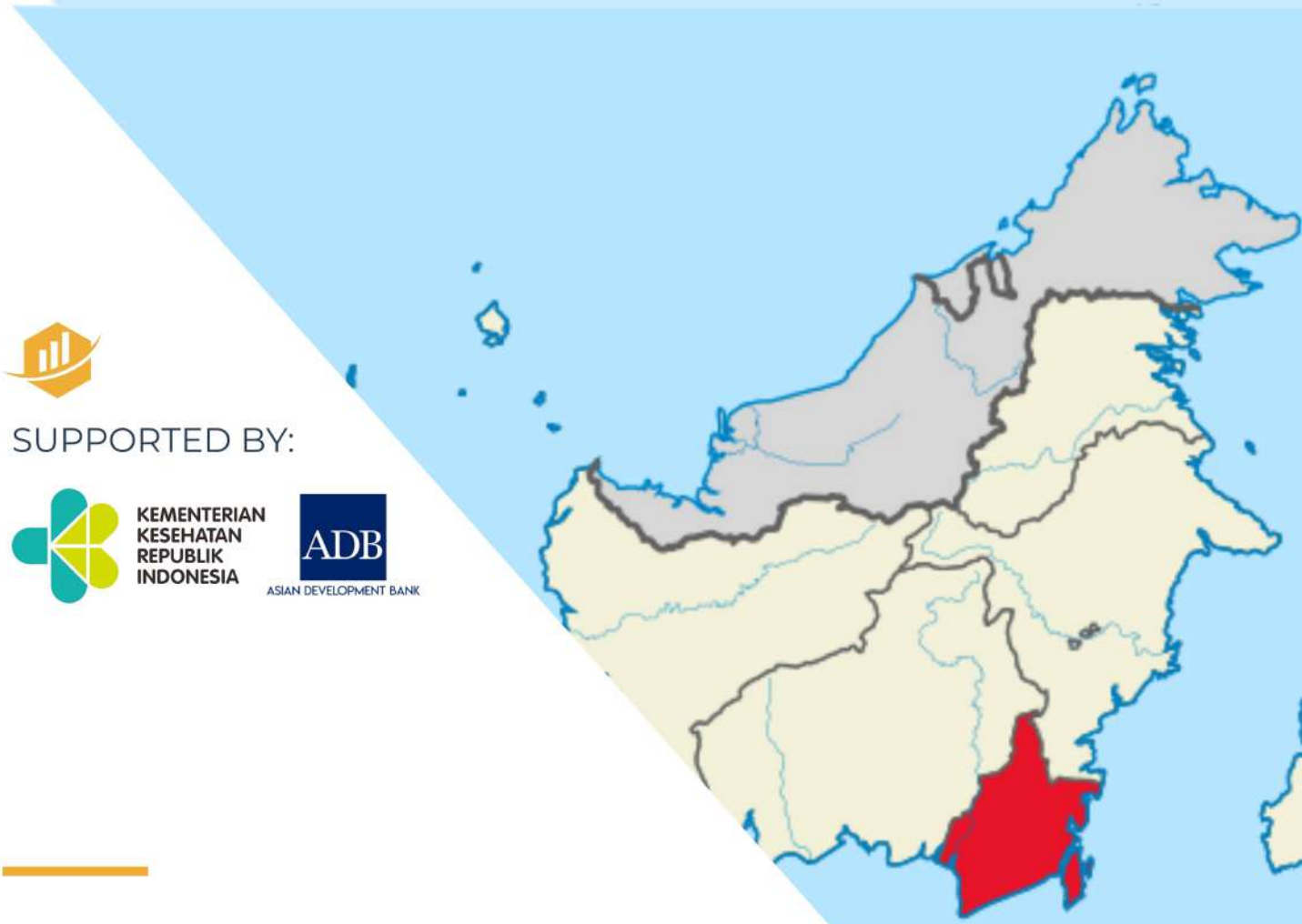

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STUNTING RISK FACTORS IN ADOLESCENT PREGNANCY AND THEIR DETERMINANTS IN THE PATRILINEAL SOCIETY OF SOUTH KALIMANTAN PROVINCE: MIXED METHOD ANALYSIS

FINAL REPORT

2022

SOUTH KALIMANTAN RESEARCH TEAM

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NATIONAL RESEARCH AND INNOVATION AGENCY (BRIN)

Final report

STUNTING RISK FACTORS IN ADOLESCENT PREGNANCY AND THEIR DETERMINANTS IN THE PATRILINEAL SOCIETY OF SOUTH KALIMANTAN PROVINCE: MIXED METHOD ANALYSIS

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2022

VALIDITY SHEET

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ABSTRACT

South Kalimantan is one of the provinces that has a stunting prevalence higher than the national figure and is ranked the sixth highest in Indonesia. Pregnancy in adolescence has a close relationship with the incidence of stunting. South Kalimantan is one of the three provinces with the highest incidence of early marriage. There are not many studies in South Kalimantan that examine the risk factors for stunting in a comprehensive manner, especially those related to early marriage. Therefore, the aim of this research is to analyzing the risk factors for stunting in teenage pregnancy and its determinant in patrilineal society in South Kalimantan Province.

This study uses a mix-method, consisting of quantitative and qualitative research. Quantitative research using analytical observational with a cross-sectional design. Qualitative research used phenomenological methods. Secondary data sources come from the results of Riskesdas 2018 and BPS 2022, while primary data is taken through Focus Group Discussions (FGD) and indepth interviews with informants, that is: subject of early marriage, parents of subject of early marriage, pregnant women in their teens, midwives, traditional leaders/community leaders, and the Office of Religious Affairs (KUA) in each district/city. Quantitative data were analyzed by univariate, bivariate, and multivariate. Qualitative data were analyzed to get a socio-cultural picture of the community about early marriage and food consumption patterns.

The results of the study found that dominant determinant of stunting in children under five in South Kalimantan Province is the age of under five years old, history of premature birth, underweight status of toddlers and wasted status of toddlers. The employment status of parents, as well as the number of household members did not affect the difference in the risk of stunting among children under five in South Kalimantan. Although the prevalence of stunting under five in South Kalimantan is higher in under-fives from mothers who gave birth in adolescence than in adult mothers, maternal age is not statistically proven as a risk factor for stunting. There is no relationship between stunting and the level of utilization of maternal health services. Adolescent marriages in South Kalimantan tend to be triggered by economic motives and the desires of the teenagers themselves, which are supported by economic conditions, social influences, and lack of encouragement to get an education. Family eating habits that prioritize men have been abandoned, although sometimes there are still food taboos for breastfeeding mothers that lack scientific evidence. The importance of breastfeeding is well understood in the community, although sometimes there are obstacles. There is no visible pattern linking the prevalence of stunting and teenage pregnancy with regional characteristics in the form of income for each capita, poverty rate, ratio of health workers to the population of children under five, as well as HDI at the city and district levels. Toddlers who have passed the breastfeeding period are more at risk of stunting. Babies with a history of LBW have a risk of stunting. The type of area of residence and the practice of pre-lacteal feeding did not provide a significant difference in the incidence of stunting. The practice of exclusive breastfeeding in this population tends to increase the risk of stunting. Immunization status of children under five is not related to the incidence of stunting in children under five in South Kalimantan.

CHAPTER 1. INTRODUCTION

1.1 Background

Stunting in Indonesia is still a nutritional problem that needs serious handling. The Indonesian Ministry of Health's Pusdatin (2018) states that stunting is a condition in toddlers who have less body length/height compared to age. This category is based on WHO child growth standards. WHO states that Indonesia is the third country with the highest prevalence in Southeast Asia, with a stunting prevalence of 36.4% from 2005 to 2017.

The Indonesia Nutrition Status Survey in 2021 (Ministry of Health, 2021) reports that Indonesia's stunting prevalence is 24.4%, while the stunting prevalence target for 2024 is 14%. South Kalimantan is one of the provinces that has a stunting prevalence higher than the national figure, which is 30%. South Kalimantan is ranked 6th highest in Indonesia. The three districts with the highest prevalence of stunting in South Kalimantan are Banjar Regency (40.2%), Tapin Regency (33.5%), and Barito Kuala Regency (32.4%) (SSGI, 2021). Wicaksono and Hartanti (2020) explained that the highest incidence of stunting was found at the age of less than 5 years, and 18% of them were classified as severe stunting.

Stunting can interfere with the physical and cognitive development of children (Pusdatin Kemenkes RI, 2018). In addition, stunting also increases the risk of child mortality, developmental disorders and learning abilities, the risk of suffering from infectious and non-infectious diseases, and reduces productivity and economic ability (Wicaksono and Hartanti, 2020). Therefore, the handling of stunting must be a priority to improve the quality of Indonesia's human resources.

Research by Wicaksono and Hartanti (2020) found that the factors associated with the incidence of stunting were individual, household and community factors. Individual factors consist of gender and immunization status. Household factors consist of father and mother's educational status, household welfare, and slum area. In addition, there is also a factor of influence from the community, called the place of residence (village or city).

Similar research has also been conducted by Ardiansyah et al. (2018) which states that stunting is caused by age, gender, parental education, parental income, number of household members, early initiation of breastfeeding, exclusive breastfeeding, and maternal height. The results of multivariate analysis showed that the most dominant factor was father's education.

Adolescent pregnancy is also associated with the incidence of stunting as in the research of Larasati et al. (2018). The study shows that the younger a person's pregnancy age will increase the incidence of stunting. Early marriage is also related to the culture that exists in society. This early marriage culture is still found in South Kalimantan. This is evident from the BKKBN data, which shows that 51 out of 1000 residents have early marriages in 2010-2016. This figure is above the national figure of 40/1000 population and ranks the highest in Indonesia. Furthermore, BKKBN in

Kumari and Kurdi (2020) reported that in 2017, the number of early marriages in South Kalimantan remained among the three highest in Indonesia. Tapin, Kotabaru and Tabalong are the regencies in South Kalimantan that have a high number of early marriages.

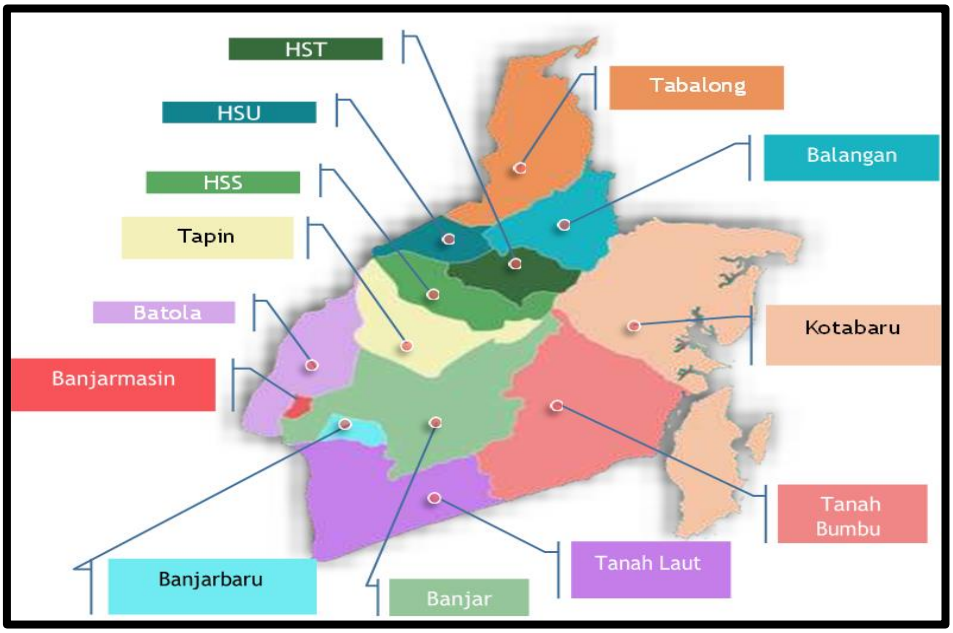
One of the risks that can also cause stunting is the fulfillment of nutrition in the first 1000 days of life. Rahayu et al. (2018) explained that conditions in the first 1000 days of life are influenced by the gestation period until the child is born two years old.

Until now, there are still not many studies in South Kalimantan that examine the risk factors for stunting in a comprehensive manner that combines individual, household, community, and cultural factors. Therefore, this research needs to be done.

1.2. Situation Analysis

1.2.1. Regional Profile

The province of South Kalimantan consists of lowlands in the west and east and highlands in the middle. Lowland areas in the form of peatlands and swamps as well as a number of river flows are rich sources of flora and fauna diversity. Most of the highland areas are still tropical forests which have various natural resources in the form of mining goods such as coal, oil, quartz sand, iron ore and others.



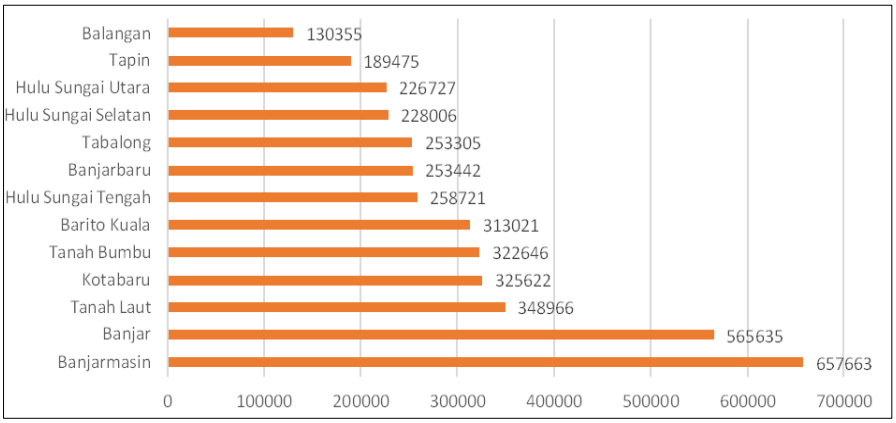
Source: South Kalimantan Provincial Health Office (2020)

Figure 1.1. Map of South Kalimantan Province

The South Kalimantan region has a lowland morphology of 33.89%. Meanwhile, mountains occupy an area of 33.56 percent. The mountainous area called the Meratus Mountains consists of several non-volcanic mountains with the highest mountain called Baru Besar Mountain with a height of 1,892 meters. The

geographical position of South Kalimantan Province is very strategic because it is in the center of the archipelago (South Kalimantan Provincial Health Office, 2020). The map of the South Kalimantan region can be seen in Figure 1.1.

