. ISSN 1387-9553. 2015.
13. Wisnu NT, Tutik H, Handayani TE. Early detection instruments for children with special needs. Open Access Maced J Med Sci. 2021 Jan 10;9:1261–1261.
14. Baiquny A, Budiman E, Hairah U, Barong Tongkok No J, Gunung Kelua Samarinda K, Timur K. Application for the Diagnosis of Mental Disorders in Children. Proceedings of the Seminar on Computer Science & Information Technology. 2017;2(1).

15. Borkowski N, Meese KA. Organizational behavior in health care. Jones & Bartlett Learning; 2020.
16. Mustard JF. Early brain development and human development. Encyclopedia on early childhood development. 2010;2011:5–27.
17. Chesney RW. The disappearance of diseases, conditions, and disorders of childhood. Vol. 162, Journal of Pediatrics. 2013. p. 903–5.
18. Dudley I, M& VT. Vision Therapy for A patient with Developmental Delay. literature Review & Case Report Journal of behavioral optometry. 2010;21(Based Pre-screening Questionnaire for Healthy Toddler Development Android (KPSP)-Mobile Phone)):39.
19. Supiah Ningsih. The Relationship Between Motivation and Worker's Productivity in Civil Registration and Population Department, Asahan Regency, Indonesia [Internet]. 2018. Available from: www.birci-journal.com
20. Arikunto S. Research Procedures A Practical Approach. 4th ed. Jakarta: Reneka Cipta. ; 2013.
21. Sugiyono PD. Statistics for Research. Penerbit CV Alfabeta: Bandung. 2017;225.