



Effects of Family Planning and Baby Care Behavior on Stunting in Early Married Couples

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Abstract

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BACKGROUND: District with the highest stunting prevalence in Central Sulawesi province is Sigi District by about 43.0%. Its birthrate is 3.2 and the first marriage age is 19.9 years old.

AIM: This study analyzed various relationships between family planning behaviors of early married couples with births and stunting, as well as its connection with baby care (colostrum, exclusive breastfeeding, completeness of immunization, supplementary feeding, and breastfeeding for up to 2 years old). In addition, it will describe family planning behaviors and baby care in a gender perspective as well.

METHODS: The sample of this study was 40 early married couples in the last 3 years in the area of Marawola Health Center in Sigi District. Data analysis used Chi-square and Mouser to see the gender relationship gap in the choice of contraception and baby care.

RESULTS: There was a relationship between family planning behavior and birth with $p = 0.001$, a large parity with the incidence of stunting with $p = 0.002$. Likewise, there was also a relationship between baby care (colostrum of $p = 0.0016$, exclusive breastfeeding of $p = 0.003$, completeness of immunization of $p = 0.003$, supplementary feeding of $p = 0.00$, and breast milk up to 2 years of $p = 0.00$) and the occurrence of stunting in early married couples. The idea of family planning and child care is still dominated by wives, from the stages of planning, decision making, and implementation. Gaps occur because of unbalanced power relations.

CONCLUSION: Family planning behavior and baby care (colostrum, exclusive breastfeeding, completeness of immunization, supplementary feeding, and breastfeeding for up to 2 years) affect the incidence of stunting in early married couples. The use of family planning and child care is still a gender gap which is dominated by wives.

Introduction

In Indonesia, the data from Basic Health Research showed that the value of stunting in 2019 was 30.8% but later decreased to 27.67% [1]. Despite the decrease, this has become one of the national health problems because it is still above the 20% threshold [2]. In Asia, Indonesia ranks third with the highest stunting prevalence rate and in Central Sulawesi Province, it is still quite high, reaching 32.3% [3]. Stunting is characterized by growth and developmental failure, cognitive impairments and deficits, slow absorption of knowledge, weakness in mathematics and disorders of the body's metabolism, and exposure to non-communicable disease. It has an impact on reducing intelligence and being vulnerable to illness, decreasing the economic productivity, exacerbating inequality, and poverty between generations, therefore preventing development and opportunities on the quest of becoming a first-class country [3].

Fertility rate (number of children) and family's birth distance are factors which influence stunting

events. In Indonesia, birth rate is high reaching 2.4, while in Central Sulawesi, the total fertility rate is 2.7 and is in the 29th position of all provinces in the country [2]. This is due to the considerable number of children suffering from malnutrition and stunting [4]. Furthermore, the involvement of mothers in earning a living in helping the family economy leads to an increase in nutritional value of under-five children [5]. Moreover, the birth distance of a child which is too close will affect the nutritional status in the family due to difficulty in care and lack of creating a calm atmosphere at home [6].

The fertility rate is closely related to the first procreating age. The lower it is, the higher the birth rate is expected. This is because young couples tend to have a large number of children [4]. Furthermore, early marriage affects the risk of pregnancy complications, bleeding, premature birth, and even has an impact on stunting, maternal, and infant mortality due to immature reproductive health of women [7].

In Central Sulawesi Province, the average age of first marriage is 19 years old. Results obtained from family data, broken down by district/city, showed that

the province is one of the lowest and the average age of the first marriage is 19.96 years old.

Based on Table 1 Research on family planning behavior and baby care for early married couples in an effort to reduce the prevalence of stunting in the Marawola Public Health Center in Sigi District needs to be obtained. Although there have been many previous studies on this topic, its position is limited to mothers (wives) in fertile age, not only on married couples. Studies involving husbands and focusing on early marriage have not been conducted or utilized and it consequently leads to a decrease in stunting.

Methods

Design, place, and study sample

This research was an analytic survey conducted in the area of the Public Health Center in Marawola, Sigi District, Central Sulawesi. Purposive sampling technique was used with the following criteria: Married under age 21 years old (for his wife), the nuptial age id more than 3 years, having a Toddler, and mothers who have stunting children based on preliminary information from village midwives. This research was performed on November 2019 to February 2020.

Data collection technique

Research data were collected using direct interviews with the early married couples, focus group discussions, and observations.

Data analysis techniques

Used was Chi-square to analyze the relationship between family planning behavior and Baby Care (colostrum, immunization completeness, exclusive breastfeeding, PMT, breastfeeding for 2 years) with stunting disorders occurrence variables. Mouser's model of gender analysis was employed to identify the gender relations gap.

