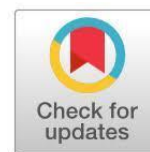


Interprofessional collaborative practice is an effort to increase behavior prevention of stunting in families with the first 1000 days of life



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ABSTRACT

Indonesia is one of 17 countries that experience stunting problems. Compared to several neighboring countries, Indonesia ranks highest. Various attempts have been made but have not shown a significant decline. Other alternative efforts need to be made to prevent stunting in an integrated manner with Interprofessional Collaborative Practice (IPCP). This study aimed to know the effect of IPCP on Increasing Stunting Prevention Behavior in Families with the first 1000 days of life in the Gedangsari II Health Center in Gunungkidul Regency. With a long-term goal to prevent stunting problems in Gunungkidul Regency. This study was experimental research with a pretest-posttest with a control group design. Location in Wonosari District. The number of samples was 50 families, both in the intervention group with IPCP and in the control with a standard program from the Puskesmas. Data collection instruments are in the form of behavior observation sheets. Bivariable analysis using paired sample t-test and independent sample t-test, Wilcoxon and Mann-Whitney. The mean of prevention behavior of the stunting pre-test intervention group was 70,224 and the control 71,564, the average prevention behavior of the stunting post-test intervention group was 75,312 and the control 73,580, the increase in mean of prevention behavior of stunting pre-post-intervention group 5,048 and control 2,068. There was a difference in the increase in the mean of stunting prevention behavior at pre-post between the two groups (p-value <0.05), IPCP could increase stunting prevention behavior by 27 times controlled by the variable number of family members. Interprofessional Collaborative Practice (IPCP) affected increasing stunting prevention behavior in families with the first 1000 days of life in the Gedangsari II Health Center in Gunungkidul Regency.

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INTRODUCTION

Nowadays the problem of short toddlers (stunting) is becoming a global problem. It is estimated that there were 162 million stunted children under five in the world in 2012. As many as 56% of stunted children are found in Asia, including Indonesia, and 36% are found in Africa. Indonesia is included in 17 countries that experience stunting problems.(1) The

percentage of nutritional status of short and very short toddlers in Indonesia in 2013 was 37.2%, not showing a significant decrease or improvement when compared to 2010 (35.6%) and 2007 (36.8%). According to WHO, stunting becomes a public health problem if the prevalence is 20% or more. If there is no effort to decrease, there will be a continuing trend and is projected to reach 127 million stunting toddlers in Indonesia by 2025.(2)

The problem of stunting is one of the nutritional problems that have a very detrimental impact on the sustainability of the nation and state. The impact of stunting in the short term is disruption of brain development, intelligence, impaired physical growth, and metabolic disorders in the body. Meanwhile, in the long term, the impact of stunting is a decrease in cognitive ability and learning achievement, decreased immunity so that it is easy to get sick, and a high risk for the emergence of diabetes, obesity, heart, and blood vessel disease, cancer, stroke, and disability in old age, as well as uncompetitive work quality which results in low economic productivity. Stunting is caused by many factors, both direct and indirect causes. Direct causes start from food consumption and maternal infection status before pregnancy, during pregnancy (fetal period), and food consumption and infection status in infancy/toddlerhood. Indirect causes include various other conditions that indirectly affect food consumption and infection statuses such as food availability and consumption patterns, breastfeeding/complementary food (MP)-breast milk parenting, psychosocial parenting of MP-ASI provision, hygiene and sanitation, and health services and environmental health.(2,3)

The percentage of short and very short toddlers in Indonesia in 2013 was 37.2%, not showing a significant decrease or improvement compared to 2010 (35.6%) and 2007 (36.8%).(2) The prevalence of stunting under five in the Special Region of Yogyakarta (DIY) in 2017 was 19.8%. Gunungkidul Regency has the highest prevalence of stunting in DIY, which is 25.9%. The highest prevalence of stunting in Gunungkidul Regency is in the working area of the Gedangsari II Health Center is 35.6%.(4)

The government has made various efforts to overcome stunting. Intervention efforts that have been carried out are nutrition-specific interventions and nutrition-sensitive interventions. Specific nutrition interventions contribute 30% to efforts to overcome stunting and are focused on the first 1000 days of life, starting from pregnancy, breastfeeding until toddler age reaches 23 months. Nutrition-sensitive interventions contribute 70% and are aimed at various development activities outside the health sector.(5) Another effort that can be done is secondary and tertiary prevention efforts. Secondary prevention efforts can be done by improving the quality of young women. Young women are women who will later experience pregnancy so the quality needs to be improved early. Tertiary prevention can be done by empowering the closest people (husbands, parents and teachers, and peer groups).