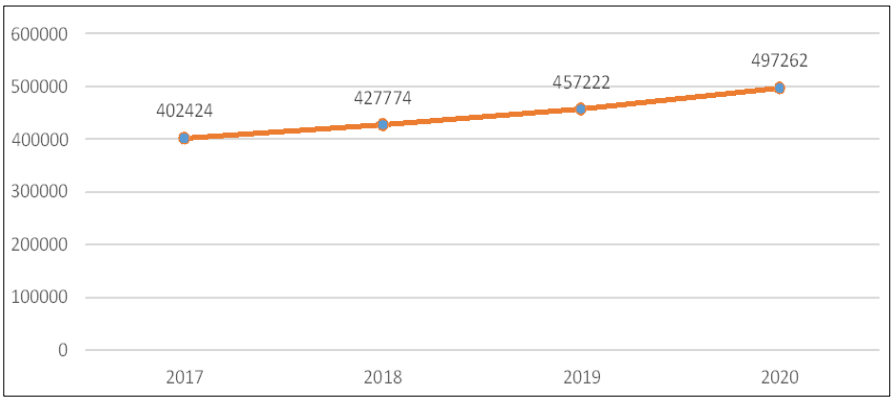
The total population of South Kalimantan is 4,073,584 people. As the provincial capital and economic center, Banjarmasin City is the most inhabited city (657,663 people) and the rest are spread in other cities and regencies. The distribution of the population of South Kalimantan by Regency/City can be seen in Figure 1.2.



Source: Central Bureau of Statistics (BPS), (2020)

Figure 1.2. Population Distribution of South Kalimantan Province by Regency/City based on the 2020 Census Results

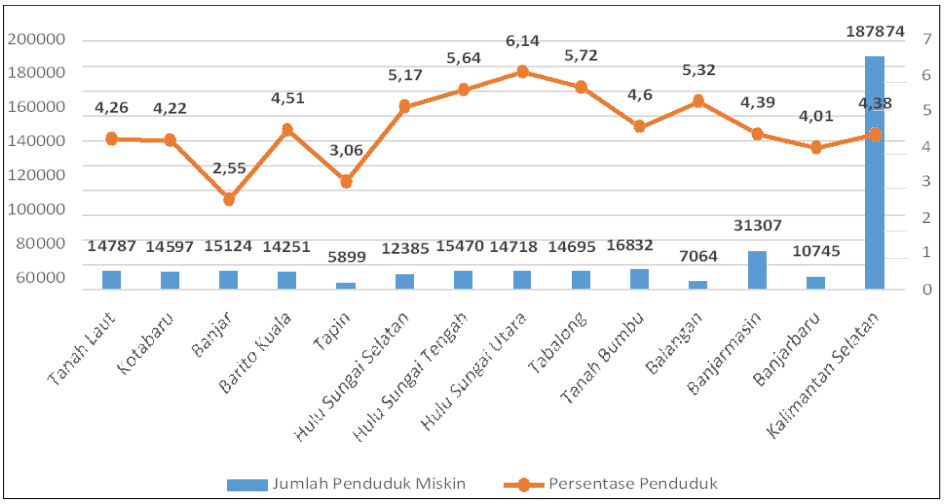
South Kalimantan still has a population below the poverty line. The poverty line is the minimum level of income that is considered necessary to be met in order to obtain standard of living sufficient in a country. Residents with a monthly per capita expenditure level of less than or below the poverty line are categorized as poor. Poverty in South Kalimantan in 2017-2020 can be seen in Figure 1.3.



Source: BPS, 2020

Figure 1.3. Poverty Line of South Kalimantan in 2017-2020 (units in rupiah per capita per month)

Hulu Sungai Utara Regency is an area that has the highest percentage of poor people in South Kalimantan. Meanwhile, Banjar Regency has the lowest percentage of poor people compared to other Regencies/Cities. Figure 1.4 presents the percentage of poor people by Regency/City in South Kalimantan in 2020.

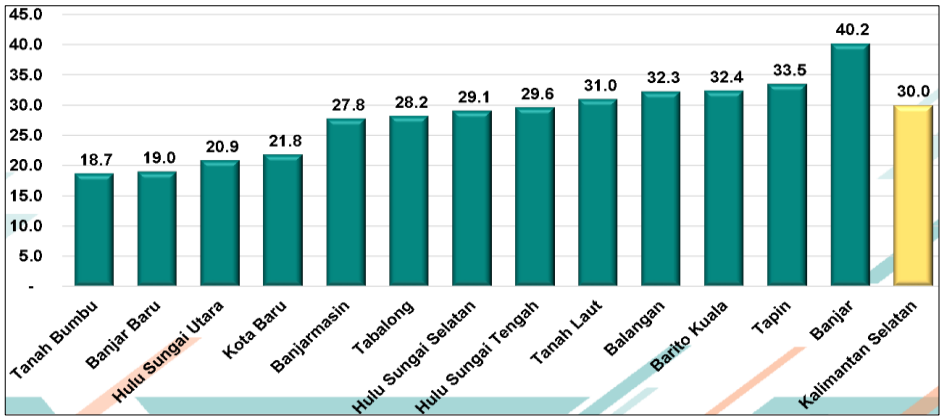


Source: South Kalimantan Provincial Health Office (2020)

Figure 1.4. Percentage of Poor Population by Regency/City

1.2.2. Size of the problem

Stunting is a problem that is still found in South Kalimantan. The latest survey by the Ministry of Health (2021) through the 2021 SSGI reports that the incidence of stunting in South Kalimantan has increased. Banjar Regency is recorded to have the highest stunting toddler in South Kalimantan Province. The increase in the prevalence of stunting from 11.9% from 2020 to 30% in 2021 is a serious problem that must be addressed. In detail, the stunting data for districts/cities in South Kalimantan Province can be seen in Figure 1.5.



Source: Ministry of Health of the Republic of Indonesia (2021)

Figure 1.5. Stunting Prevalence in South Kalimantan

1.3 Formulation of the problem

The high prevalence of stunting in South Kalimantan Province is a serious problem that must be addressed so that the reduction in the national stunting rate in 2024 can be achieved. Various problems that cause stunting, including the problem of the high rate of early marriage in South Kalimantan, still have to be identified. Therefore, it is necessary to conduct a study to determine what are the risk factors for stunting in adolescent pregnancy and their determinants in patrilineal public in South Kalimantan Province

1.4 Destination

1.4.1. General purpose

The general objective of the study was to analyze the risk factors for stunting in adolescent pregnancy and its determinant in patrilineal society in South Kalimantan Province.

1.4.2. Special purpose

a. Identifying the dominant determinants of stunting in children under five in patrilineal communities in Indonesia South Kalimantan Province.
b. Identifying socio-economic characteristics (father's educational status, mother's educational status, father's employment status, mother's employment status, and number of household members) of families of toddlers with teenage mothers in South Kalimantan Province.
c. Identify the characteristics of adolescent mothers (mother's age at first pregnancy and gestational age at delivery), and health services (number of blood-added tablets consumed during pregnancy, frequency of ANC = Antenatal Care, birth attendants, and delivery locations) received by mothers from toddlers in pregnancy age in South Kalimantan Province.
d. Analyzing the socio-cultural aspects of the community regarding early marriage and food consumption patterns in patrilineal communities in South Kalimantan Province.
e. To identify the prevalence of stunting in toddler and the characteristics of the districts/cities based on Gross Domestic Product (GDP) per capita, poverty status, ratio of health workers, and Human Development Index (IPM) in South Kalimantan Province.
f. To identify the characteristics of toddler (gender, age, birth weight, and the area of residence of the family) and eating history (pre-lacteal diet and history of exclusive breastfeeding) in children under five in South Kalimantan Province.
g. Identifying toddler health services (basic immunization) in South Kalimantan Province.

1.5 Benefits of rese

1.6 arch

a. Policy maker

The results of the study can provide benefits to policy makers through information on the determinants of stunting found in South Kalimantan Province, especially related to early marriage which is one of the causes of teenage pregnancy that affects child care patterns. Therefore, the handling of stunting can be formulated according to the cause.

b. Related SKPD

1) The results of the study can be used as guidelines for health and nutrition interventions so that their implementation is more focused in accordance with the specific problems found in the results of this study.
2) Research results can contribute to the implementation of health and nutrition programs.

CHAPTER 2. RESEARCH NOVELTY

The novelty of this research is as follows:

a. The dominant risk factors for stunting in patrilineal communities in South Kalimantan Province, if sorted by the magnitude of the risk, are: *underweight* (18,241 times greater increase in stunting), children aged 24-35 months (9,511 times greater increase in stunting), premature birth (2,187 times greater increase in stunting), and wasting as the lowest risk determinant (0.129 times greater increase in stunting) .
b. Teenage pregnancy is not significantly associated with stunting, but teenage marriage tends to be a risk factor for stunting in South Kalimantan Province because fathers and mothers who graduated from high school have a significant relationship with stunting.

CHAPTER 3. LITERATURE REVIEW

3.1. Definition and Prevalence of Stunting

Stunting in children is a manifestation of growth failure due to malnutrition which is characterized by height for age less than -2 SD from the child's growth standard (WHO, 2006). Stunting has both short and long term adverse effects, including increased morbidity (Prendergast and Humphrey, 2014), mortality (Ong et al., 2013), poor child development and learning capacity (Grantham-McGregor et al., 2007), increased risk infections and non-communicable diseases in adulthood (Prendergast and Humphrey, 2014), and reduce economic productivity (Galasso and Wagstaff, 2019).

The Asian Development Bank noted that the average prevalence of stunting in Southeast Asia was 27.4%. A decade ago, the prevalence of stunting in Cambodia and Laos

was higher than in Indonesia. However, now Indonesia's stunting prevalence rate is still higher than the two countries which have been more successful in reducing stunting prevalence. Currently, compared to other Southeast Asian countries, only Timor Leste has a stunting prevalence (48%) higher than Indonesia (Asian Development Bank, 2021).

One of the provinces in Indonesia with a relatively high prevalence of stunting is South Kalimantan. Although there has been a decline in prevalence (South Kalimantan Health Office, 2019), the stunting prevalence rate in South Kalimantan is still consistently higher than the national average prevalence (Ministry of Health, 2018; Ministry of Health and BPS, 2019; Ministry of Health, 2021). The results of the latest Indonesian Nutrition Status Study show that the prevalence of stunting under five in South Kalimantan is 30%, while the prevalence at the national level is 24.4% (Ministry of Health of the Republic of Indonesia, 2021).

3.2. Socio-Economic-Demographic Factors

Stunting is the result of a complex interaction of various factors, not only at the individual level but also at the family or household and community levels (Wicaksono and Harsanti, 2020). There are several factors that are significantly related to stunting in Indonesia but are not explicitly listed in the WHO framework, namely: low household income, father's short stature, parents' smoking status, dense household occupancy, fever, and incomplete immunization status. Food insecurity and inability to access health services can be indicators of family well-being. Longitudinal randomized controlled trial studies show that boys under five are more at risk of stunting than girls in Indonesia. This can be explained by the convergence of biological factors, living conditions.

The type of area of residence has the potential to affect the incidence of stunting. In rural Indonesia, the median income of families with stunted children is lower than the normal group (Anwar et al., 2014). Rachmi et al. (2016b) estimated that the prevalence of stunting in children 24-59 months of age was 53.3% in rural areas compared to only 34.9% in urban areas. A cross-sectional survey found similar differences in stunting prevalence between rural (47.3%) and urban (28.5%) areas (Sandjaja et al, 2013). Semba, de Pee, Hess, et al. (2008) also found that the probability of under-five stunting was quite high in rural areas than in urban areas. Meanwhile, in North Maluku, it was reported that the chances of stunting among children under five were higher in urban areas compared to rural areas.

In Indonesia, it has been shown that toddlers from families with low socio-economic status are 2.8 times more likely to suffer from stunting than toddlers from families with moderate socioeconomic status (Najahah, Adhi and Pinatih, 2013). Children who come from families with very poor, poor and middle economic status have a risk of 1.96, respectively; 1.62 and 1.32 times more likely to be stunted compared to children from rich families (Paramashanti, Hadi and Gunawan, 2016).

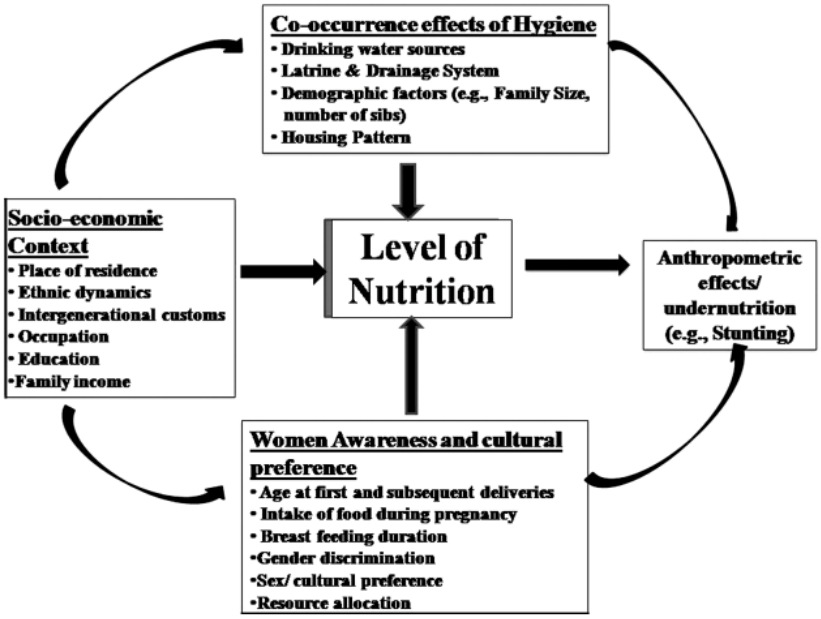


Figure 3.1. Determinants affecting nutritional status
(Rengma, Bose and Mondal, 2016)

Various factors can affect nutritional status, including the occurrence of stunting. Rengma et al (2016) explain in general, nutritional status is influenced by socioeconomic level, hygiene, and women's awareness as well as cultural preferences Figure 3.1. Furthermore, Perumal et al. (2020) describes the risk factors for stunting in more detail (Figure 3.2). In addition, various intervention efforts for stunting alleviation are explained, both in the form of specific programs and sensitive programs.

