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Prevention of Stunting with the Edu-1000 Application in Pregnant and Breastfeeding Women in Kupang District

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Abstract: The prevalence of stunting has decreased compared to the previous 2 years. However, this reduction still does not meet WHO's target, namely the prevalence of stunting <20%, while the prevalence of stunting in Indonesia in 15 provinces is still above 20%. The aim of this research is to analyze stunting prevention with the edu-1000 first day of birth application in pregnant women and breastfeeding mothers in Kupang district. method. The research design used in this research is "one groups pretest-posttest design", Results: The level of knowledge of pregnant women and breastfeeding mothers is very good, the majority of respondents have very good skills, namely 25 people (50%). Based on the results of data analysis, there is an influence between respondents' knowledge about stunting on prevention attitudes as shown by (p-value 0.00 < 0.005), there is an influence between respondents' knowledge about stunting on prevention skills as shown by p-value 0.02 < 0.005. Conclusion. Prevention of stunting with the edu-1000 the First 1000 days life application can influence the incidence of stunting in pregnant women and breastfeeding mothers in Kupang district.

Keywords: Breastfeeding; Edu-1000 application; Pregnant; Prevention stunting

Introduction

According to data from the 2019 Survey Status Nutrition Toddler Indonesia (SSGBI), the prevalence of stunting was 27.67% in Indonesia. In 2020, the prevalence rate fell to 26.92%, and in 2021, the prevalence of stunting fell to 24.4 percent, or 5.33 million toddlers (Atamou et al., 2023). Prevalence stunting has experienced a decline compared to the previous 2 years. However, the decline still has not met the WHO target, namely stunting prevalence <20%, while the prevalence of stunting in Indonesia in 15 provinces is 20%. The prevalence of stunting in NTT Province based on the results of SSGI (2021) ranks first in Indonesia with a stunting rate 37.8%, under the WHO target. According to Scheffler et al. (2020), stunting is a condition of failure to grow in toddlers due to from chronic malnutrition so that the child is too short for his age. Malnutrition occurs since the baby is in the womb and in the early period after the baby is born the First 1000 days Life (Beal et al., 2018). However, the condition stunting new looks after baby aged 2 years (Fentiana et al., 2022).

Influence education through behavioral change education communication and the edu1000HPK application on mothers' knowledge, attitudes and actions pregnant in prevention stunting in the Regency Kupang (Antikasari et al., 2023; Raghupathi & Raghupathi, 2020). There are still 15 districts in NTT that are categorized as red in stunting cases. Red status pinning, namely areas where the prevalence of stunting

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is still under 30 percent, 7 districts status yellow, with prevalence stunting between 20-30%, districts in NTT Province, whose stunting prevalence is green. Based on data from PPEGBM in February 2022, there were 9,032 stunting toddlers, top 5 districts with the highest stunting rate is Southwest Sumba Regency with 13,150 toddlers, Sumba Regency Timor Middle South with 12,439 toddlers, Regency Kupang as big as 7207 toddlers, North Central Timor Regency has 6,428 toddlers and Manggarai Regency has 5,320 toddlers.

The First Thousand Days of Life (the First 1000 days Life) is the golden period, because in this period there is development of the brain, which is very fast, which supports the entire process of child growth perfectly (Galasso & Wagstaff, 2019). This golden period is very important, because there is not enough nutrition on period 1000 HPK, which, can be fixed in time life furthermore and risk in the future loss may occur in the future generation (Perry et al., 2023).

Specifications related to the research scheme: One of the roles of midwives in the reduction Stunting is education with approach behaviour change communication (BCC) (Sihombing, 2024). In addition, an application is also required, which makes it easier for the community, especially pregnant women and breastfeeding mothers, to learn independently to improve knowledge, attitudes, and action in prevention stunting on 1000 the First 1000 days life. According to Soliman et al. (2021), stunting is a condition of failure to grow in toddlers due to chronic malnutrition so that the child is too short for his age. Malnutrition occurs since the baby is in the womb and in the early period after the baby is born, however, this condition of stunting just appeared after the baby aged 2 years. Stunting starts from preconception when a teenager becomes a malnourished mother, anemia, becomes severe during pregnancy with inadequate nutritional intake, moreover, when the mother lives in an environment with inadequate sanitation, the condition is increasing at risk of protein energy deficiency (PEM), and anemia (Suratri et al., 2023).

