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The Effect of REKIS Innovation in Increasing The Resilience of Mothers Who Have Stunted Children

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A B S T R A C T

The community still perceives stunting as a negative stigma. It potentially risks the mental health of both the child and the mother. Mother resilience is crucial to deal with biopsychosocial stressors because of stunting. This research analyzes the effects of the REKIS (Resiliensi Komunitas Ibu Dengan Anak Stunting) innovation on knowledge, attitudes, behavior, and resilience regarding stunting in mothers with stunted children. This research was a quantitative study with a quasi-experimental design. The population was mothers with children diagnosed with stunting in the Gilingan Surakarta Health Center. There were 60 respondents with the total sampling technique, 30 in the control and 30 in the intervention groups. Pre-test and post-test data were collected using knowledge, attitude, behavior, and maternal resilience questionnaires. Data analysis used the Wilcoxon Rank Sum Test to test the difference in mean scores between the control and intervention groups. In addition, the Wilcoxon Signed Rank Test analyzes the difference in mean scores between the pre-and post-test. The results showed that all respondents had similar demographic characteristics (age, occupation, and education). Both groups had significant differences in pre and post-test mean scores on maternal knowledge, attitudes, behavior, and resilience ($p<0.05$). Significant differences were in the overall pre- and post-test mean scores on maternal knowledge, attitudes, and resilience ($p<0.05$). However, there was no significant difference in the pre-and post-test on maternal behavior. In conclusion, The REKIS innovation can increase the resilience of mothers with stunted children. It improves maternal knowledge and attitudes regarding stunting.

INTRODUCTION

Based on data from the World Health Organization, 150 million children were stunted, with the most significant proportion beings on the Asian continent (WHO, 2018). Stunting cases in Southeast Asia were 25.7 percent, the second highest after South Asia (WHO, 2018). Children under five who are stunted show poor growth during childhood. Global figures showed that 22.2 percent of children were stunted, while the national prevalence based on height divided by age was 27.3 percent (Kementerian Kesehatan RI, 2021; WHO, 2018). Thus, Indonesia's stunting prevalence rate was still above the world average. In 2019, the stunting prevalence rate in Central Java was 27.2 percent (Kementerian Kesehatan RI, 2021). Based on Indonesia Nutritional Status Monitoring Survey, the prevalence rate of stunting among toddlers in Central Java was 27.2 percent. Furthermore, Surakarta City had a prevalence of 18.76 percent (Kementerian Kesehatan RI, 2021).

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Three main drivers of stunting are poor diet in children in the first years of life, poor nutrition of women before and during pregnancy, and poor sanitation practices in households and communities (Ali, 2021). The predisposing factors for stunting in Southeast Asia are low family income and education, impacting inadequate practices in providing nutrition for babies. In addition, other factors are poor sanitation and hygiene and inappropriate treatment of sick children (Rosiyati et al., 2019). Over the last decade, there has been little change in the national stunting prevalence rate in Indonesia. It shows that variations in population exposure to the determinants of child stunting appear to be more vulnerable. The causes of stunting in Indonesia include maternal nutritional status, breastfeeding practices, complementary feeding practices, exposure to infection, educational levels, food intake, health care systems, water, and sanitation.

Stunting is the cause of one million annual child mortality. Complications of stunting in infancy and early childhood can cause lasting damage, including increased morbidity, poor cognition and educational performance in youth, short stature in adulthood, increased risk of perinatal and neonatal death for women, and lower productivity. When accompanied by excessive weight gain, low income in adults could increase the risk of chronic disease. Therefore, stunting can hinder the development of the whole society (Black et al., 2008; de Onis & Branca, 2016; Dewey & Begum, 2011; Victora et al., 2008).

Increasing maternal ability in food and childcare patterns is necessary to prevent stunting. Unfortunately, the community still perceived stunting as a negative stigma (Jamil, 2020; Widiastuti, Ulkhasanah, and Sani, 2022). Negative stigma in stunted children poses a risk to mental health, both the child's and the mothers. Support for mothers is empirically known to correlate with a child's health (Kusumaningrum, Anggraini, and Faizin, 2022). Various studies found that family factors, sociodemographic characteristics, knowledge, and parental attitudes contribute significantly to the risk of stunting in children (Habimana & Biracyaza, 2019; Mzumara et al., 2018; Vonaesch et al., 2017).