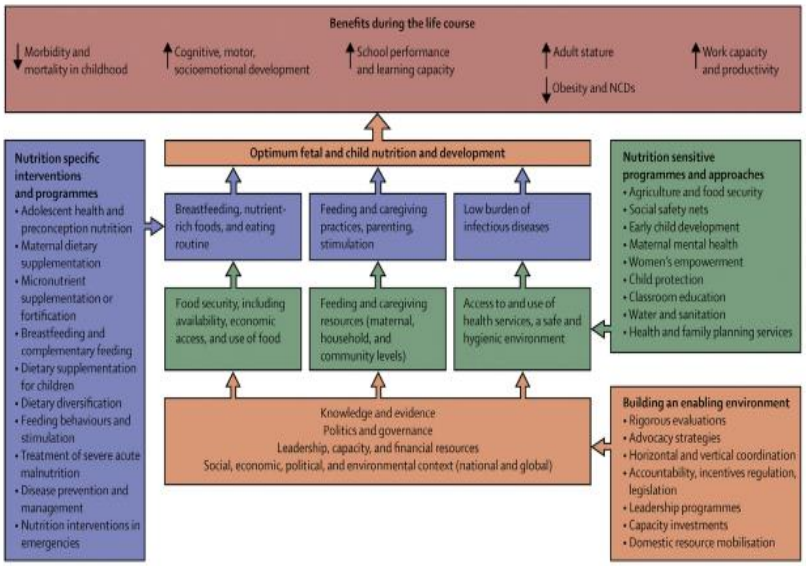


Figure 3.2 Stunting risk factors and intervention efforts
(Perumal, Bassani, and Roth 2021).

3.3. Nutritional status and parenting practices

Maternal nutritional status before pregnancy is a risk factor for low birth weight and length of the baby (Irawati and Salimar, 2012). Nutritional interventions in women before pregnancy have been shown to have a positive impact on both mother and baby (Barker et al., 2018). Mothers who have short stature and especially those who are still teenagers have a greater tendency to give birth to babies with low birth weight (LBW), so these babies are more likely to experience growth failure during childhood (Christian et al., 2013). The height of mothers of stunting toddlers was found to be lower than that of mothers of normal children, although the difference was not significant (Anwar et al., 2014).

One of the recommendations for intervention from WHO to reduce the prevalence of anemia also targets adolescents, especially in areas where marriage and early pregnancy are common. Education provided related to health care must include the importance of an adequate interval between births and subsequent pregnancies (World Health Organization, 2014). Anemia in pregnancy will increase the risk of low birth weight, miscarriage, premature birth, risk of bleeding before and/or during delivery which can lead to death of the mother and baby (Black et al., 2013). Research in Purwokerto shows that teenage pregnancy is significantly associated with premature birth and low birth weight (Latifah and Dewi, 2013).

Research Sari et al. (2010) found that households with the highest expenditure on animal protein sources were associated with reduced stunting in children 0-59 months of age in urban poor communities (Sari et al., 2010). Households with the highest expenditure on plant-based foods were associated with a reduced possibility of stunting in rural children 0-59 months. The chances of stunting for Indonesian children under five are also lower in urban areas and in provinces with high for each capita Gross Domestic Product (Wicaksono and Harsanti, 2020).

Breast milk is the best food and source of nutrition for infants from 0-24 months of age, where exclusively for infants aged 0-6 months are given exclusive breastfeeding. Various studies have found that exclusive breastfeeding is closely related to stunting. Rachmi et al showed that babies who were weaned early (before 6 months) had a 2-3 times higher chance of stunting. A cross-sectional study of the determinants of stunting in rural Indonesia found that there were more stunting toddlers who were given prelacteal food than stunted toddlers who received breast milk as their first food intake (Anwar et al., 2014).

3.4. Health services

Several studies in Indonesia have proven that inadequate health services are associated with stunting (Anwar, Khomsan, Sukandar, Riyadi, & Mudjajanto, 2010; Bardosono et al., 2007; Torlesse et al., 2016). Further analysis of the 2013 Riskesdas data showed that the chance of stunting decreased significantly for children living in provinces

with a high ratio of health workers per population aged 0-4 years (Wicaksono and Harsanti, 2020).

Health services for pregnant women (ANC) are crucial for the health of the mother and her womb. Research Torlesse et al. (2016) found that mothers who made ANC visits less than 4 times during pregnancy were more likely to have stunted children at the age of 0-23 months compared to mothers who made ANC visits four or more times. Previously, research by Anwar et al. (2010) found that boys with a lower rate of visits to integrated healthcare center (1–3 times) had an average TB/U Z-Score of -1.9 compared to toddlers with more frequent visits (4-6 times; TB/U -1.3).

There is a relationship between health care providers (especially the absence of medical doctors) and stunted children (Barber & Gertler, 2009; Torlesse et al., 2016). Torlesse et al. (2016) reported that the probability of stunting in children 0–23 months was more than doubled if the doctor or midwife did not provide ANC. Similarly, simulations from the 1993 and 1997 Indonesian Family Life Surveys stated that the baby's body length increased by 0.27 cm on an increase in the number of doctors from none to 1 and increased 0.18 cm on an increase in the number of medical nurses from none to three or more. (Barber & Gertler, 2009). Torlesse et al. (2016) explained that this relationship was mediated by the ability of medical personnel to provide ANC services, so that the chance of stunting in infants increased 2-fold if ANC was not facilitated in health services.

Adequate access to health services will also support immunization programs in order to prevent the risk of infection in children under five. Infectious diseases provide negative feedback on nutritional status by increasing basal metabolism due to infection. This condition if it occurs for a long time can increase the risk of stunting (Permatasari & Sumarmi, 2018). Studies in Indonesia state that immunization status is associated with stunting (Fajariyah & Hidajah 2020). This result is in line with previous research that under-fives with incomplete immunization status are 1.78 times more likely to experience stunting than children with complete basic immunization status. Vaccination plays a role in reducing child mortality and early vaccination can reduce the possibility of stunting in children,

3.5. Early Marriage and Adolescent Pregnancy

Early marriage is a marriage that takes place under the productive age, which is less than 20 years for women and less than 25 years for men (Handayani, 2014). The Indonesian government in Law No. 16 of 2019 concerning marriage, establish that marriage is only allowed if a man and a woman have reached the age of 19 years. Thus, a marriage is said to be an early marriage if the age of at least one of the partners is under 19 years old. In early marriage, the preparation of a child or teenager has not been fully maximized, both in mental, psychological, and even material preparation, to walk on marriage. When marriage

is carried out at an early age, adolescents do not have enough knowledge about marriage, family and do not know good conflict management (Latifah, 2018).

Common and cultural factors are the reasons behind this phenomenon that still occurs frequently, especially rural communities who have a culture to marry off their children at a young age. This started with the matchmaking by their parents, as well as the assumption that young women who had received their first menstruation were considered worthy of marriage. Some even marry off their children before getting their first menstruation. There is also an assumption that if young women do not get married immediately, they will shame the family because they are called far from their soul mates (Indriayani, 2014).

In Indonesia, the first marriage of women under the age of 21 still occurs. This is especially true in rural areas, where only a third of women get married for the first time over the age of 20 (Kemen PPPA, 2020). In South Kalimantan, 22.52% of youth married for the first time in the age range of 16-18 years, and 2.42% at the age of 15 years or even younger (Central Bureau of Statistics, 2020). The average age at first marriage for women aged 10 years and over in South Kalimantan in 2019 was 19.47 years. The average age at first marriage is still below the ideal age recommended by the BKKBN, 21 years. Almost half of the female population aged 10 years and over in South Kalimantan married before the age of 19, which was 45.47%. Even in the countryside,

Food and Nutrition Technical Assistance III Project (FANTA) found a higher prevalence of stunting in children of mothers aged under 18 years than children born to mothers aged 23 years and over (Sethuraman, Kovach and Sommerfelt (2018). In India, early pregnancy has been shown to be associated with poor nutritional status of children). through a variety of factors when compared to pregnancy in adult women, including poorer maternal nutritional status, low education level, lack of access to health services, suboptimal child feeding practices, and poor living conditions (Nguyen et al., 2019) Adolescent pregnancy increases the risk of stunting by up to 8 times compared to adult pregnancy as revealed by a study in Ghana (Wemakor et al., 2018).special interventions targeted at adolescent mothers and their children are needed to reduce nutritional problems.

Pregnancy and childbirth are the main causes of death for adolescent girls in developing countries (Major, 2004). Compared to those aged 20 years and over, teenage pregnancies aged 15-19 years increase the chance of death by 2 times, while pregnancies at the age of 14 years and under have an increased chance of 5 times (BKKBN, 2004).

CHAPTER 4. THEORY AND CONCEPTUAL FRAMEWORK

4.1 Theoretical framework

The theoretical framework in Figure 4.1 is compiled referring to some of the literature on the causes of teenage pregnancy combined with a conceptual framework for research on the relationship between teenage pregnancy and child nutrition problems in India (Nguyen et al., 2019). The main factors that cause pregnancy in adolescents according to an Amanda et al are gender inequality, cultural norms, peers, and alcohol. More common include poverty, lack of education and a large population. Other factors that cause teenage pregnancy include factors from within the individual: age of marriage, age at first sexual intercourse, educational status, knowledge of reproductive health, risky sexual behavior, chemical substance abuse, and use of contraception (Banepa, Lupita, and Gatum, 2007). 2017).

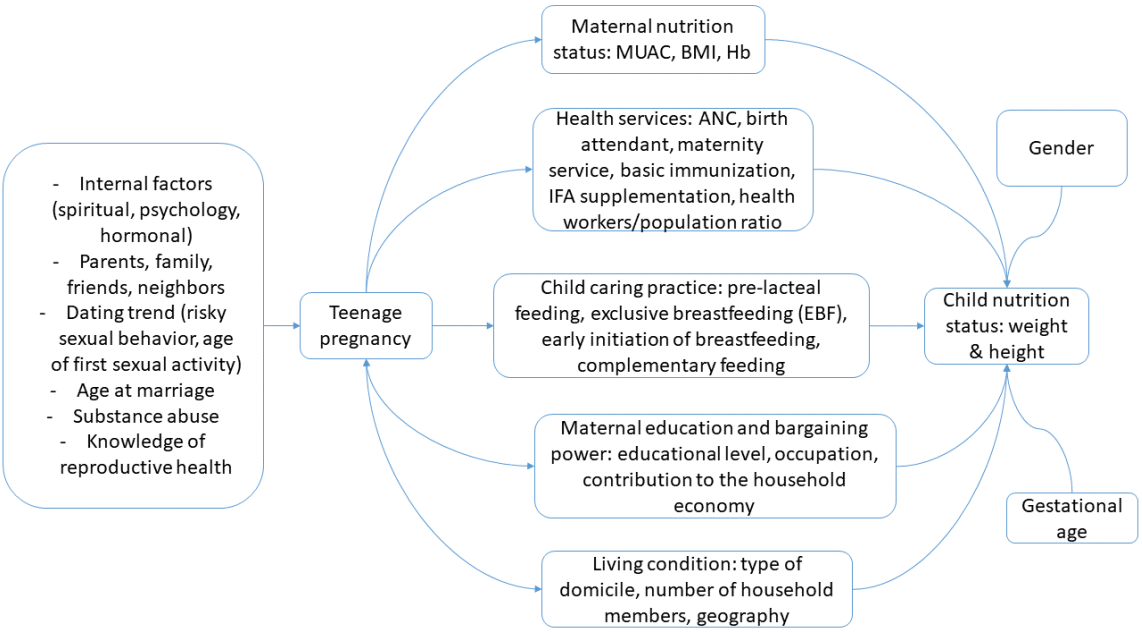


Figure 4.1 Theoretical Framework

4.2 Conceptual framework

The conceptual framework does not contain all the variables from the theoretical framework, but adjusts to the variables that will be studied in this study. Indirect causes that can affect the incidence of stunting in toddlers include the role of adolescent parents (social, economic, cultural), and reproductive knowledge. Furthermore, the independent variables studied were the nutritional status of pregnant women, service health, childcare

practices, education, and living conditions. In detail, the theoretical framework of this research is described in Figure 4.2.