Judging from the food intake of pregnant women in general, there is a deficit of energy and protein (Sunjaya et al., 2021; Udayana & Dyah Wulan, 2022). Most pregnant women have problems with food intake, both energy and protein. These conditions are accompanied by pregnant women who are generally also short (<150 cm) and have an impact on babies being born prematurely with low birth weight (LBW) < 2,500 grammes and also body length < 48 (Wijaya et al., 2023b).

The prevalence of stunting in NTT Province since the last year has experienced a decline, among others in 2021 (37.2%) and until August 2022 (35.3%) (SSGI Data 2021 & 2022). but still far from the national target of 14% (Sine et al., 2024). Therefore, specific nutritional interventions and sensitive nutrition interventions need to be well coordinated, so that the hope for a reduction in stunting incidents in NTT Province can be achieved according to the target. The First 1000 Days of Life is the golden period for a child to grow and develop optimally (Kwesiga et al., 2022; Saavedra & Dattilo, 2022; Suminar et al., 2021).

Disorders that happen on this period, specifically lack of intake nutrition, will impact life and grow a flower child, which is nature permanent, and futures are long as well as more difficult to fix once the child is older (Wardani & Widodo, 2024).

Government Province NTT has strived for convergence in multi sector acceleration prevention and reduction of stunting and improvement of nutrition through specific and sensitive interventions, but the decline in stunting rates has not been significant. Education about the importance of 1000 Days First Life is one of the solutions that needs to be continuously implemented for all levels of society, especially pregnant and breastfeeding mothers, so that it can have an impact on increasing correct knowledge about nutritional intake during the First 1000 Days Life, so that model application with edu1000HPK This felt need was designed and utilized by all of society, in particular pregnant mothers and mothers breastfeeding. The purpose of this study is to implement the edu-1000 HPK application as an educational media prevention of stunting on 1000HPK (Wijaya et al., 2023a).

Method

The research design used in this study is “One Groups Pretest-Posttest Design, namely a research design that includes a pretest before being given treatment and a posttest after being given treatment. Research Design: This research uses the "One Groups Pretest-Posttest" design design”, that is, a design study in which there is a pretest before given treatment and a posttest after being treated in the same group (Nwosu et al., 2023; Rustam & Putri, 2022). Behaviour measurement (knowledge, attitude, action done) before and after given education about prevention stunting through the edu1000HPK application).

Population and Sample: This study was conducted in 10 community health centres in Kupang Regency, among others; Health Centre Penfui, Health Centre Baumata, Health Centre Tarus, Health Centre Hello, Batakte Health Centre, Baun Health Centre, Oekabiti Health Centre, Oelmasi Health Centre, Health Centre Fatukanutu, Community Health Centre Camplong, and community health centre Naibonat. The number of pregnant women taken per health centre was 10 pregnant women for a total of 100 pregnant women.

Sampling with the method of accidental sampling, that is, every pregnant mother that is found made into sample research.

Collection data use a questionnaire that, as previously, has tested validity and reliability. Questionnaires consist of biodata (question open), where as knowledge, attitude, and action questionnaires (closed questions), each item contains 10 statements. Measurement of knowledge and skill levels using numbers 0-100 with an ordinal data scale (very good, good, sufficient, lacking, bad), while the measurement attitudes using a Likert scale (1-5) with an ordinal data scale (strongly agree, agree, quite agree, not enough agree, disagree). Year II: Variables independent is application edu1000HPK, variables dependent: knowledge, attitude, and action of mother and breastfeeding mothers. Univariate data analysis on the level of knowledge, attitudes, and actions of pregnant women and mothers postpartum before and after given treatment use application edu-1000 HPK is test chi square, analysis bivariate use test paired t-test (Supriani et al., 2021). Knowing the differences in knowledge, attitudes, and actions before and after treatment (Bagus & Romli, 2024). Level meaning use p-value <0.05 on 95% confidence interval.

