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PISANG GEN ALFA: Smartphone Application for Mental Health Families of Alpha Generation in Indonesia

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Abstract Families with alpha generation in the industrial era 4.0 have problems in mental health care, however, effort are made to prevent the occurrence through health education. The prevention model in the industrial revolution era 4.0 used a mobile application on a smart phone. PISANG GEN ALFA is a smartphone application that contains the method of parenting, assertive care, and stress management. The purpose of this study is to develop PISANG GEN ALFA as an application for reducing mental health problems in families with alpha generation. The application was developed through two stages, the first was carried out by creating application content and sophisticated systems by technology experts. Furthermore, in the second stage, a perception test was performed in the fields of mental, pediatric, and maternity nursing. Then, 100 families with alpha generation children were assessed in Malang Regency, East Java, Indonesia using a learning media questionnaire, and Intraclass Correlation Coefficients (ICC) test. The application consists of Education menu about PISANG GEN ALFA, parenting in industrial revolution era 4.0, stress prevention and management, assertive care, and parenting tension. The statistical analysis showed the value of 0.875, while the average of 3 assessors was $0.964 > 0.5$ (high stability). Furthermore, from the diligence results, 86.78% of the families stated that the application was very suitable for use, while 13.22% commented that it was feasible. PISANG GEN ALFA was a health education application used for families with alpha generation children in reducing mental health problems during parenting.

Index Terms— Alpha Generation, Mental Health, Smartphone

I. INTRODUCTION

The Indonesia population in 2019 was approximately 266.91 million, with the largest number being in the productive age (68%), while the alpha generation (age 0-14 years) was about 66.17 million people (24.8%) of the total residents (1). This generation is born between 2010 and 2025 (2), with developed and high intelligence compared to their predecessors. Furthermore, as many as 2.5 million alpha generation children are globally born every week, and they grow up depending on technologies, such as smart phones or gadgets (3). In Indonesia, 54% of them are very dependent and become technology addicts, which is almost closer to that of Asia (55%) (4), however, this makes them less sociable and creative. They also want fast and instant items, as well as lack of respect for the process (5). The development of alpha generation children in the 4.0 industrial revolution has made the conventional societal lifestyle to be unconventional, especially the technological growth, which allows rapid human evolution (6).

Furthermore, the impacts felt by their families are mental health problems, such as experiencing stress in parenting. The problems faced in the process of caring for them by their parents are anxiety, stress, anger without cause, muscle distress causing dizziness, as well as the pressure experienced when carrying out the child care tasks (7). Therefore, an innovation is needed to bring families and children closer to a technology, by creating an application for preventing mental health problems while parenting.

The family roles in the development of alpha generation children are counselling, decision making, and veterans, which are represented as X, Y, and Z (8). This produces a new brainstorming collaboration, which has a good impact on the families and the alpha generation children (9). This collaboration is carried out in various ways, such as understanding the parenting concept, the stress management, and acting assertively (10). Therefore, a guide has been created for parenting, assertive caring, and stress management, to reduce mental health problems experienced by families while raising the alpha generation children.

Furthermore, it is a health education guide in the form of a smartphone application, which is called PISANG GEN ALFA. This correlate with the current concept in Indonesia, namely the industrial revolution 4.0. Currently, smartphone applications in Indonesia are used as an easy and cheap health education medium (11). Therefore, they are developed and used in reducing mental health problems in families with alpha generation. The purpose of this study is to develop PISANG GEN ALFA as an application for reducing health problems in families with alpha generation.

II. METHOD

This study used a quantitative approach to determine the perceptions of three experts and respondents about using the application by families with alpha generation children, and was conducted in Malang Regency, East Java, Indonesia. The samples used were experts in mental, pediatric, and maternity nursing as well as those in the information technology fields. Furthermore, the respondents were 100 families with alpha generation children.

This application was developed in two stages, the first was creating it by determining the contents to be included, then inputting them into the system to develop PISANG GEN ALFA. The following were the system contents:

TABEL 1. SYSTEM CONTENTS IN PISANG GEN ALFA

No	Content	Sub Content
1.	Parenting education in industrial revolution era 4.0	I. Psychosocial development of children to adolescents II. Family factors in parenting III. Style in parenting IV. Alpha generation V. Parenting tips VI. Parenting in growth phase
2.	Parenting stress prevention with assertive actions	[1]Meaning [2]The assertive communication principle in alpha generation children [3]The assertive communication techniques in alpha generation children [4]The assertive behaviour categories
3.	Stress management	1. Meaning 2. Parenting stress in alpha generation children 3. Stress management
4.	Parental stress questionnaire	1. Meaning 2. Questionnaire sheet 3. Questionnaire history
5.	Questionnaire about parenting tension	1. Meaning 2. Questionnaire sheet 3. Questionnaire history
6.	PISANG GEN ALFA	Application description

This application was created by experts in the information technology field in the form of a smartphone gadgets. The supporting applications, such as Microsoft Word, Power Point (Microsoft Office), and animation editing gadgets were also included. Therefore the contents in these applications were introduced to families with alpha generation children.