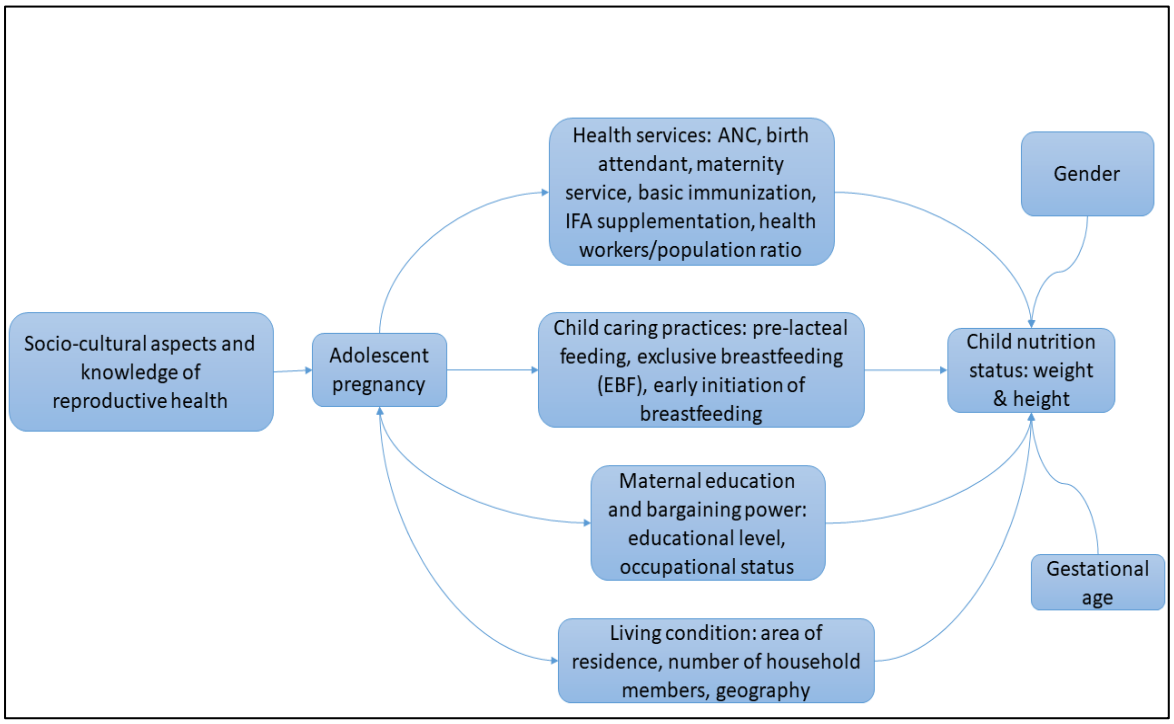


Figure 4.2 Conceptual Framework for Research on Stunting Risk Factors of Adolescent Pregnancy and Its Determinants in Society Patrilinealin South Kalimantan Province: Mixed Method Analysis

4.3 Research Variables, Operational Definitions, and Methods of Measurement

The variables studied were grouped as individual, household, and community variables. The operational definitions of the variables studied can be seen in Table 4.1.

Table 4.1 Research Variables

NO	VARIABLE	OPERATIONAL DEFINITION	INSTRUMENT	DATA CATEGORIES	DATA SCALE
1	Incidence of toddler stunting	The condition of the body length / height is lower than children his age	Riskesdas 2018	a. *Stunting*, if BL/BH < -2SD child growth based on WHO b. Not stunting if BL/BH >= 2SD of child growth based on WHO	Nominal
2	Characteristics of toddlers				
2.1.	Toddler gender	Gender of toddler subject	Riskesdas 2018	a. Man b. Woman	Nominal

NO	VARIABLE	OPERATIONAL DEFINITION	INSTRUMENT	DATA CATEGORIES	DATA SCALE
2.2.	Toddler age	The age of the subject when the data was taken as a sample of the 2018 Riskesdas survey	Riskesdas 2018	a. 0-24 months b. 24-59 months	Nominal
2.3.	Childhood immunization history	The status of the immunization history of under-five subjects based on the contents of the 2018 Riskesdas survey	Riskesdas 2018	a. Incomplete: if the toddler does not carry out any/some/all types of basic immunization b. Complete: if you have done all immunizations up to the age of 9 months	Nominal
2.4.	Infant birth weight	Subject's weight at birth	Riskesdas 2018	a. Low birth weight (LBW): if birth weight <2500 grams b. Not LBW: if birth weight >=2500 gram	Nominal
2.5.	The area where the toddler's family lives	The type of area where the subject lives	Riskesdas 2018	a. Village b. City	Nominal
3	Eating history				
3.1.	Toddler prelacteal food	Is there any drink/food other than breast milk that is given to the baby before starting breastfeeding?	Riskesdas 2018	a. There is b. There isn't any	Nominal
3.2.	History of exclusive breastfeeding for toddlers	Breastfeeding infants without any additional food is measured by the duration of breastfeeding without additional food for at least 6 months	Riskesdas 2018	a. Not exclusive breastfeeding: if not breastfeeding/breastfeeding accompanied by other foods/drinks b. Exclusive breastfeeding: only breastfeed for 6 months	Nominal
4	Socio-economic characteristics of a toddler's family				
4.1	Educational status of toddler's father	The highest educational status completed by toddler father	Data Riskesdas 2018	a. <=junior high school equivalent b. >Junior High School/equivalent	Nominal
4.2	mother's educational status	The highest educational status completed by the toddler's mother	Data Riskesdas 2018	c. <=junior high school equivalent d. >Junior High School/equivalent	Nominal
4.3	Employment status of toddler's father	The job status of the father of the toddler subject who can make money	Data Riskesdas 2018	a. Doesn't work b. Working	Nominal

NO	VARIABLE	OPERATIONAL DEFINITION	INSTRUMENT	DATA CATEGORIES	DATA SCALE
4.4	Mother's employment status	The job status of the father of the toddler subject who can make money	Data Riskesdas 2018	c. Doesn't work d. Working	Nominal
4.5	Number of household members from toddlers	The number of household members from families of toddlers who are the research subjects	Data Riskesdas 2018	a. Father, mother, 2 children (or less) b. There are family members besides father, mother, and 2 children	Nominal
5	Characteristics of mothers from toddlers during pregnancy				
5.1	Mother's age at first pregnancy	Mother's age at first pregnancy	Data Riskesdas 2018	a. At risk: <20 years b. No risk: >=20 years	Nominal
5.2	Gestational age at the time the mother gave birth to a toddler	The gestational age of the mother at the time of giving birth to a toddler who was taken as a sample	Data Riskesdas 2018	a. Preterm: if gestational age <37 weeks b. Term: if gestational age >= 37 weeks	Nominal
6	Health services obtained by mothers from toddlers during pregnancy				
6.1	Number of blood-added tablets (TTD) consumed during pregnancy from mothers of toddlers	The amount of TTD consumed by mothers of children under five during pregnancy	Data Riskesdas 2018	a. Incomplete: if <90 tablets during pregnancy b. Complete: at least 90 tablets during pregnancy	Nominal
6.2	Frequency of antenatal care (ANC) for mothers of toddlers	Number of maternal ANC visits during toddler pregnancy	Data Riskesdas 2018	a. Incomplete: if <4 times during pregnancy b. Complete: if at least 4 times during pregnancy	Nominal
6.3	Birth assistant from toddler mother	The person who helps the subject in the delivery of his toddler	Data Riskesdas 2018	a. Not a health worker b. Health workers	Nominal
6.4	Location of delivery from mother to toddler	Location of the mother of the toddler at the time of delivery	Data Riskesdas 2018	a. Not a health facility b. Medical facility	Nominal
7	Characteristics of Regency/City areas in Prov. South Kalimantan				
7.1	*Gross Domestic Product (GDP)*per capita	Gross Regional Domestic Product divided by the population of the domicile district/city	District/City BPS Data 2018	GDP/capita	Ratio
7.2	Poverty status	Percentage of poor people in the subject's domicile regency/city	District/City BPS Data 2018	In Percent	Ratio

NO	VARIABLE	OPERATIONAL DEFINITION	INSTRUMENT	DATA CATEGORIES	DATA SCALE
7.3	Health worker ratio	The total number of health workers divided by the total population aged 0-4 years in the subject's domicile district/city	District/City BPS Data 2018	Amount	Ratio
7.4	Human Development Index (HDI)	Index developed by UNDP to explain how people can access development outcomes in terms of income, health, education and so on	District/City BPS Data 2018	HDI Value	Ratio
8	Socio-cultural community about early marriage and food consumption patterns	Habits/cultures that exist in the community where toddlers live about early marriage and abstinence	Qualitative primary data through Focus Group Discussion (FGD) and in-depth interviews with doer of early marriage, parents of doer of early marriage,pregnant women in their teens, midwives, traditional leaders/community leaders, and the Office of Religious Affairs (KUA) in each district/city		

4.4 Hypothesis

a. There are dominant factors related to stunting in the patrilineal community of South Kalimantan Province.
b. There is a relationship between the characteristics of children under five (gender, age, history of basic immunization, birth weight, and family area of residence) and eating history of toddler (pre-lacteal diet and history of exclusive breastfeeding) with the incidence of stunting in children under five in South Kalimantan Province.
c. There is a relationship between health services for toddler (basic immunization) and the incidence of stunting in children under five in South Kalimantan Province.
d. There is a relationship between socioeconomic characteristics (father's educational status, mother's educational status, father's employment status, mother's employment status, and number of household members) of families of toddler with the incidence of stunting in children under five in South Kalimantan Province.
e. There is a relationship between maternal characteristics (mother's age at first pregnancy, gestational age at delivery), and health services (number of blood-added tablets consumed during pregnancy, frequency of ANC, birth attendant, and location of delivery) received by mothers from toddlers during pregnancy with the incidence of stunting in children under five in South Kalimantan Province.
f. There are socio-cultural factors related to early marriage and food consumption patterns that are related to the incidence of stunting in patrilineal communities in South Kalimantan Province.

CHAPTER 5. RESEARCH METHODS

5.1 Research design

This study uses a mix-method, consisting of quantitative and qualitative research. Quantitative research using analytical observational with a cross-sectional design. Qualitative research used phenomenological methods.

The data source for quantitative analysis uses secondary data from the 2018 Basic Health Research (Riskesdas). Riskesdas is a national health survey in Indonesia which is conducted every 5 years by the Health Research and Development Agency, Ministry of Health of the Republic of Indonesia. Data sourceQualitative research is primary data from informants who have been determined through FGD and indepth interviews by gathering informants who understand the problem to be studied.

5.2 Population and Sample

The population in the quantitative study was toddlers aged 0-59 months who were included in the 2018 Riskesdas sample in South Kalimantan Province. Furthermore, the research sample taken is total sampling (the entire population becomes the research sample that meets the inclusion criteria as the research sample). The inclusion criteria were a sample of toddlers aged over 9 months and the first child.

Informants in qualitative research for in-depth interviews were doer of early marriage (husband and wife), parents of doer of early marriage, pregnant women in their teens, midwives, cadres, traditional leaders/ community leaders/ religious leaders each taken from 3 districts/ Cities, namely Banjar Regency, Balangan Regency, and Tanah Bumbu Regency. Furthermore, the qualitative research informants for the FGDs were the Family Planning Regional Apparatus Organization (OPD-KB), the Office of Women's Empowerment and Child Protection (DP3A), and the Office of Religious Affairs (KUA) from each district/city.

5.3 Data Collection techniques

a. Quantitative analysis: secondary data from Riskesdas 2018

The dependent variable of the study was the incidence of stunting. The independent variables of the study were: characteristics of toddlers (gender of toddlers, age of toddlers, history of basic immunization of toddlers, birth weight of toddlers, area of residence of toddlers); a history of eating (prelacteal food, exclusive breastfeeding); socio-economic characteristics of the families of toddler (educational status of fathers, educational status of mothers, employment status of fathers, employment status of mothers, number of household members); characteristics of mothers from toddlers during pregnancy (mother's age at first pregnancy, gestational age when mother gave birth to toddlers); health services received by mothers from toddlers during pregnancy (number of blood-added tablets (TTD) during pregnancy from mothers of toddlers, frequency of antenatal care (ANC) for mothers from

toddlers, birth attendants from mothers of toddlers, location of delivery from mothers of toddlers).

From all sample data for the first child (toddler), data on body length/height (BL-body length/BH-body height) were identified from the results of the Riskesdas data and then categorized into stunting/not stunting. From the same individual, independent variable data were identified to obtain the gender of the toddler, the age of the toddler, the history of basic immunization for the toddler, the area where the toddler lives, prelacteal food, the mother's age at first pregnancy, the gestational age when the mother gave birth to a toddler, the number of blood-added tablets (TTD) during pregnancy from mothers of toddlers, frequency of antenatal care (ANC) of mothers of toddlers, birth attendants from mothers of toddlers, location of delivery from mothers of toddlers, birth weight of toddlers, history of exclusive breastfeeding of toddlers, educational status of fathers of toddlers, educational status of mothers of toddlers, status the occupation of the father of the toddler, the employment status of the mother of the toddler, and the number of household members of the toddler

Data on Gross Domestic Product (GDP) for each capita, poverty status, ratio of health workers, human development index are obtained from secondary data for each Regency/City. This data refers to official publications from the Regency/City Central Statistics Agency (BPS) and South Kalimantan Province.

b. Qualitative analysis: FGD and In-depth Interview

Interviews were conducted using FGD methods and in-depth interviews to explore the socio-cultural conditions of the community regarding early marriage and food consumption patterns. Districts/cities are grouped into three areas for FGD implementation. FGD participants are district/city representatives from OPD-KB, DP3A, and KUA from each district/city. Furthermore, informants were obtained from the closest location to the FGD implementation area. Informants are early marriage couple (husband and wife), parents of early marriage couple, adolescent pregnant, midwives, integrated healthcare center cadres, and traditional leaders/community leaders/religious leaders. The process of conducting FGD and in-depth interviews can be seen in Table 5.1.