Table 1: Stunting prevalence and first marriage age in Central Sulawesi Province in 2018

S. No	District/City	Stunting	First marriage ages
1	Banggai Kepulauan	40.5	19.4
2	Banggai	31.9	19.6
3	Banggai laut	34.2	19.1
4	Morowali	34.8	19.4
5	North Morowali	28.5	19.0
6	Poso	26.2	19.6
7	Donggala	36.0	19.5
8	Tolitoli	31.7	19.9
9	Buol	34.2	19.8
10	Parimo	33.7	19.0
11	Touna	26.2	19.1
12	Sigi	43.0	19.9
13	Palu	24.1	21.0
	Central Sulawesi	32.3	19.0

Data source: Statistics Indonesia of Central Sulawesi Province in 2018.

Results

Social characteristics of respondent demographics

Characteristics of respondents can be seen by age, occupation, education, and number of children who are still alive.

Based on Table 2, this shows that they were still young and in terms of profession, on the average, they were a housewife by 67.5%. This result shows that the respondents did not have a fixed income. Furthermore, judging from the level of education, most of them had high school education by 50.0%. It means they have adequate education. However, the highest number of children was more than 3 children by 52.5%. Therefore, the average respondents have children that are not ideal or not in accordance with the recommendations of the Government, which is having just two. In the distribution by age (husbands), the majority were 22–35 years old (47.5%). These data show that the husband is relatively young and productive. Judging from their work, they are entrepreneurs by 50.0% and on the average level of education, only 35% graduated from Junior high School. Therefore, the average respondent's husband had a lower level of education than his wife.

Table 2: Respondents distribution by demographic social characteristics

Subject characteristics	Frequency	Percentage
Wife		
Profession		
Employee	7	17.5
Entrepreneur	6	15.0
Housewife	27	67.5
Total	40	100
Education		
Elementary School	10	25.0
Junior High School	10	25.0
Senior High School <	20	50.0
Total	40	100
Number of children		
≥2	19	47.5
3<	21	52.5
Total	40	100
Husband		
Age		
<21 years old	8	20.0
21–35 years old	19	47.5
35<years old	13	32.5
Total	40	100
Profession		
Employee	10	25.0
Entrepreneur	20	50.0
Civil servants	10	25.7
Total	40	100
Education		
Elementary School	14	35.0
Junior High School	14	35.0
Senior High School <	12	30.0
Total	40	100

The relationship between family planning behavior and birth

Table 3 shows that the status of contraceptive use has a relationship with birth of 0.001 or $p < \alpha 0.05$, concluding that there was a relationship between the status of family planning use and birth.

Table 3: Respondents analysis based on contraceptives usage status with parity

Contraceptive usage status	Parity				Total		p value
	≤2 Children		3<Children		n	%	
	F	%	F	%			
Use	10	25.0	7	75.0	17	100	0.001
Do not use	2	5.0	21	95.0	23	100	
Total	12	30.0	28	70.0	40	100	

The relationship between birth and stunting events

Table 4 shows the p value for birth in relation to stunting which is 0.002 or $p < \alpha 0.05$. It can be concluded that there was a significant relationship between birth and stunting event.

Table 4: Respondents analysis based on parity with stunting status

Parity	Stunting				Total		p value
	Yes		No		n	%	
	F	%	F	%			
≤2 Children	4	26.6	11	73.4	15	100	0.002
≥3 Children	8	32.0	17	68.0	25	100	
Total	12	30.0	28	65.0	40	100	

The relationship between baby care and stunting events

Table 5 showed the test results obtained p value for cholesterol provision which was 0.0016 or $p < \alpha 0.05$, concluding that there was a significant relationship to the stunting event. Furthermore, exclusive breastfeeding and completeness of immunization with the $p = 0.003$ showed that there was a significant relationship with stunting. In addition, supplementary feeding and breastfeeding for up to 2 years with a corresponding $p = 0.002$ and 0.000 showed that there was a significant relationship with stunting events as well.