The Indonesian government has been trying to control and reduce the prevalence of stunting since 2005. However, in reality, the majority of stunting has not shown a decline in the last five years. On the contrary, it tends to increase or stagnate. Specifically, for stunting, the government has issued specific nutrition intervention programs and sensitive nutrition interventions. However, these programs have not reduced stunting prevalence according to the set targets. Therefore, it is necessary to find the root of the problems that hinder the achievement of these targets.(6)

Integrated stunting management can be done through Interprofessional Collaborative Practice (IPCP). Interprofessional Collaboration is a good and mutually beneficial collaboration between two or more organizations or professions to achieve specific goals.(7,8) IPCP is a collaborative practice of several health professions in an integrated manner. The purpose of IPCP is to optimize and strengthen the health service system so that it can improve the degree of health. IPCP is an application of Interprofessional Education (IPE). IPE is an activity of two or more students from different disciplines, who learn about, from, and with each other.(9) It takes knowledge and

experience in the form of interaction and collaboration between disciplines both in education and the practice environment.(10)

From the results of a systematic review, a comparative study of IPE in health services globally concluded that IPE programs are very diverse in various countries. IPE is growing rapidly, especially in developed countries because the health system in the country has been well organized. While in developing countries, one of which is Indonesia, not all educational institutions have implemented IPE because it is still a discourse. Several countries, especially academic institutions, benefit from the IPE program. There is a need for strengthening policies in the field of health education at the global level which aims to start this IPE program in related institutions.(11)

Therefore, it is necessary to make other alternative efforts to prevent stunting. This effort is by implementing IPCP as an Effort to Improve Stunting Prevention Behavior in Families with the first 1000 days of life in the Gedangsari II Health Center Area, Gunungkidul Regency. Poltekkes students of the Ministry of Health Yogyakarta are prospective health workers consisting of various professions is a strategic target that must be prepared to carry out efforts to prevent stunting problems in an integrated manner properly. Poltekkes Kemenkes Yogyakarta is an institution that educates prospective health professionals who must be sensitive to national health problems, one of which is stunting. Poltekkes Kemenkes Yogyakarta must be a pioneer in producing graduates of health workers who are competent in providing health services including preventing stunting.

METHODS

This research was carried out with an experimental or experimental method. This study examines the effect of IPCP on increasing stunting prevention behavior. This research design is a true experimental design with a pretest-posttest with a control group design. In this study, randomization was carried out, namely grouping the members of the experimental group and the control group randomly or randomly on the subject according to the criteria.(12) The data collection instrument in this study is the form of an observation sheet of stunting prevention behavior.(13) Pretest was given to the intervention group and control group. The intervention given to the intervention group was health promotion with IPCP which was carried out in an integrated manner by alumni of six majors from Poltekkes Kemenkes Yogyakarta. The difference in post-test results in the two groups can be referred to as the effect of the intervention or treatment.

This research was conducted in the Gedangsari II Health Center area which is the area with the highest stunting problem in Gunungkidul Regency from March until September 2019. The population in this study were all families with the first 1000 days of life in the Gedangsari II Health Center, Gunungkidul Regency. Sampling in this study uses a purposive sampling technique. The working area of the Gedangsari II Health Center includes the villages of Watugajah, Sampang, Serut, and Tegalrejo. Of the four villages, three villages namely Watugajah, Sampang, and Tegalrejo have carried out stunting prevention efforts from the Public Health Center with a cadre development program, while in Serut Village the development of new cadres will be carried out in 2020. For this consideration, the researchers took families in Watugajah Village, Sampang. and Tegalrejo as the control group and families in Serut Village as the intervention group. The sample of families with the first 1000 days of life was selected using random numbers from the list of the first 1000 days of life families obtained from the public health center. with the criteria: families with the first 1000 days of life (having mothers who are pregnant or having toddlers under two years old, willing to participate in research activities starting from observation before intervention, intervention, and observation after the intervention, not families with health workers background, there is a miscarriage of the fetus or infant death, the death of children under two years old, the family moves out of the study area.