Table 5.1 Implementation of FGD and In-depth Interview

REGION	***FGD***	***IN-DEPTH INTERVIEW***
1	***Location:***	***Location:***
1. Banjarmasin City	Gambut, Banjar	Keliling Benteng Village
2. Banjarbaru City	Regency	West Martapura Regency
3. Banjar Regency		
4. Barito Kuala Regency	***Participant:***	***Informant:***
5. Tanah Laut Regency	1. OPD-KB DPPA	1. Early marriage couple
	2. KUA	2. Parents of early marriage
		3. Teenage pregnant women
		4. Midwife
		5. Integrated healthcare center cadres
		6. Head of RT
		7. Village head
		8. Religious leaders

REGION	*FGD*	*IN-DEPTH INTERVIEW*
2 1. Tapin County 2. Hulu Sungai Selatan Regency 3. Hulu Sungai Tengah Regency 4. North Hulu Sungai Regency 5. Balangan Regency 6. Tabalong Regency	***Location:*** Barabai, Hulu Sungai Tengah Regency ***Participant:*** 1. OPD-KB 2. DPPA 3. KUA/Head of Islamic Community Guidance	***Location:*** Batupiring Village South Paringin Regency ***Informant:*** 1. Early marriage couple 2. Parents of early marriage 3. Teenage pregnant women 4. Midwife 5. Integrated healthcare center cadres 6. village head 7. Religious leaders
3 1. Tanah Bumbu Regency 2. Kotabaru Regency	***Location:*** Batulicin, Tanah Bumbu Regency ***Participant:*** 1. OPD-KB 2. DPPA 3. KUA	***Location:*** Sukadamai Village, Mantewe, Tanah Bumbu Regency ***Informant:*** 1. Early marriage couple 2. Parents of early marriage 3. Teenage pregnant women 4. Midwife 5. Integrated healthcare center cadres 6. Village head 7. Religious leaders

5.4 Data Management

a. Data collection

The data collected in this study is secondary data obtained from Riskesdas 2018 and BPS publications in 2018. In addition, primary data was also collected through FGDs and in-depth interviews with informants.

b. Quantitative data processing

1) Editing: checking and correcting the data obtained.
2) Coding: converting data in the form of sentences or letters into numeric data or numbers.
3) Data entry: data entry in coded form into data analysis software.
4) Data cleaning: checking data to see the possibility of code errors, incompleteness, then corrections are made.

c. Qualitative data processing

1) Data category/data reduction: selecting data from interviews into several categories (culture supports early marriage and does not support early marriage; culture of good food consumption patterns and culture of abstinence)
2) Presentation of data: write down interview transcripts that match the description of the results
3) Conclusion

d. Statistical analysis

1) Univariate analysis

This analysis is to see the description of the distribution and percentage of each variable studied.

2) Bivariate analysis

This analysis was conducted to see the relationship of each independent variable with the dependent variable. The data obtained were analyzed using the Chi square test because the data analyzed were categorical and categorical data. All tests were carried out with a 95% confidence level with SPSS version 23 program.

3) Multivariate analysis

Multivariate analysis was conducted to analyze the most dominant independent variables associated with stunting in children under five in South Kalimantan. The test used is Multiple Logistics Regression with 95% confidence level with SPSS version 23 program.

e. Qualitative analysis

The analysis was carried out using the NVivo 12 qualitative data analysis application. The data analysis process will be carried out by coding qualitative data. The coding was made based on the research objectives and according to Miles, Huberman, and Sadana (2014), That is descriptive coding, process coding, and NVivo coding. Coding is basically a process of reading data carefully and categorizing it into several "codes" or labels that are in accordance with the research objectives. All coding results were then analyzed by making lists and comparing codes to see the relationship between codes, mapping informants and codes, finding themes that emerged from the code, and determining causal relationships that emerged from the coding results

This analysis produces a socio-cultural picture of the community regarding early marriage and food consumption patterns. This analysis is intended to get an overview of the social issues studied. Furthermore, it will be examined what elements build the research data domains from the previous general description. The next stage is to know the specific characteristics of all the elements that make up the research data. This particular feature will then provide information about the differences between one data set and another. The final stage is looking for relationships between categories of data to draw conclusions.

5.5 Ethical Clearance

The Ethical Clearance was submitted to the Ethical Committee of Medical Research, Medical Faculty, University of Lambung Mangkurat, Banjarmasin. This study received a certificate of ethical clearance No. 66/KEP-FK ULM/EC/2022 on March 15, 2022.

CHAPTER 6. SCHEDULE AND LOCATION

6.1. Implementation schedule

The research was carried out starting from the preparation of the proposal to the completion of the final report, policy brief, and submission of journal articles. Research preparation was carried out in March and ended in May 2022. The preparatory activities carried out included the licensing process; submission of ethical suitability; submission of requests for secondary data; and capacity building. Primary data collection was carried out in May 2022 involving all team members. Secondary and primary data processing has been carried out from April to August 2022. Completion of the final stage of research is carried out in October 2022. The final stage of research includes report writing, policy briefing, preparation of national and international publication articles, and dissemination.

6.2 Location Map

South Kalimantan Province is located between 1o 21' 49" South Latitude – 1o 10' 14" South Latitude and 114o 19' 33" East Longitude – 116o 33' 28". The area of this province covers 6.98% of the island of Kalimantan, amounting to 37,377.53 km^2. South Kalimantan Province has 13 regions, consisting of 11 (eleven) regencies and 2 (two) cities. Figure 6.1 shows a map of the Province of South Kalimantan.

The province of South Kalimantan is divided into 13 districts/cities. There are 11 regencies and 2 cities, namely:

1. Tanah Laut Regency
2. Kotabaru Regency
3. Banjar Regency
4. Barito Kuala Regency
5. Tapin Regency
6. Hulu Sungai Selatan Regency
7. Hulu Sungai Tengah Regency
8. Hulu Sungai Utara Regency
9. Tabalong Regency
10. Tanah Bumbu Regency
11. Balangan Regency
12. Banjarmasin City
13. Banjarbaru City

The largest area in South Kalimantan Province is Kotabaru Regency with an area of 13,044.5 km^2, and the smallest area is Banjarmasin City with an area of 72 km^2. The province of South Kalimantan is located in the southern part of the island of Borneo with the following boundaries:

North	: East Kalimantan Province
South side	: Java Sea
West Side	: Central Kalimantan Province
East	: Makassar Strait

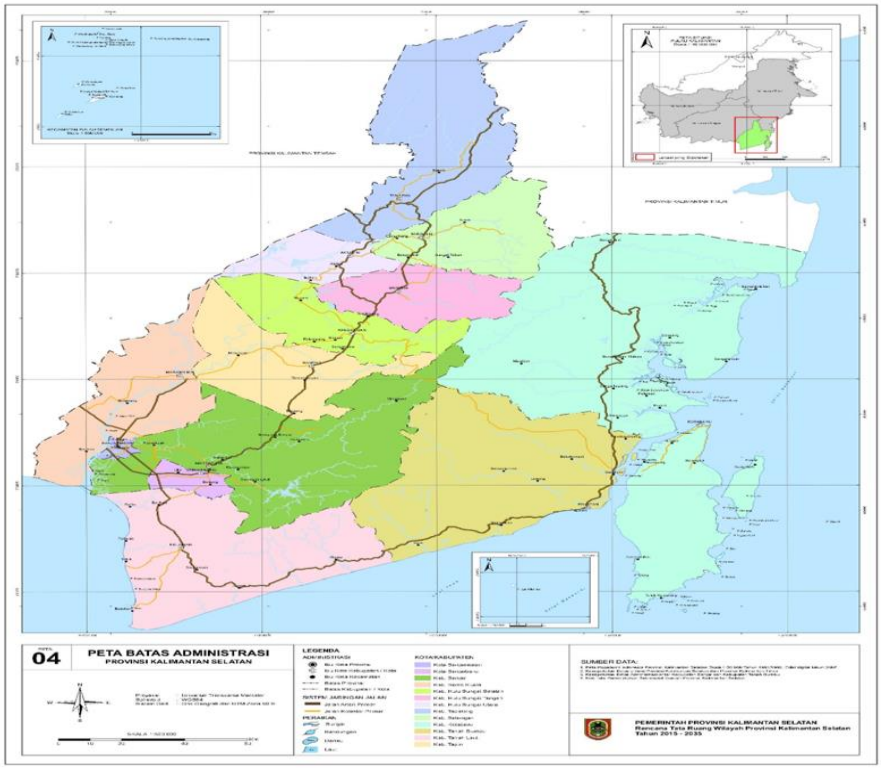


Figure 6.1 Map of South Kalimantan Province

The central part of the region, from north to south, streched the Meratus mountain range, so that this area can be separated into the eastern part with heavy and light wavy topography, as well as coastal areas and hilly mountainous areas in the middle, which are generally overgrown by jungles, shrubs and reed field. In the west lies fertile alluvial lowlands and areas of tidal marshes, monotonous marshes, and flooded areas. The province of South Kalimantan has a wet tropical climate with an average annual rainfall of 1,600 to 4,000 mm.

The main source of population data is the population census which is conducted every ten years. The projected population of South Kalimantan in 2017 is 4,119.79 thousand people, consisting of 2,089.42 thousand male residents and 2,030.37 thousand female residents. The population density of South Kalimantan Province in 2017, is 109.77 inhabitants/km^2. The population of South Kalimantan Province in 2017 reached 4.1 million people, with 3 (three) regencies/cities with the largest population density, called Banjarmasin City, Banjarbaru City, and Hulu Sungai Utara Regency. Comparison of the number of women and men in South Kalimantan Province, That is among 100 female residents there are 102.91 male residents. The population growth rate in 2016-2017 reached 1.59%.

CHAPTER 7. RESULT

7.1.Characteristics of Research Sites

South Kalimantan Province has a population of around 4.1 million people in 2022 with the largest percentage and density in Banjarmasin City (16.07%). The population growth rate in each region varies from 0.53% in Banjarmasin City to the highest at 1.57% in Banjarbaru City. There is almost 70% of the working age population in Kalimantan Province are employed, with the highest percentage of 76.5% in Balangan Regency, and the lowest percentage of 62.07% in Banjarmasin City.

Table 7.1. Population Data of South Kalimantan Province

Regency/City	Population Percent	Percent Population growth[a]	Population density[b]	Percentage of worker[c]	Average monthly income of formal workers	Average monthly income of informal workers[d]
Tanah Laut	8.6	1.15	97.58	72.03	3043222.07	1669413
Kotabaru	7.99	0.89	34.75	64.68	2862901.85	1722672
Banjar	13.88	0.88	122.56	72.55	2036865.61	1665705
Barito Kuala	7.69	0.94	105.78	74.61	2424971.92	1471610
Tapin	4.65	0.92	71.02	70.17	3067461.53	1641512
Hulu Sungai Selatan	5.58	0.64	127.41	73.15	2447574.93	1557933
Hulu Sungai Tengah	6.33	0.59	177.14	71.15	2046843.31	1225265
Hulu Sungai Utara	5.55	0.69	256.34	70.08	1902479.25	1375239
Tabalong	6.23	1.06	68.2	69.27	3576873.12	1720163
Tanah Bumbu	7.96	1.27	65.54	70.16	2702315.36	1876982
Balangan	3.21	1.06	70.39	76.5	2702315.36	1245552
Banjarmasin City	16.07	0.53	9198.89	62.07	2588934.02	1918785
Banjarbaru City	6.28	1.57	697.45	66.82	3100956.82	1620411
South Kalimantan	**100**	**0.9**	**106.4**	**69.33**	**2634324.86**	**1673091**

Source: South Kalimantan Province in Figures 2022 (BPS)

Information:

[a]= percentage growth per year
[b]= per km^2
[c]= percentage of the labor force to the working age population
[d]= who have graduated from high school

At the provincial level, the average monthly income difference between formal and informal workers is around 1 million rupiah. The highest average monthly income for formal workers is in Tapin Regency (Rp. 3,576.873), while the highest average monthly wage for informal workers is in Kota Banjarmasin (Rp. 1,918,785). Table 7.1 presents more detailed population data for each regency/city.

Overall, South Kalimantan has an average stunting prevalence of 32.5%. The highest prevalence of stunting was found in Balangan Regency at 43.3% and the lowest was in Tanah Bumbu Regency at 21.7%. The prevalence of adolescent mothers in South Kalimantan in 2018 was 4.9%. The district with the highest proportion of adolescent mothers is Banjar District (9.1%) and the lowest is Banjarmasin City (0.0%) (Table 7.2).

The two districts with the highest per capita Gross Domestic Product (GDP) are Kotabaru and Tabalong Regencies. The district with the highest percentage of poverty is Hulu Sungai Tengah District, at 6.01%. The district with the highest ratio of health workers to the population aged 0-4 years is Balangan District. Data on the number of children under five, adolescent mothers, stunting toddlers, and other population characteristics in South Kalimantan are presented in Table 7.2.