The second stage was testing the application on 100 families with alpha generation children in Malang Regency,

East Java, Indonesia. The test was assessed by experts from mental, pediatric, and maternity nursing, as well as those in the information technology fields. Daily, 100 respondents receive a learning media assessment questionnaire as a perception test (12).

The results were assessed using perception reliability between raters with Intraclass Correlation Coefficients (ICC) on Statistical Product and Service Solutions (SPSS) 16. The approval and ethical feasibility of this study were carried out by the Health Research Ethics Committee STIKES Keanjen Malang, Ethical Number No . 085 / S.Ket / KEPK / STIKesKPJ / V / 2020.

III. RESULT

The PISANG GEN ALFA application contains menu content that provides information about parenting education in industrial era 4.0, stress prevention and management, assertive care, and parenting tension. The following were figures of the application content.



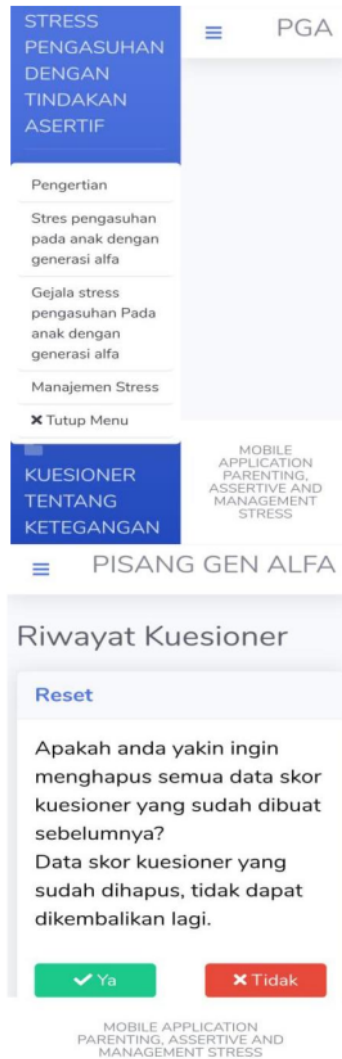


Fig. 1. PISANG GEN ALFA Content.

Furthermore, the perception test results using ICC analysis were show in table 1 below:

TABLE 2. EXPERT PERCEPTION TEST RESULTS WITH RESPONDENTS USING THE ICC TEST

	<i>Intraclass Correlation</i>	<i>Sig.</i>
Single Measures	0,875	0,000
Average Measures	0,964	0,000

Based on the content reliability test results, the evaluator value was 0.875, while the average value of the 3 assessors was 0.964 > 0.5, therefore it was concluded that the application developed had an adequate reliability coefficient. This correlated with the Polger and Thomas (2000) study "The Introduction to The Research in Health Sciences" stating that the measuring instrument had adequate stability when the ICC value between the gauges was > 0.5, while for high stability, it was > 0.80. Furthermore, from the feasibility test conducted on 100 families with alpha generation children in Malang Regency, East Java, Indonesia, 86.78%

stated that the application was very suitable for use, while 13.22% commented that it was feasible

IV. DISCUSSION

This application was a combination of various concepts, the first containing parenting learning, which was very important as it affected children's mental health (13). Parenting learning in the industrial revolution era 4.0 incorporated the internet technology. This was in line with the research on internet usage in caring for children with the results of increasing beliefs, attitudes, knowledge, and controlling stress while parenting (14).

The second concept was preventing stress through assertive actions, which was carried out by telling the truth about the problems experienced and training to express feelings without offending others (15). Furthermore, this assertive method was able to reduce negative behaviour problems, such as bullying (16), and the psychosocial problems in patients (17).

The stress management in the third concept, discussed the techniques of dealing with problems while parenting in the industrial revolution era 4.0, and was carried out by shifting stressful situations. This was easily performed by ordinary people to divert thoughts and carry out daily activities (18). Furthermore, many management techniques reduced psychosocial problems while parenting (19).

In the last concept, there were measurements of psychosocial problems, which included stress and tension in parenting (20) (21). Overall, these concepts were incorporated into the PISANG GEN ALFA application model used in families with alpha generation children. Therefore, families did not experience psychosocial problems during parenting and were able to do new brainstorming on their children using the application.

V. CONCLUSION

PISANG GEN ALFA application was used in families with alpha generation children, and was able to prevent psychosocial problems during parenting.

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