The independent variable used in this study is IPCP. The dependent variable used in this study is stunting prevention behavior. Data analysis included bivariable univariable with independent sample t-test and multivariable with logistic regression. With a 95% confidence level or a significant p-value of 0.05. This research has gone through an ethical review through the ethics commission of the Poltekkes Kemenkes Yogyakarta with letter number e-KEPK/POLKESYO/0190/VII/2019 on July 10, 2019.

RESULTS

Gedangsari II Public Health Center is located in Gunungkidul Regency, a suburb bordering Klaten Regency. The distance to the DIY province is about 45 km with hilly areas and winding roads. Gedangsari II Health Center was once the area with the highest incidence of stunting in Gunungkidul Regency. It consists of four villages, namely Watugajah, Sampang, Tegalrejo, and Serut villages. Various efforts have been implemented to prevent stunting through cadre development programs in three villages, namely Watugajah, Sampang, and Tegalrejo. For Serut Village, it will be implemented in 2020. Another effort that has been made is the initiation of the “Ayunda Si Menik Makan Sego Ceting Program” (*Ayo Tunda Usia Menikah Mengawali Gerakan Semangat Gotong Royong Cegah Stunting*). This program is included in one of the Top 99 Public Service Innovations in 2019 which received an award from the Ministry of State Apparatus and Bureaucratic Reform.(14) This research is different from the programs that have been implemented. The target of this research is families who are married and have family members with the first 1000 days of life, namely pregnant women and/or infants and toddlers under the age of two years.

Table 1. Frequency distribution of respondents based on the average value of stunting prevention behavior, homogeneity, and normality

Behavior	Intervention n = 25	Control n = 50	Sig. Homogeneity p	Asymp. Sig. (2-tailed) p
	Mean	Mean		
Pre-Test	70.224	71.564	0.988	0.371
Post-Test	75.312	73.580		0.498

From Table 1, it can be seen that the pre-test value of stunting prevention behavior in the two groups was homogeneous with a p-value of 0.988 (> 0.05). The results of the analysis of the normality test on the pre-test and post-test were normally distributed because the p-value was > 0.05.

Table 2. Frequency distribution of respondents based on characteristics and homogeneity

Characteristics	Intervention n = 25		Control n = 25		p
	n	%	n	%	
The head of the family's age					
<20 or >65	0	0	0	0	0.998
20-65 years	25	100	25	100	
The head of the family's education					
High	4	16	1	4	0.177
Intermediate	15	60	19	76	
Base	5	20	5	20	
No school	1	4	0	0	
The head of the family's occupation					
Worker	25	100	25	100	1
Not a worker	0	0	0	0	

Characteristics	Intervention n = 25		Control n = 25		p
	n	%	n	%	
Mother's occupation					
Worker	9	36	25	100	0.000
Not a worker	16	64	0	0	
Family's income					
≥ Regional minimum wage	14	56	13	52	0.620
< Regional minimum wage	11	44	12	48	
Number of family members					
Nuclear	18	72	18	72	1
Extended	7	28	7	28	

From Table 2 it can be seen that all the heads of the family are of productive age, the majority of the head of the family's education is secondary, all the heads of the family are working, the majority of mothers in the intervention group are not working and all mothers in the control group are working, the majority family income is above the minimum wage and the majority are nuclear families. From the homogeneity test, it can be seen that both groups have homogeneous characteristics (p -value > 0.05) except for the mother's occupation.