Table 7.2. Stunting Prevalence, Adolescent Mothers, and Regional Indicators by District/City in South Kalimantan Province

Regency/City	N Toddler[1]	Adolescent Mothers[1]		Stunting Toddler[1]		% *Poor*[2]	GDP/ capita[2]	Percent of poor population[2]	*HCW*/ 0-4[2]	*HDII*[2]
		n	%	n	%					
Tanah Laut	104	6	6.1	27	26.3	8.5	39,037	4.40	0.026	68.49
Kotabaru	74	2	2.1	23	31.6	6.1	67,899	4.52	0.025	68.32
Banjar	111	10	9.1	31	28.1	9.1	26,842	2.70	0.026	68.32
Barito Kuala	70	1	1.1	25	35.5	5.7	25,986	4.56	0.037	65.91
Tapin	64	2	3.9	18	28.8	5.2	42,305	3.70	0.043	69.53
Hulu Sungai Selatan	89	4	4.1	28	31.1	7.3	26,181	5.21	0.037	68.41
Hulu Sungai Tengah	62	5	8.3	17	26.7	5.1	24,424	6.01	0.032	68.32
Hulu Sungai Utara	90	1	0.6	23	25.4	7.4	19,496	6.38	0.036	65.06
Tabalong	72	4	6.2	25	35.3	5.9	69.055	5.95	0.027	71.14
Tanah Bumbu	89	5	5.4	19	21.7	7.3	54,239	4.88	0.035	70.05
Balangan	205	17	8.1	89	43.3	16.8	83.021	5.59	0.047	67.88
Banjarmasin City	114	0	0.0	39	34.0	9.4	43,366	4.18	0.033	76.83
Banjarbaru City	74	3	4.4	31	42.1	6.1	34,172	4.19	0.033	78.83
Total Average	**1218**	**60**	**4.9**	**396**	**32.5**	**100**	**42,771**	**4.79**	**0.034**	**69.78**

Source:
[1]*Riskesdas 2018*
[2]*South Kalimantan Province in 2018 Figures and Regency/City books in 2018 Figures from each region*
Information:
% poor
HCW/0-4 : Percentage of population living below the poverty line
: Ratio of Health Care Workers per population age 0-4 yo
HDI : Human Development Index (Human Development Index)
Adolescent mother : Mothers who gave birth under the age of 20

7.2. Characteristics of Stunting Toddlers in Teenage Mothers and Adult Mothers in South Kalimantan

Table 7.3 contains data on the characteristics of stunted toddler, both in adolescent mothers and adult mothers. The table also shows the results of bivariate analysis to assess the relationship between variables. In terms of prevalence, adolescent mothers (≤19 years) in South Kalimantan in 2018 reached 5% (n=60) of the entire Riskesdas survey sample who were mothers of children under five. Among teenage mothers, 41.7% (n=25) of their children under five indicated stunting. This is higher than the prevalence of stunting in adult mothers, which is 32% (n=371).

Factors related to stunting in children of adolescent mothers were the father's education with high school education (p 0.01), the child's age (p < 0.001), and the nutritional status of underweight children under five (p 0.032). Slightly different from the factors related to stunting in adult mothers, That is mothers with high school education, child age, exclusive breastfeeding, and nutritional status of underweight toddlers.

The results of the study showed that the father's education was associated with stunting in both groups, while maternal education only correlated with adolescent mothers. This proves the importance of education on parenting and eating patterns of toddlers in preventing stunting.

Child age was also associated with stunting in both groups (p < 0.001 for both adolescent and adult mothers). There is a trend that the greater the age of the toddler, the higher the prevalence of stunting. In the group of adolescent mothers, the highest prevalence of stunting was found at the age of 35-47 months (31.4%), while in adult mothers it was found at the age of 24-35 months (25%). This shows that the incidence

of stunting in both groups is mostly caused by inadequate diet during the two years of the child's life.

Table 7.3. Prevalence of Stunting Toddlers from Adolescent Mothers and Adult Mothers based on Socio-Economic Characteristics, Use of Health Services, and Toddlers

Variables	Toddlers of Teenage Mothers (N=60)					Mature Age Mother (N=1158)				
	Stunting (n=25, 41.7%)		No Stunting (n=35, 58.3%)		P value	*Stunting* (n=371, 32%)		Not Stunting (n=787, 67.9%)		P value
	n	%	n	%		n	%	n	%	
Household Socio-Economic Characteristics										
Working mom										
Yes	9	35.6	8	21.9		163	43.9	334	42.4	
Not	16	64.4	27	78.1	0.344	208	56.1	453	57.6	0.724
Working dad										
Yes	25	100	33	95.7		369	99.5	778	98.9	
Not	0	0	2	4.3	0.757	2	0.5	9	1.1	0.263
Mom graduated high school										
Yes	5	19	6	14.5		121	32.6	364	46.3	
Not	20	81	29	82.9	0.881	250	67.4	423	53.7	0.001*
Dad graduated high school										
Yes	3	11.6	15	43.5		143	38.6	393	50	
Not	22	88.4	20	56.5	0.010*	228	61.4	394	50	0.009*
Region										
Urban	6	25	6	17.5		140	37.7	309	39.3	
Rural	19	75	29	82.5	0.442	231	62.3	478	60.7	0.706
Household Members										
< 4 people	20	80.6	27	77.1		220	59.3	461	41.4	
4 people	5	19.4	8	22.9	0.723	151	40.7	326	58.6	0.850
Utilization of Maternal Health Services										
ANC										
4	24	97.3	31	90.3		353	95.2	755	95.9	
< 4	1	2.7	4	9.7	0.334	18	4.8	32	4.1	0.680
Consuming 90 Fe tablets during pregnancy										
Yes	10	40.6	19	53.1		177	47.7	362	46	
Not	15	59.4	16	46.9	0.423	194	52.3	425	54	0.711
Delivering in a health facility										
Yes	12									
Not	13	49.9	21	59.7		278	75	619	78.6	
		50.1	14	40.3	0.559	93	25	169	21.4	0.322
Delivery assisted by health workers										
Yes										
Not	25	100	29	83.1		351	94.7	747	94.8	
	0	0	6	16.9	0.217	20	5.3	40	5.2	0.941
Toddler Characteristics										
Age										
0-5 months	0	0	8	22.3		14	3.4	105	13.3	
6-11 months	0	0	5	13.2		25	6.7	108	13.7	
12-17 months	0	0	2	5.8		19	5	61	7.8	
18-23 months	5	21.4	2	6.5		71	19	117	16.9	
24-35 months	6	25.7	7	21.2		92	25	113	14.4	
36-47 months	8	31.4	7	19.2		82	22.1	127	16.1	
48-60 months	5	21.5	4	11.8	0.000*	68	18.4	157	19.9	0.000*
Toddler Gender										
Man	11	45.2	15	42.9		208	56.2	402	51.1	
Woman	14	54.8	20	57.1	0.88	163	43.8	385	48.9	0.247
Premature Birth										
Yes	8	32.8	6	15.6		83	22.3	134	17.1	
Not	17	67.2	29	84.4	0.237	288	77.8	653	82.9	0.150
LBW	N=13		N = 19			N=240				
Yes	2	18.6	1	7.1		21	8.6	23	4.4	
Not	11	81.4	18	92.9	0.405	219	91.4	499	95.6	0.080
Immunization	N=17		N=25			N=240				
Complete	15	92.6	20	81.1		195	81.3	411	78.4	
Incomplete	2	7.4	5	18.9	0.302	45	18.7	114	21.6	0.778

Variables	Toddlers of Teenage Mothers (N=60)					Mature Age Mother (N=1158)				
	Stunting (n=25, 41.7%)		No Stunting (n=35, 58.3%)		P value	*Stunting* (n=371, 32%)		Not Stunting (n=787, 67.9%)		P value
	n	%	n	%		n	%	n	%	
Prelacteal food is given	N=4		N=16			N=121		N=370		
Yes										
Not	1	30.6	4	26		40	34.6	145	39.2	
	3	69.4	12	74	0.868	80	75.4	225	60.8	0.374
Exclusive breastfeeding	N=4		N=16			N=121		N=370		
Yes	3	59.4	2	13.1		58	47.8	122	33.0	
Not	1	30.6	14	86.9	0.069	63	52.2	248	67.0	0.020*
Underweight										
Yes	13	51.3	28	80.5		161	43.4	75	9.5	
Not	12	48.7	7	19.5	0.032*	210	56.6	713	90.5	0.000*
Wasted										
Yes	24	95.5	28	79.8		39	10.4	118	14.9	
Not	1	4.5	7	20.2	0.117	332	89.6	670	85.1	0.139

Exclusive breastfeeding is significantly associated with the incidence of stunting in the adult mother group. However, the results of the analysis showed that almost half of stunting toddlers (47.8%) received exclusive breastfeeding.

The nutritional status of underweight toddlers was found to be significantly related to the incidence of stunting in both groups. Underweight is a nutritional status that can describe acute and chronic nutritional status. Since stunting is an indicator of chronic nutritional status, the relationship between the two variables was predicted. In contrast to wasting nutritional status, indicators of acute nutritional status were not related to stunting.

7.3. The Relationship between Sociodemographic Characteristics, Use of Maternal Health Services, and Characteristics of Toddlers with the Prevalence of Stunting Toddlers

Bivariate analysis was carried out on all children under five who were sampled at Riskesdas 2018 in South Kalimantan (Table 7.4). Of the 1158 toddlers who have adult mothers, there are 396 stunting toddlers. The results of the analysis showed that working mothers or fathers could increase the risk of stunting (OR: 1.076; 95%CI: 0.778-1,489 for mothers and OR: 2,747; 95% CI: 0.635-11,885 for fathers). However, the relationship was not statistically significant. On the other hand, there is a significant relationship between maternal (p 0.001) and father (p 0.002) education and stunting in children under five. Parents who have graduated from high school have almost twice the risk of stunting compared to parents who did not complete formal education up to that level.

The analysis that has been carried out has found a significant relationship between ANC visits, the level of consumption of iron tablets, the type of place of delivery, as well as the presence of assistance by health workers during childbirth to the risk of stunting. The results of the bivariate analysis showed that babies born in health facilities had a lower risk (OR=0.788; 95% CI: 0.539-1.153) to be stunted than those whose birth location was not in a health facility.

Toddler age is a determinant factor for stunting (p-value <0.001), as can be seen from the large OR value shown in the toddler age category. Children who are ready to receive MP-ASI, That is over 6 months, begin to show an increased risk for stunting. Children aged 6-11 months have a 1.8 times risk of stunting compared to children aged 0-5 months. This risk tendency increases until children aged 24-35 months and then decreases again in children aged 36-60 months.

Another variable that was statistically significant in influencing stunting was low birth weight (p-value 0.05). Babies whose birth weight is less than 2,500-grams have a 2.1-fold risk of becoming stunted toddlers than babies with normal birth weight (≥2,500 grams).

The variable history of exclusive breastfeeding is also a determining factor in the incidence of stunting. Toddlers who are exclusively breastfed until the age of six months are almost 2 times more likely to be stunted than infants who are not exclusively breastfed. This is not in line with other studies, because the sample size for this variable is smaller.

Table 7.4. Bivariate Analysis between Independent Variables and Stunting Prevalence

Variable	Stunting Toddler (n = 396, N=1218)				
	N	(%)	OR	95% CI	*P value*
Household Socio-Economic Characteristics					
working mom					
Yes	172	43.4	1.076	0.778-1,489	0.656
Not	224	56.6	1		
work dad					
Yes	394	99.5	2,747	0.635-11.885	0.158
Not	2	0.5	1		
Mom graduated high school	126	31.7	0.567	0.410-0.784	0.001*
Yes	270	68.3	1		
Not					
Dad graduated high school	146	36.9	0.591	0.422-0.828	0.002*
Yes	250	63.1	1		
Not					
Region					
Urban	146	36.9	0.939	0.670-1.316	0.714
Rural	249	63.1	1		
Household Members					
< 4 people	240	60.7	0.945		
4 people	156	39.3	1	0.677-1.318	0.738
Use of Maternal Health Services					
ANC Kunjungan visit					
4	19	4.7	1.068	0.518-2.201	0.858
< 4	377	91.9	1		
Consuming 90 TTD during pregnancy					
Yes	187	47.2	1.038	0.735-1.466	0.833
Not	209	52.8	1		
Delivering in a health facility					
Yes	291	73.4	0.788	0.539-1.153	0.220
Not	105	26.6	1		
Delivery assisted by health workers					
Yes	376	95.0	1.146	0.522-2.517	0.734
Not	20	5.0	1		

Variable	Stunting Toddler (n = 396, N=1218)				
	N	(%)	OR	95% CI	*P value*
Toddler Characteristics					
Age					
0-5 months	14	3.5	1		<0.001*
6-11 months	25	6.3	1,803	(0.731-4.442)	
12-17 months	19	4.7	2.417	(0.870-6713)	
18-23 months	76	19.3	5.240	(2,387-11,504)	
24-35 months	99	25.0	6.718	(3,032-14,886)	
36-47 months	90	22.7	5.529	(2,491-12,276)	
48-60 months	74	18.6	3,755	(1,657-8,511)	
Toddler Gender					
Man	177	55.5	0.828	(0.589-1.162)	0.274
Woman	219	44.5	1		
Premature Birth					
Yes	91	22.9	1.450	(0.947-2.221)	0.068
Not	305	77.1	1		
LBW	(N=253)				
Yes	23	9.1	2.127	(0.984-4.598)	0.05*
Not	230	90.9	1		
Immunization	(N=256)				
Complete	210	82.0	1,250	(0.765-2,040)	0.372
Incomplete	46	18.0	1		
Prelacteal food is given	(N=125)				
Yes				(0.734-2.152)	0.403
Not	83	66.6	1.257		
	42	33.4	1		
Exclusive breastfeeding	(N=125)				
Yes	61	48.5	1984		
Not	64	51.5	1	(1,188-3,315)	0.008*
Underweight					
Yes	174	56.1	7.119	(4777-10,610)	0.000*
Not	222	43.9	1		
Wasted					
Yes	40	10.0	0.624	(0.365-1.065)	0.082
Not	356	90.0	1		
Teenage Mom					
Yes	25	6.3	1,539	(0.589-2,931)	0.189
Not	371	93.7	1		

Another variable that is statistically significant is underweight. Toddlers with underweight nutritional status have a risk of 7,119 times more risk of becoming stunted compared to toddlers with normal nutritional status.

Other variables such as gender, history of premature birth, immunization status, history of prelacteal intake, wasting nutritional status, and adolescent mothers were not statistically associated with stunting in children under five in South Kalimantan.

Furthermore, from the socio demographic aspects analyzed, the variables of father's employment status, father's education level, mother's education level, place of delivery, age of toddlers, history of low birth weight, history of exclusive breastfeeding, stunting, history of premature birth, and wasting nutritional status were selected as candidates. variables to be analyzed are multivariate to obtain the right model (fit model).

7.4. Determinants of Stunting in Toddlers in South Kalimantan Kalimantan

The multivariate analysis conducted in this study resulted in four variables related to the incidence of stunting in children under five in South Kalimantan, That is age under five, history of premature birth, underweight, and wasted. These results

were obtained after adjusting for other variables, maternal age at delivery, father's education level, and history of low birth weight (Table 7.4).