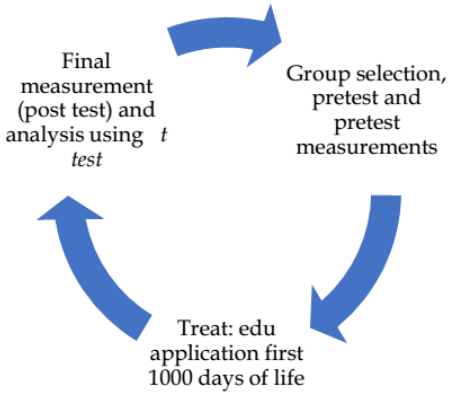

Figure 1. The circle of research

Result and Discussion

Study conducted at the District Health Centre Kupang, that is, Health Centre Tarus, Health Centre Baumata, and Health Centre Penfui, with an amount of respondents as many as 50 people.

Descriptive Data

Based on the Table 1, it can be concluded that part respondent owns very good knowledge, that is, as many as 30 people (60%), but still there are 5 respondents who have knowledge enough about stunting (10%).

Based on the Table 2, it can be concluded that the majority of respondents have a very good attitude, that is, as many as 20 people (40%), but still there are 7 respondents who have a sufficient attitude about stunting (14%).

Table 1. Level of Knowledge Respondents about Stunting in the Health Centre Regency Kupang

Level of Knowledge	Number (n)	Percentage (%)
Very not enough	0	0
Not enough	0	0
Enough	5	10
Good	15	30
Very Good	30	60
Total	50	100

Table 2. Attitudes of Respondents about Stunting in the Health Centre Regency

Level of Knowledge	Number (n)	Percentage (%)
Very not enough.	0	0
Not enough	7	14
Enough	11	22
Good	14	28
Very Good	20	40
Total	50	100

Based on the Table 3, it can be concluded that the majority of respondents own very skilled people, that is, as many as 25 people (50%), but still there are 12 respondents who have sufficient skills about stunting (24%).

Table 3. Skills Respondents in Stunting Prevention at the Community Health Centre Regency Kupang

Level of Knowledge	Number (n)	Percentage (%)
Very not enough.	0	0
Not enough	0	0
Enough	12	24
Good	13	26
Very Good	25	50
Total	50	100

Results Analysis Influence Knowledge, Attitude, and Skills

Based on the data Table 4, it can be analysed that there is influence between knowledge respondent about stunting and attitude shown with p-value 0.00 < 0.005).

Table 4. Influence Knowledge on Attitude Respondent by t test

Parameters	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.361[a]	6	0.000
Likelihood Ratio	37.836	6	0.000
Linear-by-Linear Association	24.410	1	0.000
N of Valid Cases	50.000		

a. 9 cells (75.0%) have an expected count less than 5. The minimum expected count is 55.

Table 5. Influence Knowledge on Skills Respondent *t* Tests

Parameters	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.361 [a]	6	0.000
Likelihood Ratio	37.836	6	0.000
Linear-by-Linear Association	24.410	1	0.000
N of Valid Cases	50.000		

a. 9 cells (75.0%) have an expected count less than 5. The minimum expected count is 55.

Based on the data Table 5, it can be analysed that there is an influence between knowledge respondents about stunting and demonstrated skills, with a p-value of 0.00 < 0.005.