In the intervention group, the pre-test score was 70.22 and the post-test score was 75.31. In the control group, the pre-test score was 71.56 and the post-test score was 73.58. There were differences in the pre-test and post-test scores in both the intervention and control groups (p -value < 0.05).

Table 3. The results of the analysis of the difference in the mean difference between stunting prevention behavior in two independent groups

Mean	n	Mean	Mean Difference	(95% CI)	p
Δ Pre - Post					
Intervention group	25	5.048	2.98	(0.860 – 5.100)	0.007
Control group	25	2.068			

Independent Samples Test

Table 3 shows that there is a difference in the mean difference or increase in stunting prevention behavior between the intervention group and the control group (p -value < 0.05).

Table 4. Results of multivariable analysis of IPCP and external variables on increasing stunting prevention behavior

Variable	Koef. β	p-value	OR	(95%) CI
IPCP	0.012	0.001	11	2.587 – 46.779
The head of the family's age	0.589	0.974	0.999	0.921 – 1.082
The head of the family's education	0.736	0.799	0.882	0.334 – 2.324
The head of the family's occupation	0.589	0.974	0.999	0.921 – 1.082
Mother's occupation	15	0.013	0.067	0.008 – 0.563
Family's income	0.389	0.671	1.286	0.404 – 4.094
Number of family members	0.062	0.013	5.400	1.431 – 20.382

From Table 4 it can be seen that the variables that can be tested multivariable are the mother's occupation and the number of family members (p -value < 0.05).

Table 5. Results of IPCP multivariable analysis and maternal occupational variables and number of family members on increasing stunting prevention behavior

Variable	Koef. β	<i>p-value</i>	OR	(95%) CI
IPCP	2.556	0.041	12.886	1.105 – 150.257
Mother's occupation	-1.508	0.301	0.221	0.013 – 3.861
Number of family members	2.836	0.014	17.046	1.791 – 162.265

From Table 5 it can be seen that the mother's occupation variable must be excluded because the *p-value* is > 0.05.

Table 6. Results of IPCP multivariable analysis and number of family members on increasing stunting prevention behavior

Variable	Koef. β	<i>p-value</i>	OR	(95%) CI
IPCP	3.319	0.003	27.643	3.136 – 243.681
Number of family members	2.820	0.013	16.772	1.830 – 153.713

From Table 6 it can be seen that families with the first 1000 days of life who were given intervention with IPCP had stunting prevention behavior 27 times higher than the control group after controlling for the variable number of family members.

DISCUSSION

The mean score of the pre-test of stunting prevention behavior in the two groups was homogeneous, this indicates that the two groups are indeed equal to be compared. All heads of families are of productive age and working, the majority have a secondary or high school education, the majority have income above the minimum wage and the majority are nuclear families (not large families). Heads of families are the most dominant family member in decision-making, including in terms of family health, one of which is stunting prevention behavior. When viewed from the characteristics of the heads of families, it supports the direction of stunting prevention behavior, but from the results of the average pre-test behavior in the two groups, the scores are 70.22 and 71.56, which means it is still quite good and not optimal. Therefore, it is still necessary to do health promotion through IPCP. It is necessary to intervene to change the behavior of parents and families from the time of pregnancy and the pattern of nurturing, loving, and caring for children.(5)

Based on Table 2. the characteristics of the mother's occupation, the majority of mothers in the intervention group did not work while in the control group, all mothers were working. Several studies state that there is no significant relationship between maternal employment status and the incidence of stunting in children. Mothers who already have jobs are no longer able to give full attention to their toddlers because of the busyness and workload they bear, causing a lack of attention from mothers in preparing suitable dishes for their toddlers.(6) Research conducted by Nur (2013) also shows the same thing, no the relationship between mother's work and the nutritional status of children aged 1-2 years in the working area of Bugangan Health Center, Semarang. Even though the mother does not work, it is not necessarily influenced or followed by a good parenting pattern. In contrast to the results of Devi's research (2010) in seven provinces in Indonesia (Lampung, Banten, West Java, Central Java, East Java, West Nusa Tenggara (Lombok), and South Sulawesi) which concluded that there was a significant relationship between the type of mother's occupation and nutritional status. Working mothers have an income that can increase their food purchasing power. Working mothers also have broad insights, one of which is in the health sector so that they can improve stunting prevention behavior.(8) Because the employment status of mothers is still pro and contra affecting stunting prevention behavior, it is necessary to provide health promotion with IPCP.