The underweight variable is the main determinant of stunting in children under five in South Kalimantan with an OR value of 18,241 (95% CI 8,054-41,312). This condition causes underweight toddlers to have 18,241 times more risk of stunting than toddlers with normal nutritional status.

The variable age of the child is also a determining factor in the incidence of stunting, the risk begins to appear after the child is over the age of 6 months. After the age of 6 months, toddlers begin to be given complementary foods to breast milk and the parenting process related to diet becomes very influential on the nutritional status of children. Thus, it can be concluded that the incidence of stunting in the province of South Kalimantan is more influenced by factors of parenting and quality of complementary feeding. The trend of increasing risk was seen in children aged 6-11 months (OR 2,688, 95% CI 0.849-8,510), then increased in later children and the risk was highest in children aged 24-35 months (OR 9,511, 95% CI 3,322-27,234). Furthermore, the risk began to decrease in children aged 36-59 months.

Another determinant of stunting was a history of preterm birth (OR 2.187, 95% CI 1.082-4.380). Toddlers with a history of premature birth have a higher risk of stunting than children born at term. However, the wasting variable showed OR 0.129 (95% CI 0.049-0.339). Wasting is a condition when a child is underweighting in relation to his height. A thin child has a low body weight but is quite tall. The R-square value obtained is 24.5%.

Thus, it can be interpreted that the incidence of stunting in children under five in South Kalimantan can be explained by 24.5% because of the determinants of underweight, child age, history of premature birth, and wasting, while 76.5% is influenced by other variables.

Table 7.5. Factors Associated with Stunting in South Kalimantan

Variable	Stunting Toddler		
	OR	**95% CI**	**P value**
Mother's age at birth			
> 19 years old	1,139	(0.466-2.786)	0.775
19 years old	1,000		
Dad graduated high school			
Yes	0.813	(0.497-1.328)	0.407
Not	1,000		
Mom graduated high school			
Yes	1.030	(0.640-1.656)	0.904
Not	1,000		
Age			
0-5 months	1,000		<0.001*
6-11 months	2,688	(0.849-8,510)	
12-17 months	3.516	(0.803-15,385)	
18-23 months	7.809	(2,728-22,348)	
24-35 months	9.511	(3,322-27,234)	
35-47 months	7.273	(2,360-22,409)	
48-60 months	5,229	(1,693-16,155)	

Variable	Stunting Toddler		
	OR	**95% CI**	**P value**
Premature Birth			
Yes	2.187	(1,082-4,380)	0.027*
No	1,000		
LBW			
Yes	2,093	(0.792-5.529)	0.136
No	1,000		
*Underweight*t			
Yes	18,241	(8,054-41,312)	<0.001*
No	1,000		
Wasted			
Yes	0.129	(0.049-0.339)	<0.001*
No	1,000		
R-Square	**0.245**		

7.5. Adolescent Marriage Culture

Table 7.6 shows the perceptions of the perpetrators and their parents of teen marriage actors on the culture of teen marriage. The results of in-depth interviews found that one of the factors causing teenage marriage was social pressure. Teenage dating is considered not good and the will of the family immediately recommends getting married immediately to avoid pregnancy outside of marriage. In addition, getting married can also ease the burden on the family, because by getting married, the daughter is no longer the responsibility of the parents but the responsibility of the husband.

> *" When I was asked why, one of them was because rather than being ashamed and embarrassed, going here and there together, it was better to get married. It doesn't matter even if the child is still in school. There are also those who are still in junior high school and have been married". (S, June 14, 2022).*

> *"Yes, because their partner doesn't go to school anymore, he's in a relationship, so he wants to get married right away. From the economic point of view, children are also a burden to their parents, they feel like helping their parents' economy, so they just want to get married. It's mostly because of the economy." (H.A, June 16, 2022).*

In addition, the factor that causes early marriage is due to a broken home family, so marriage is an option to get a better life. In areas that are far from continuing education facilities, marriage at a young age also occurs because they cannot continue their education. There are also early marriages because of the will of parents or teachers in Islamic boarding schools who want their children/students to be married off, because they are embarrassed to have a girl or bachelor who is mature but not yet married. This is what our informant said with the initials A:

"*There are also those who say they can't wait to have grandchildren". (June 14, 2022).*

"What we see is that they just drop out of school, the children are still in school and what is difficult for us to detect this child's marriage is from the pesantren because the pesantren is the one who marries the Ustadz there, that's the one who is married to the santri, the siri marriage is the difficult thing, maybe there are something that became a lot in the boarding school". (E.H, Jun 16, 2022).

Table 7.6. Factors Driving Adolescent Marriage according to In-depth Interview Informants in South Kalimantan Province, Indonesia

No.	Factors that Drive Teen Marriage	Information
1	Social pressure	Parents are worried about adultery when their teenage children are dating.
2	Economic motive	Parents are more likely to be free from economic responsibilities, especially for their daughters. Teenagers also feel that they can more quickly escape from economic dependence on their parents.
3	Broken home family	Teenagers from broken home families feel that they will have the opportunity to improve their lives.

Table 7.7 describes the perception of adolescent marriage according to FGD informants. Some teenagers are forced to marry because they are already pregnant out of wedlock. This happens due to promiscuity, and what the informants highlight the most is the easier access to mass media which then affects the mindset of today's teenagers

"So, yesterday it was 142 in 2020, it decreased slightly, previously it was only 45, so 2 years after the corona it continued to be high, because they were at home what they were holding (mobile phones), online school, did they know what they were after? open the whatsapp chat then when a friend for example someone is getting married, they have a desire like that too". (L.H, Juni 14, 2022).

Table 7.7. Factors Driving Teen Marriage by FGD Participants in South Kalimantan Province, Indonesia

No.	Factors that Drive Teen Marriage	Information
1	Ease of conducting a series of marriages (informal)	The Office of Religious Affairs will not marry off underage brides as required by law. The process of submitting a marriage recommendation under the specified age is not easy, but there are religious figures who are willing to marry off prospective brides outside the applicable regulations. Marriage outside the Office of Religious Affairs by this religious figure is still considered legal according to Islam.
2	Promiscuity	As a result of very open access to information via the internet, teenagers have the opportunity to get the wrong sex education which results in pregnancy out of wedlock.
3	Opening relationships through social media	Social media gives teenagers the opportunity to meet new people which influence them to decide to get married soon.
4	Socialization of Law no. 16 of 2019 has not been effective	There are still many people who do not know that the age requirement for the bride and groom is 19 years according to Law no. 16 of 2019 which contains amendments to Law Number 1 of 1974. Previously, the legal marriage requirement was 16 years for girls, and 19 years for boys.
5	There are no criminal sanctions for perpetrators of underage marriages and persons who marry off	Minister of Home Affairs Regulation No. 9 of 2016, which contains a statement of absolute responsibility (SPTJM) which is counterproductive to Law no. 16 of 2019. The SPTJM degrades the authority of the Ministry of Religion because indirectly the Ministry of Home Affairs can certify marriages conducted in a serial manner so that the perpetrators of unregistered marriages (including juvenile marriages) can obtain residence documents.

Easy access to information from cell phones, so many early marriages occur because they met through social media and then met. Furthermore, in a short time they decided to get married, as told by our informant E.H:

> *"Yesterday, we asked: where do you know him? The answer: on facebook, on WA ma'am,". (E.H, June 16, 2022).*

Early marriages that are carried out officially, do not happen much. More are those who go through the process of unofficial marriage. There is no criminal sanction that should be given to perpetrators of teenage marriages in a siri way, even though unregistered marriages can be accepted by religion.

> *"KUA's efforts are also to assert to reject the official marriage application from a siri marriage because it is contrary to the*

compilation of marriage law. Except for the isbat trial. In the case of minors, usually the marriage isbat is rejected, even though at the time the application is already old enough. By reason of violating Law No. 16 of 2019. For KUA, it is a dilemma related to its fiqh law. Because if we ask, the pillars of their marriage are appropriate. But the religious court rejected it on administrative grounds. However, with the issuance of the SPTJM from the Ministry of Home Affairs in 2016, the rules became out of sync. Castrate the rules that have been implemented by the KUA. Because, the SPTJM allows the making of KK, KTP, and birth certificates for children from unregistered marriages with the names of both parents written on them. In the end, people don't care about the provisions of the KUA." (Y.I, June 20, 2022).

The informants agreed that the definition of early marriage refers to Law No. 16 of 2019 which is the age limit of 19 years. Informants also believe that early marriage may occur because people do not know that the old law has been replaced with a new law. The 1974 law regulates the age limit for prospective brides to marry at the age of 16 years. This means that the socialization of the latest Marriage Law has not been maximized.

Efforts to prevent early marriage with socialization about early marriage and reproductive health at PIK R (Adolescent Information and Counseling Center) and Family Development, socialization to high school children, BIMWIN (Marriage Guidance and Bimcatin (Bride and Groom Guidance), prospective brides and grooms fill out questionnaires applied by Elsimil to obtained a certificate of marriage fit and proper pregnancy.Information was also obtained that an MoA had been made between village heads, religious counselors, and principals of Islamic boarding schools to socialize the prevention of underage marriage (Table 7.8) Meanwhile, posyandu cadres and midwives conducted counseling via posyandu.

“In my opinion, early marriage is not a problem for the Office of Religious Affairs, it is not a problem with the Health Office and the Population and Family Planning Agency, but it is a problem for all of us to raise awareness to tackle this together. Examples that have been carried out for example are the determination of the Village Head, a statement of attitude from the Religious Counselor, there is an MoA with the Principal of Islamic Boarding Schools, to socialize the prevention of underage marriage. I evaluated for one year, it turned out to be able to reduce the number of early marriages significantly.” (Informant initials S).

Table 7.8. Efforts to Prevent Early Marriage in South Kalimantan Province

No.	Prevention	Institution
1	Intensify the development of youth creativity through the mosque youth community	Village government
2	The Ministry of Religion through the Office of Religious Affairs will not process the marriage of prospective underage brides if there is no recommendation from the Religious Courts or from the Child Friendly District Task Force.	Ministry of Religion / Office of Religious Affairs / KUA
3	Family Counseling and Assistance	Education Offices, Schools, Health Centers, Offices of Religious Affairs, Midwives, and Integrated Service Post Cadres
4	Socialization about early marriage and reproductive health at the Information and Counseling Center for Youth and Family Development, socialization for high school children, Marriage Guidance and Guidance for Prospective Bride and Groom, bride and groom filling out questionnaires applied by Elsimil to get a marriage worthy certificate and fit for pregnancy.	Ministry of Religion, Department of Health, Office of Women's Empowerment and Child Protection
5	MoA between village heads, religious instructors, and principals of Islamic boarding schools to socialize the prevention of underage marriage	Village Heads, Religious Counselors, Islamic Boarding School Principals

The psychological and physical impacts of early marriage cannot be properly observed due to the absence of data or marriage registration, so that only a few informants know of several cases of pregnancy from early marriage, miscarriage or bleeding. In addition, it turns out that there are also cases where some wives are unable to take care of their children and finally the children are taken care of by their grandparents, as the information conveyed by our informant is as follows:

> *"If I say a lot, I can't say much because the data doesn't exist. The point is that the case exists, the case was found because early marriage caused death, premature babies, low birth weight babies, due to early marriage, so that she was pregnant because there was no psychological readiness then her reproductive health became undesirable. Then we heard about the death of the mother due to early marriage due to bleeding. Then there are cases of Domestic Violence, and have been handled by psychologists." (informant initials E).*

Informants' perceptions of adolescent marriage are very diverse. Some view that this is a negative thing and should be avoided, but many also state that teenage marriage is legal rather than dating and eventually falling into adultery. From a health perspective, marriage at an early age can have a negative impact, so teenage marriage must be controlled. Representatives of the village government suggested to prepare forums for gathering and activities for young people, for example being an assembly committee, youth youth activities and other youth empowerment activities. The following is the narrative of the informant with the initial R as a representative of the village government:

> *"There is already a hangout place for young people in the village environment, increasing the activity of the assembly, holding recitations, the hope is that from the activation of these activities, young people in this peaceful village can be more creative and also better understand religious knowledge about the bad things of adultery". (R, 20 Juni 2022).*

The Office of Religious Affairs prevents early marriage by not processing early marriage if there is no recommendation from the child-friendly district task force and the Religious Courts. The Office of Religious Affairs also utilizes a team of family companions, as stated by our informant, whose initials are M.A. Here's what he said:

> *"The Office of Religious Affairs will not be able to process early marriages if there is no recommendation from the child-friendly district task force. In Hulu Sungai Tengah District, the Religious Courts cannot immediately grant a marriage dispensation if there is no recommendation from the Child Friendly District task force. The Task Force has doctors and psychiatrists. By regulation, the procedure is that the Ministry of Religion will direct the bride and groom to submit a marriage application to the Office of Religious Affairs. Then the Office of Religious Affairs will issue a rejection letter. Next, the bride and groom apply for a marriage dispensation to the religious court. The religious court will forward this application to the Child Friendly City task force. After the recommendation is issued, it will be processed in the Religious Courts." (M.A, June 16, 2022).*

The importance of utilizing the family companion team was also conveyed by the informant with the initials S in preventing early marriage:

> *"Now with the family companion team, we can entrust it to the bride and groom to strengthen education. At the very least, there can be a delay in pregnancy. But if it has happened, maybe we will*

inform you to postpone pregnancy until the age of 20 or 21 years." (S, June 14, 2022).