Efforts to prevent stunting in Surakarta City include: (1) Providing additional food to infants/toddlers and pregnant women with A lack of energy; (2) Providing food reserves by giving rice; (3) Implementing Integrated Health Post; (4) Forming groups of fish and livestock cultivators in environments where stunting occurs; (5) Procuring *Kit Siap Nikah Anti Stunting*; (6) Procuring *BKB Kit Stunting*; (7) Providing education regarding reproductive health and stunting for prospective brides; (8) Providing education regarding parenting for the first 1000 days of life for pregnant women and their families; (9) Implementing *Bina Keluarga Balita*, *Bina Keluarga Remaja*, and *Bina Keluarga Lansia*; (10) Training for prospective cadres for handling stunting at the early childhood education level, (11) Providing information center for youth counseling and efforts to increase the family income. The authors did a preliminary study by conducting a focus group discussion (FGD) with the Surakarta Health Office and in-

depth interviews with nutrition officers at the Public Health Services in Surakarta City in April 2021. The preliminary study revealed that predisposing factors for stunting in Surakarta City were poor economic status, inadequate parental knowledge and food pattern behavior, infectious factors, poor environment, and premature and low birth weight babies. Furthermore, the COVID-19 pandemic exacerbated stunting because programs dealing with stunting are not running as they should.

The Surakarta Health Office conducts the stunting management program by counseling pre-marital couples and pregnant women. It is done to prevent anemia in women due to menstruation and less nutritious food intake. In addition, there are providing additional food for pregnant women and monitoring child growth and development in infants and toddlers. However, there was no effort to strengthen the resilience of mothers with stunted children.

Stunting is a global problem that has negative impacts in most aspects. So far, programs to overcome stunting focus on prevention, but there have not been many studies on psychological management for mothers with children diagnosed with stunting. Therefore, the community resilience program for mothers with stunted children (here and after called *Resiliensi Komunitas Ibu Dengan Anak Stunting* or *REKIS*) can be one solution to those challenges and obstacles. This research analyzes the effects of *REKIS* innovation on knowledge, attitudes, behavior, and resilience regarding stunting in mothers with stunted children.

METHOD

This research was a quantitative study with a quasi-experimental design. The population was mothers with children diagnosed with stunting in the Gilingan Surakarta Health Center. There were 60 respondents with the total sampling technique, 30 in the control and 30 in the intervention groups. The inclusion criteria were mothers with children under five diagnosed with stunting and living in the Milling area, while the exclusion criteria were mothers with mental retardation. The authors informed respondents that their involvement in this study was voluntary and could stop anytime. All respondents gave written consent for their participation. This research was approved by the UNS FK Research Ethics Committee with number 121/UN27.06.11/KEP/EC/2022 on 30 October 2022.

The research was conducted from November 2022 to January 2023. It was divided into three stages. First, a pre-test assessed maternal knowledge, attitude, behavior, and resilience. Second, besides routine counseling from the Integrated Health Post, the authors gave *REKIS* innovation to mothers in the intervention group. Meanwhile, the control group only received health education from the Public Health Center. *REKIS* innovation aims to increase mothers' resilience to lead good lives despite a negative stigma against stunting children. It educates mothers about stunting and resilience to increase knowledge,

attitudes, behavior, and resilience against stunting. Third, there was a post-test after four weeks of the intervention. The instruments used knowledge, attitude, behavior, and maternal resilience questionnaires. The characteristics of respondents were presented through the mean score in the numerical data and the frequency distribution in the ordinal data. The authors used the Wilcoxon Rank Sum Test to test the difference in mean scores between the control and intervention groups. In addition, the Wilcoxon Signed Rank Test analyzes the difference in mean scores between the pre-test and Post-test. Statistical analysis used Stata version 13.

RESULT

The study results were divided into the respondents' demographic characteristics (Table 1) and pre-and post-test of respondents' knowledge, attitudes, behavior, and resilience (Table 2). The mean age of mothers in the control and intervention groups was almost the same, between 30 and 31 years. In addition, most respondents in the control and intervention groups were unemployed (70% in control and 66.7% in intervention) and graduated from Junior High School (43.4% in both groups). Furthermore, most of their husbands graduated from Senior High School (70.1% in control and intervention groups).

Table 1. Demographic characteristics of the respondents (n=60)

Demographic characteristics	Control Group (n=30)		Intervention Group (n=30%)	
	(Mean score ± SD)a	n(%)b	(Mean score ± SD)a	n(%)b
Age	30± 4.76		31± 4.56	
Husband's Age	37± 6.15		36± 9.30	
Profession				
Unemployment		21(70)		20(66.7)
Entrepreneur		8(26.7)		8(26.7)
Private employees or civil servants		1(3.3)		2(6.6)
Education				
Elementary School		5(16.7)		3(10)
Junior High School		13(43.3)		13(43.4)
Senior High School		9(30)		10(33.3)
University		3(10)		4(13.3)
Husband's Education				
Elementary School		5(16.7)		5(16.7)
Junior High School		2(6.6)		2(6.6)
Senior High School		21(70.1)		21(70.1)
University		2(6.6)		2(6.6)

a.: Description of the distribution of numerical data
b.: Description of nominal/ordinal data distribution

Table 2 shows that the control group's knowledge mean score before intervention was slightly higher than the intervention group (11.36:10.53), but this difference was not statistically significant (p=0.442). However, after the intervention, the average in the control group was much lower than in the intervention group (11.70: 20.12). This difference was statistically significant (p=0.001). There were also statistically significant differences in the knowledge mean scores of all respondents before and after the intervention (p=0.001).