Table 5: Respondents analysis based on children care with the stunting status

Children care	Stunting				Total		p value
	Yes		No		n	%	
	F	%	F	%			
Colostrum provision							0.0016
Yes	4	10	12	30	16	100	
No	15	37.5	9	22.5	24	100	
Total	19	47.5	21	52.5	40	100	
Exclusive breastfeeding							0.003
Yes	6	15.0	20	50.0	26	100	
No	11	7.5	3	7.5	14	100	
Total	17	42.5	23	57.5	40	100	
Immunization completeness							0.003
Complete	8	20.0	16	40.0	24	100	
Incomplete	15	37.5	1	2.5	16	100	
Total	23	57.5	17	42.5	40	100	
Supplementary feeding							0.002
Yes	7	17.5	17	42.5	24	100	
No	10	25.0	6	15.0	16	100	
Total	17	42.5	23	57.5	40	100	
Breastfeeding up to 2 years old							0.000
Yes	4	10.0	14	35.0	18	100	
No	18	45.0	4	10.0	22	100	
Total	22	55.0	18	45.0	40	100	

Family planning behavior and baby care at early married couples in a gender perspective

The result using Moser techniques showed the planning stage (wife 98%), making decision (wife

80.0%), and the implementation of family planning as well as baby care (wife 99.0%). Therefore, it can be concluded that the idea was dominated by the wife.

Discussion

The relationship between family planning use and birth status

Results showed the relationship between the use of contraceptives and the number of children born by early married couples. This is because most women who are married use it for fertility reasons. They consider themselves at risk of pregnancy because of sex. These results are very accurate [8] and families having more than 2 children tend to adjust the use of contraceptives to limit births [9]. Furthermore, results [10] showed a relationship between contraceptive use and birth in Bangladesh. Increased access to various methods available at the nearest health facility is very important to increase its usage in married couples both in rural and urban areas in Haiti [10]. Recent findings [11] showed that there was a relationship between births and contraceptive prevalence in Zimbabwe. Therefore, all aspects need to be considered in the design strategies to effectively increase the use of modern contraception among newly married adolescents [11].

Women who have 1–2 children are more often found in contact with family planning staff in the past 6 months [12], [13], [14]. The use of modern contraception at the regional level is very good for overcoming birth problems in Ethiopia [15]. Therefore, it is clear that low fertility is caused by its usage.

The relationship between birth and birth spacing with stunting events

Statistical results showed a relationship between parity and stunting events. This is possible because the number of children in the family affects the availability of food and income levels. Families with low economic status have the opportunity of possibly suffering from malnutrition. This is in line with the previous research [16] that children from poor families are the most vulnerable. Increase in family members leads to decrease in food availability. Inadequate dietary intake is one of the direct causes of malnutrition because it can cause weight loss or stunting growth. Therefore, the number of recorded births is a factor that also determines the nutritional status [16]. Results also showed that the relationship between the number of children and nutritional status caused competition in facilities and infrastructure, food differences, and reduced care time, causing stunting.

The birth distance of children which is too close will affect the nutritional status in the family due to difficulty in caring for them and creating a conducive home [6] and when too close, it affects the parenting to children, in which they tend to be inconvenienced, therefore it is less optimal in caring for the children [17].

Other findings in this study are the causal factor to the increasing number of children, including cultural factors; because boys are hereditary successors, most families keep wishing for them. It is very clear that decision-making on contraception is dominated by husbands. This is in line with research [18], [19], [20] stating that women do not have the power to determine the desired contraceptive methods because of their dependence on the husband's decision.

The relationship between Baby care and stunting events

Colostrum

The results showed that colostrum provision was related to the stunting events due to cholesterol-containing substances and vitamins that are very good for children's development. This is in line with [21] that achieving optimal growth in the Global Strategy for Infant and Young Child Feeding, WHO recommends four important things, breast milk within 30 min after birth (giving colostrum), exclusive breastfeeding from birth until 6 months old, complementary food for babies 6 months–24 months made from cheap and easily obtained ingredients from the local area (indigenous food) [19], [21], and continuing the process until 24 months old or older.

Colostrum contains substances that are very good for young child. These results showed the findings [20], [21] that reduced colostrum intake contributes to stunting (AOR = 4.45) [22]. The odds were higher among children receiving small colostrum (AOR = 2.806, 95% CI = 1.059–7.478). Colostrum (AOR = 2.806, 95% CI = 1.059–7.478).

Exclusive breastfeeding

There is a very significant relationship between exclusive breastfeeding and stunting events. Appropriate infant and young child feeding have been identified as one of the key determinants of children undernutrition [23], [24], [25]. These results showed the findings of 25 exclusive breastfeeding as a predictor of stunting in Meskan District, Southern Ethiopia.

Other results showed higher stunting rates among children who were not exclusively breastfed during the first 6 months (AOR 1.55, 95% CI: 1.07–2.24) [26]. After birth, breastfeeding practices have an immediate effect on newborns; its non-exclusive absence and delayed initiation increase the risk of morbidity [27], [28], [29].

Immunization completeness

The completeness of immunization had a significant relationship with the stunting events. These results showed the findings of Kramer and Kakuma [30], Panda *et al.* [31], in which stunting was significantly associated with unvaccinated status ($p = 0.003$). Immunization in children is a protective measure to avoid various childhood diseases and stunting [32]. To reduce this burden in developing countries, major emphasis should be laid on improving the sociodemographic profile, promotion of breastfeeding, and vaccination practices [33], [34].