Table 6. Effectiveness of the Edu-1000 the Days of Life Application on Changes in Knowledge and Attitudes of Pregnant Women Regarding Stunting Prevention

Variable	Average	df	Average difference	sig
Knowledge				
- Intervention	31.3	6.0	2.9	0.000
- post test	30.3	4.0		
Attitude				
- Intervention	57.9	3.5	4.2	0.001
- post test	62.1	3.6		

P: *significance value is* < *a (0.05)*

The results of the calculation of the independent sample t test showed that the significance value of the difference in knowledge increase in the two groups (Pre post test and intervention) was 1.1 with a significance value of 0.000. These results show that the significance value is < α (0.05), this means that statistically there is a difference in the increase in knowledge scores in the control and intervention groups. The results of the calculation of the independent sample t test showed that the significance value of the difference in attitude improvement in the two groups (control & intervention) was 1.6 with a significance value of 0.001. These results show that the significance value is < α (0.05), this means that statistically there is a difference in the increase in attitude values in the groups

Discussion

Influence Knowledge on Attitude Respondent

High t test value (31.361) with degrees of freedom 6 shows that there is a significant difference between groups knowledge of respondents about stunting and attitude. Theory cognitive can support the idea that more knowledge Good about stunting tends to be correlated with a more positive attitude toward prevention or handling stunting. Significance very asymptotically low (0.000) indicates that influence between knowledge and attitude is unlikely to happen in a way of coincidence. Theory, behaviour, and health can be used to support indings. Where is this good knowledge? It often becomes a predictor important from supportive attitude behaviour health. chi-square value for the significant Linear-by-linear association (24.410) indicates existence of a of a linear relationship between level knowledge and change attitude (Mahdhiya et al., 2024).

Concept theory and diffusion innovation can be linked here, where improvement knowledge is possible to cause change in attitude in a way gradually. Maternal knowledge about nutrition has a significant impact on children's eating patterns and prevents malnutrition that causes stunting (Saleh et al., 2021; Santosa et al., 2021; Syah et al., 2024). Results chi-square analysis shows that there is significant influence between knowledge of the respondent about stunting and attitude toward them (p-value 0.00 < 0.005). This shows that the knowledge possessed by the respondent has a strong relationship with the attitude they have toward stunting. Number of valid cases (50) shows that sample is enough big to give strength and decent statistics. Conclusion is in accordance with principles based on statistics, and generalization results in a larger population (Friska & Andriani, 2021).

Influence Knowledge to Skills Respondents

T test value and degrees equal freedom with Table 5 shows that patterns influence knowledge to skills similar to influence knowledge to attitude. Theory learning social can be used to explain that applied knowledge can increase skills practical.19,20 t-test analysis on Table 5 shows that there is significant influence between knowledge of the respondent about stunting and skills of them (p-value 0.00 < 0.005). This shows that knowledge the respondent correlated with skills possessed in the context of stunting, although its significance was lower compared to influence knowledge to attitude. Maternal knowledge about nutrition has a significant impact on children's eating patterns and prevents malnutrition that causes stunting (Sitorus et al., 2024).

The higher p-value small from level of the specified significance (0.05 or 5%) indicates that the difference between groups is significant in a way statistically. Because of that, in the second table, it can be concluded that knowledge of the respondent's own influence is significant to attitude and skills related to stunting.

Conclusion

Part Respondent owns very good knowledge, that is, as many as 30 people (60%) revention of stunting with the edu-1000 the First 1000 days lLife application can influence the incidence of stunting in pregnant women and breastfeeding mothers in Kupang district. There is

influence between knowledge respondent about stunting and attitude shown with p-value 0.00 < 0.005). there is an influence between knowledge respondents about stunting and demonstrated skills, with a p-value of 0.00 < 0.005. The results of the calculation of the independent sample t test showed that the significance value of the difference in attitude improvement in the two groups (control & intervention) was 1.6 with a significance value of 0.001. These results show that the significance value is < α (0.05), this means that statistically there is a difference in the increase in attitude values in the groups.

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Author Contributions

Conceptualization, BB and FSO; methodology, BB and FSO; software, SBK; instrument development, OL and MW; formal analysis, BB and FSO; investigation, BB and MW; resource, BB, FSO, OL, and SBK; Data curation, BB and FSO; writing—preparation of original draft, BB; reviewing and editing, BB and MW; visualization, MW; supervision LPPM Health Polytechnic; project administration, BB, W, and obtaining funding, DIPA Health Polytechnic.

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Conflicts of Interest

The authors declare no conflicts of interest. The funders did not participate in the study's design, data collection, analysis, interpretation, manuscript writing, or decision to publish the results.

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