Based on Table 5. The results of the IPCP multivariable analysis and the number of family members in improving stunting prevention behavior, there was a difference in the average increase in stunting prevention behavior. With IPCP stunting prevention behavior at the first 1000 days of life will increase 27 times after controlling for the number of family members. Research conducted by Mulyanti (2020) showed that the results of the mean attitude pre-treatment 9.67, mean post or after treatment 16.52 with mean differences - 6.84 and Sig-2 tailed $p = 0.001$ proved significantly of the IPC program can improve the knowledge, attitudes, and behavior of mothers towards preventing of stunting.(15) A good and positive attitude towards stunting will make it easier for health workers to invite baduta mothers to work together to eliminate the risk factors for stunting in their families. The number of family members is not a factor that can affect the occurrence of stunting in children under five in rural and urban areas. The number of family members does not guarantee the nutritional status of each family member. The number of family members if balanced with the availability and distribution of food that is equitable and balanced can reduce the risk of stunting in children under five.(7) Similar to the results of previous studies that showed that there was no significant relationship between the number of household members and the incidence of stunting in children under five.(16)

The purpose of IPCP is to optimize and strengthen the healthcare system so that it can improve health status. The strategy that can be implemented through IPCP to prevent stunting is to optimize the role of each profession following the competence of each profession. The roles of each profession are as follows: 1) Midwives can identify and handle health problems for pregnant, maternity, postpartum, and breastfeeding women such as assistance in taking blood-added tablets for pregnant women, ensuring that postpartum mothers have received vitamin A, and counseling on breastfeeding techniques for mothers. breastfeeding, identifying health problems in infants and toddlers such as immunization status, vitamin A status and detection of growth and development as well as empowering the community to support exclusive breastfeeding; 2) Nutritionists can identify nutritional problems in the community, check the nutritional status of pregnant women, infants and toddlers, identify local food resources that can be used to improve nutrition, and foster efforts to improve family nutrition such as how to process food, make MP-ASI, compiling menus and calculating nutritional needs; 3) Nurses can perform physical examinations to identify diseases that can cause stunting, conduct growth checks for infants and toddlers, train people to do proper hand washing and provide education; 4) Sanitarians can identify environmental health problems that can affect stunting, play a role in the realization of PHBS, train waste management methods and so on; 5) Health laboratory administrators can conduct laboratory examinations to identify diseases that can cause stunting, such as anemia and helminthiasis; 6) Dental nurses can identify dental and oral health problems that can affect nutritional intake, foster dental and oral health efforts in vulnerable groups such as practicing proper toothbrushing

Green in Notoatmodjo (2014) states that health promotion has a very important role in changing and strengthening the three groups of factors so that they are in line with the objectives of the activities to be achieved to lead to positive behavior from the community towards the program and health in general. Health promotion in the form of direct communication with individuals or target populations will strengthen predisposing factors. Indirect communication, namely through parents, husbands, teachers, employers, and so on will strengthen the reinforcing factor of health promotion including IPCP.(12)

Interprofessional Collaborative Practice (IPCP) affects increasing stunting prevention behavior in families with the first 1000 days of life in the Gedangsari II Public Health Center, Gunungkidul Regency. There is a difference in the average increase in stunting prevention behavior at pre-post between the intervention and control groups (p -value <0.05). IPCP can increase stunting prevention behavior by 27 times controlled by the variable number of family members. Interprofessional Collaborative Practice (IPCP) affected increasing stunting prevention behavior in families with the first 1000 days of life

in the Gedangsari II Health Center in Gunungkidul Regency. IPCP can optimize and strengthen the health care system so that it can improve health status. The strategy that can be implemented through IPCP to prevent stunting is to optimize the role of each profession following the competence of each profession.

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