Complementary foods for breast milk and breastfeeding for up to 2 years old

According to statistical results, there was a relationship between complementary foods for breast milk and breastfeeding for up to 2 years with stunting status. Study [35] showed that when breastfeeding without complementary foods for breast milk is continued for more than 18 months, it leads to increased susceptibility to malnutrition and stunting. This duration without complementary foods has a significant relationship with the stunting event. This is due to delays in introducing supplements to the baby either due to ignorance of the mother or lack of resources in the household [17].

Other study results [7] showed that there was a negative relationship between breastfeeding and growth. It was found that low parental income affected low complementary foods for breast milk intake with high diarrhea morbidity. The provision of food and beverages in addition to breast milk in infants aged 0–6 months old causes the baby to experience digestive disorders – one of them being diarrhea – when the treatment is not good, it can lead to stunting in children. Therefore, it can occur in children of 2 years old or more but not accompanied by complementary foods for breast milk [34], [35]. The effect of breastfeeding did not show significant results when it is not accompanied by other factors [34], [35].

After the baby is 6 months old, both macro and micro nutritional needs cannot be fulfilled by breast milk. Furthermore, eating skills (promotor skills) continue to develop and babies begin to show an interest in other foods besides breastfeeding. Therefore, in Indonesia, based on the recommendations for Scaling up Nutrition, complementary foods for breast milk are given after the baby is 6 months old while it is continued at the request of the baby until the age of 2 years or older. Complementary foods for breast milk provision at the right time will be very beneficial for meeting the nutritional needs and growth and development of infants as well as the transition period to general food. The transition period is known as the weaning period. The timely delivery of complementary foods for

breast milk is one of the factors that do not affect other stunting [34], [35].

Family planning behavior and baby care in early married couples in a gender perspective

The results of the Mozer analysis in this study showed that there are gaps in family planning and baby care behavior in early married couples. This is due to the community's assumption that it is a woman's responsibility because their nature is to get pregnant and give birth. The inability to make decisions (when to get pregnant, where to give birth, and who takes care of children), cultural attitudes, and family behaviors which tend to prioritize men cause unbalanced relations. This condition is in line with [36] on gender issues in the health of mothers and infants, in which the stunting prevalence as well as mortality rates is still high in Indonesia. Furthermore, unmet family planning needs occurred in women with the lowest level of welfare, lack of education, and living in rural areas. This will have high risks such as an increase in unwanted pregnancies and the risk of stunting in children.

The implementation of the Family Planning Program causes several gender issues that are very striking. First, men access to family planning information is still very limited, in which knowledge of family planning methods for women is greater than the male birth control, especially vasectomy. Second, the participation for vasectomy male birth control is only 0.2 percent [37]. The limited types of male contraception (only condoms and vasectomy) make men reluctant to become family planning participants. Third, there are still very few men who know the benefits of planning. Fourth, the husband is still dominant in decisions and reproductive health as well as planning the number and distance of childbirths [37]. The Family Planning program is one of the right steps to support the promotion of gender equality in reproductive health.

The gender gap between husband and wife causes a lack of information and attention about proper pregnancy and child care as well as lack of the right to health and safety themselves, resulting in the delay in knowing the existence of abnormalities in children. Likewise, the husband's ignorance in caring for children (immunization coverage, exclusive breastfeeding, supplementary feeding, and breastfeeding for up to 2 years) [38], [39] can cause stunting. Therefore, it is clear that this support can have important consequences for the stunting events.

Conclusion

Family planning behavior of early married couples influences high birth rate. Many of them affect

the prevalence of stunting. Baby care (colostrum, exclusive breastfeeding, completeness of immunization, supplementary feeding, and breast milk for up to 2 years) affects the stunting events in early married couples. The use of family planning and child care is still dominated by wives. The gap in family planning and baby care behaviors occurs due to unequal power relations.

Authors' Contributions

Rosmala Nur (conceptualizing and designing the study, preparing the draft, revising as well as providing critique); Muh. Ryman Napirah (sectional scientific management); Rasyka Nuru Fajriah¹ (analyzing and interpreting the data); Rahma Dwi Larasati (analyzing and interpreting the data); St. Ika Fitriasyah (analyzing and interpreting the data).

Significance statement

This study showed the relationship of family planning and baby care behaviors (colostrum, exclusive breastfeeding, immunization, supplementary feeding, and breastfeeding for up to 2 years) of stunting events on early married couples. This idea, ranging from decision making, planning, and implementation, is dominated by the wives.

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