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In addition, the attitude mean score before the intervention in the control and intervention groups was almost the same (43.60: 43.73). However, after the intervention, the average in the control group was much lower than in the intervention group (44.06: 48.80). This difference was statistically significant (p=0.001). There were also statistically significant differences in the attitude mean scores of all respondents before and after the intervention (p=0.037).

Furthermore, the behavior mean score was almost the same before the intervention in the control and the intervention group (45.26: 45.53). However, after the intervention, the average in the control group was much lower than in the intervention group (44.16: 50.01). This difference was statistically significant (p=0.041). However, there were no statistically significant differences in the behavior mean scores of all respondents before and after the intervention (p=0.1027).

Moreover, the resilience mean score before intervention in the control group and the intervention group was almost the same (44.86: 44.20). However, after the intervention, the average in the control group was much lower than the intervention group (44.96: 53). This difference was statistically significant (p=0.001). There were also statistically significant differences in the resilience mean scores of all respondents before and after the intervention (p=0.001).

Table 1. The results of the Pre-and Post-test of respondents' knowledge, attitudes, behavior, and resilience and statistical analysis

Variables	Study period, N=60		*p* (b)
	Pre-test (mean score ±SD)	Post-test (mean score ±SD)	
Knowledge of Stunting			
Control Group(n=30)	11.36±5.32	11.70±5.44	0.001***
Intervention group(n=30)	10.53±5.03	20.13±4.19	
p (a)	0.442	0.001***	
Attitudes toward stunting prevention			
Control Group(n=30)	43.60±6.72	44.06±6.44	0.037*
Intervention group(n=30)	43.73±6.38	48.80±5.90	
p (a)	0.922	0.001***	
Stunting prevention behavior			
Control Group(n=30)	45.26±14.08	44.16±11.07	0.1027
Intervention group(n=30)	45.53±13.92	50.06±12.40	
p (a)	0.964	0.041*	
Maternal resilience			
Control Group(n=30)	44.86± 10.03	44.96±9.51	0.001***
Intervention group(n=30)	44.20±8.61	53±9.58	
p (a)	0.727	0.001***	

a: Test the difference in the mean score with the Wilcoxon Rank Sum Test; *, P<0.05;**P<0.01;***, P<0.001

b: Test the difference in the mean score with the Wilcoxon Signed Rank Test

DISCUSSION

This study found that *REKIS* innovation effectively increased maternal knowledge regarding stunting. The increase in post-test mean score proved it. Information delivery can increase knowledge and attitudes through acceptance and understanding during the behavioral adoption stage (Lee & Li, 2021). Improved

knowledge and attitude can build maternal behavior in stunting prevention and resilience. Furthermore, readiness in the attitude domain is a stimulus's emotional characteristic (Notoatmodjo, 2010).

An understanding potentially creates changes in positive attitude during the information-receiving process. Good knowledge about stunting can build a positive attitude toward stunting. In addition, the attitude is influenced by respondents' personal experiences, culture, mass media, and emotional factors (Rahmawati, Sudargo, and Paramastri, 2007). *REKIS* innovation significantly increased the attitude mean score toward stunting. Thus, the REKIS intervention has successfully changed positive maternal attitudes toward stunting.

Meanwhile, although there was a significant difference in behavior mean scores among the control and intervention groups, there was no significant difference in the overall pre-test and post-test data. It naturally happens because changing one's behavior requires a longer time and stages (Yulia, 2018). Thus, it is necessary to provide more knowledge regarding stunting and environmental support.

Positive coping strategies for mothers can reduce biopsychosocial stressors. It is called resilience (Hendriani, 2022). Resilience in parenting can reduce the risk of stress and encourage caregivers to adapt (Palacio G et al., 2020). Providing information regarding resilience through the *REKIS* innovation increased the resilience mean scores in mothers with stunted children. The *REKIS* innovation taught respondents to identify the positive aspects of caring for stunted children. It can create a sense of strength and confidence in parenting. It also allows mothers to get better self-esteem in adjustment (Greeff and Thiel, 2012; Semiatin and O'Connor, 2012).

CONCLUSION

The *REKIS* innovation can increase the resilience of mothers with stunted children. In addition, it improves maternal knowledge and attitudes regarding stunting. So it can be recommended for mental support for mothers who have stunted children.

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