Another opinion was expressed by an official from the Office of Religious Affairs with the initials R, there should be criminal sanctions for perpetrators of early marriage:

> *"In our opinion, if there is a sanction for underage marriage, we can only prevent it. There are also sanctions, which can only be reported by the parties involved. For example, if someone submits an official registration of a marriage that has been carried out in a serial manner, then if there is a family who reports it, it can be processed by law. It could be a crime, escaping a minor or kidnapping a child." (R, June 14, 2022).*

In addition to the statement, there are other inputs that are no less important to prevent early marriage, namely by conducting counseling. Counseling is not only in the form of counseling as usual at village offices or at integrated service posts, but includes making communication products such as posters, incorporating reproductive health materials in school subjects/school curriculum, and also holding a youth family development posyandu. This was conveyed by the informant R.K:

> *"From this activity, what we have done is that for reproduction, it is the Health Office or obstetrician then from the Education Office about how child marriage is included in the curriculum. Then the child should not be dismissed from his education whatever the problem. (R.K, June 14, 2022).*

7.6. *Eating History and Toddler Eating Patterns from Teenage Mothers*

The eating history and eating patterns of children under five are very influential on the growth and development of children under five. Table 7.9 describes the findings of information on eating history and eating patterns of toddlers from mothers who married in their teens.

Tabel 7.9. Eating History and Consumption Patterns of Toddlers from Teenage Mothers

No.	Eating History and Consumption Patterns of Toddlers	Information
1	Breast milk	Breastfeeding < 2 years, Husband Support, and Formula Feeding
2	Breastfeeding challenges	Little breast milk and the baby is not able to suckle

No.	Eating History and Consumption Patterns of Toddlers	Information
3	Children have difficulty eating	Not forced, replaced with milk, replaced with snacks, or made food that children like
4	Food Variety	Fruits, vegetables, sources of protein and carbohydrates
5	Food recommendations for breastfeeding mothers	It is recommended to eat cork fish
6	Dietary taboos for breastfeeding mothers	Do not eat sour foods, jengkol, hot herbs, but there are also those who do not abstain from food

Breast milk is the main source of nutrition for babies who cannot consume solid food, breastfeeding for babies is recommended until the baby is 6 months old without being given complementary foods other than breast milk (exclusive breastfeeding). The results of the interviews showed that the informants agreed that breastfeeding was very important for their babies. This is evidenced by the researcher's interview with the informant with the initials F.J on June 20, 2022. He said:

"Immediately after giving birth breast milk".

The nurse only brought the baby into the room, but did not teach the baby to breastfeed. So mothers are taught to breastfeed by their parents. Babies are also not fed formula. This statement was also agreed by the husband whose initials S.M. The husband supports exclusive breastfeeding until the age of 6 months, not giving complementary foods to breast milk prematurely. Unlike the informant with the initial M on June 16, 2022, he breastfeeds his child only for 3 months, then the baby is given formula milk.

The challenge in giving breast milk was experienced by the informant with the initials M because his child did not really like breastfeeding. Here's what he said:

> *"When I gave birth to my child, I didn't want to breastfeed, so sometimes I was given a pacifier and sometimes breast milk, so I switched to a pacifier." (M, June 16, 2022).*

Eating fish is recommended for the Banjarese because people live surrounded by water, both rivers and the sea. The area of South Kalimantan is very abundant in river and sea products. People every day consume fish as their side dish. Fish is also recommended for nursing mothers. This is not like what happened to the Madurese ethnicity (Oktarina, 2019) which prohibits breastfeeding mothers from eating sea fish because sea fish is considered to make milk fishy and babies do not want to drink their mother's milk.

"When giving birth, they were told not to eat sour so that the breast milk did not shrivel. After surgery, parents are advised to eat haruan fish (cork). (F.J, 20 June 22).

Some informants said that there are dietary restrictions for breastfeeding mothers but there are also those who allow breastfeeding mothers to eat whatever they want to eat (no restrictions).

7.7. *Adolescent Mothers Access to Health Services*

Tabel 7.10 describes the access of adolescent mothers to health services. Generally, teenage mothers have been touched by integrated postal services, even since pregnancy. The informant with the initial E said that he has a relative who has a toddler but the toddler doesn't want to eat and doesn't want to drink milk, only wants snacks. This shows that there is a wrong parenting pattern, so that the baby becomes thin and shows signs of stunting. The child who looks skinny makes the mother always refuse to be invited to the integrated service post because she is ashamed and afraid of being the object of ridicule from neighbors because her child is not like other children who are fat. Finally, the mother no longer wants to take her child to the integrated service post, especially after feeling enough because the immunizations have been fulfilled.

"Actually want to bring to an integrated service post, for the sake of health. Control child development. For the sake of health, said his father. Yes, for developmental health". (M, 16 Juni 2022).

Table 7.10 Adolescent Mothers Access to Health Services

No.	Question	Answer
1	Place of birth	Midwives, Community health centers, Hospitals
2	Reasons for choosing a place to give birth	Cost, distance, familiar with the midwife, there is a guarantee from the Social Security Service Agency, following the parents' considerations
3	What are the integrated postal services?	Pregnancy and toddler check-ups; administration of vitamins and Fe tablets, counseling on preparation before giving birth, providing additional food for children
4	Reasons to visit integrated service post	Don't know the Toddler Family Development program
5	Reasons not to visit integrated service post	Shame because the child is so skinny Immunization is complete

The place of birth of each informant varied. There are those who give birth to a community health center if there are no complications, but there are also those who

choose to give birth in a hospital because there are obstacles, namely because their membranes have ruptured. There is also information that they choose to give birth at a midwife only because at the community health center there is no delivery service and the proximity factor is that the pregnant woman is familiar with the midwife in question and does not feel ashamed anymore. The reasons for choosing a place to give birth also consider distance, access to the Social Security Service Agency because it is related to the family economy, of course it is related to costs, and there are also our informants who follow their parents' considerations because they are not independent so the cost of giving birth is still the responsibility of the parents.

> *"In a special maternity hospital in Batu Licin city". Because yesterday the amniotic fluid has ruptured, while the second opening is still. So had to have surgery. The cost of giving birth uses the Social Security Service Agency". (F.J, 20 June 2022).*

> *"No, there is no delivery service at the Puskesmas, delivery services at the village midwife's house, there must be at least two village midwives. Later, if my friend also has a patient, I will be called alternately." (R.A, June 16, 2022).*

> *"Right, if the midwife is at her place, she is used to checking, so when she is embarrassed again, she already knows the condition, if the others don't know, it's not normal…. In Halimatus (practicing midwives) it's been twice that the midwife is here almost every month". (U.S., June 20, 2022).*

Informants have knowledge that in order to maintain the health of their toddlers, they must take their toddlers to the posyandu for immunization and weigh the toddler's body and height. Even though they regularly go to the posyandu, they do not know about the family development program for toddlers made by the National Population and Family Planning Agency.

7.8. Patrilineal Society

a. Division of roles in the household

The division of roles in the present has become more balanced. Themother must be able to cook, but the husband can also help. There are times when the husband prepares meals for the wife. However, taking care of children is still more dominated by the wife, while the husband helps a little bit outside of working hours, or the husband takes the wife to the posyandu.

"Most of the motherhood is very pentin. If education is more of a role imom than a father". (D.M, June 16, 2022).

"Everyday that sends children to school is a lot of mothers or fathers? Who accompanies their children to make homework, there are many mothers or fathers? Then the stress and then protest to... what's it called... online learning whose head is dizzy and who? Mothers. It is true that the mothers are the first madrasa for our children. Ladies and gentlemen, sometimes when they have time again". (N, June 20, 2022).

b. Feeding rules in the family

There are no rules regarding the order of meals in the family. It doesn't matter if other family members eat first. Only I usually tell you if you want to eat first (either wife or husband). At this time, the family members who eat want to eat first are actually children, and then parents. There is still a customary habit of putting husbands first, but they are no longer popular. In fact, usually husbands / fathers usually invite to eat together.

"In general families eating together. For the family*, who is at home, that's the one who eats first". (D.M, June 16, 2022).*

"Kalau eats together mom, both father, mother and son". (M, June 16, 2022).

"It'srare, mom, because if you eat at home, it's the same, there is no difference between father, mother and son". (H, June 16, 2022).

"BeforeI heard of it a few years ago, because you work harder as the backbone of the family, you have to be given a lot of food and delicious. But now it has shifted, that the nutrition of both father and mother must be fulfilled equally. So now eating, yes, both father, mother and son when you meet at home". (N.U, June 16, 2022).

c. Differences in treatment between women and men

The girls feel a difference in treatment, for example, not often scolded. Meanwhile, boys are allowed to play longer and farther away. Old Orang felt that he did not distinguish between the two, both asked his wishes. However, there are some who feel that men should indeed take precedence because they will be the protectors of the family and the breadwinner. There are still differences in treatment

between men and women. This is stated by KUA, OPD-KB and DP3A. Infact, girls who have graduated from junior high school and have no plans to continue their education are more often married. In addition, underage women are allowed to marry, but with a record of the age of the husband being older/adult or already working.

> *"It seems so yes. Because the man is a leader in the family, he is the decision maker. It also became. what is it... being indoctrinated in every family if the man is the head of the family and he is the decider, the decision maker". (N, June 20, 2022).*

In general, there are still many regions in Indonesia that uphold the patriarchal culture, that is, power is on the side of men. Gender differences have given birth to gender inequality that has an impact on the position held by women. Women who experience subordination in the family are caused by two factors, namely natural factors (nuture) and cultural factors or social constructions (nurture) formed by society and the surrounding environment. The negative impact of women's subordination is to limit women from access to life from birth to adulthood (Nawir, M. and Risfaisal, 2015). The subordination treatment in the family obtained is to prioritize the fulfillment of the needs of boys over girls, including in meeting the nutritional needs of children. This can cause the nutritional needs of girls to be unmet so that it can cause anemia in girls. In some areas, women usually eat the last meal, including during pregnancy, because of conservative beliefs that consider the husband to be the breadwinner so that it deserves the best food nutrition.

7.9. Knowledge about *Stunting*

Many of the informants said they often heard the term stunting but they did not know what it meant. There are informants who explain that stunting occurs because of underage marriages. However, there are also young pregnant women who say that stunting is the same as lack of height, less head circumference, and malnutrition. Many of the informants thought that the cause of short children was heredity (hereditary factors) and some said it could be due to malnutrition (Table 7.11).

Their perception of height is a hereditary factor so they think their child/grandchild body is fine, unnecessary and can't do anything, because it comes back to their thinking because height is a matter of heredity.

> *"Yes, it depends on the height of the parents. For example, yes, we are tall. Our child is also tall". (Rh, June 14, 2022).*

"Usually because the descent is just short. Their father, mother, grandfather are short.. And then the child is short. It's normal". (S.A, June 16, 2022).

"According to me, it doesn't have much effect. For example, people used to be, mom, yes, it must be young – young people don't have a high influence on their children, that's just according to me". (Rs, June 14, 2022).

Tabel 7.11. Knowledge of Stunting

No.	Question	Answer
1	Definition	Often hear but don't know, don't know at all, or misunderstood
2	Causes of stunting	Heredity and malnutrition
3	Perception of child's height	It doesn't matter if the child is short and because of heredity

Their perception of height is a hereditary factor so they think their child/grandchild body is fine, unnecessary and can't do anything, because it comes back to their thinking because height is a matter of heredity.

"Yes, it depends on the height of the parents. For example, yes, we are tall. Our child is also tall". (Rh, June 14, 2022).

"Usually because the descent is just short. Their father, mother, grandfather are short.. And then the child is short. It's normal". (S.A, June 16, 2022).

"According to me, it doesn't have much effect. For example, people used to be, mom, yes, it must be young – young people don't have a high influence on their children, that's just according to me". (Rs, June 14, 2022).

CHAPTER 8. DISCUSSION

8.1. Relationship between Sociodemographic Characteristics and Prevalence of Stunting Toddlers

The results of the study in Table 7.4 show that there is a significant relationship significantly between the education of mothers (p=0.001) and fathers (p=0.002) with stunting in children under five. Parents who have graduated from high school have

almost twice the risk of stunting compared to parents who did not complete formal education up to that level. The theory about the influence of education level on nutritional status is described in Figure 3.1. Education level can play a role in understanding health problems that will have a major impact on nutritional status, in this case stunting.

A person's education level will affect family income. The higher the level of education, the better the family income, so that it will have an impact on family food security. In addition, Wicaksono and Hartanti (2020) as well as Das and Gulshan (2017) explain that the level of parental education is also assumed to affect the level of knowledge, including knowledge about family health and nutrition. This will increase efforts in parenting for children, and the use of health services, sanitation hygiene, and other behaviors.

The results of this study are in line with research conducted by Wicaksono and Hartanti (2020) which states that the education of fathers and mothers is very significantly related to the incidence of stunting. Thus, a minimum high school education can reduce the risk of stunting. Das and Gulshan's research (2017) also shows the same thing. The education of fathers and mothers has a very real relationship with the incidence of stunting.

The sociodemographic variables that were not related to stunting in this study were the employment status of the father and mother, the area of residence, and the number of family members. Employment is not related to stunting because the identification of jobs in this study is still common which is not supported by the amount of family income. The limited data on job descriptions causes the description of this type of work to not be able to describe family welfare.

The number of family members is theoretically assumed to affect stunting because it is related to meeting family needs. But the number of family members in the study was not related to stunting, because the number of family members of children under five who experienced stunting was dominated by <4 people (60.7%), so there were other factors that caused stunting besides the number of family members.

The characteristics of the area of residence (rural and urban) are also not a determinant of the cause of stunting in this study. This is supported by the stunting prevalence data in Table 7.2 which does not show a typical distribution of events in certain areas. Table 7.2 shows that stunting can occur in both urban and rural areas.

8.2.Relationship between Use of Maternal Health Services and Prevalence of Stunting Toddlers

The variables of the use of maternal health services in this study were ANC visits, consumption of iron tablets during pregnancy, delivery in health facilities, and birth attendants. All of these variables are not related to the incidence of stunting in the results of the bivariate statistical analysis that has been carried out. However,

descriptive data still illustrates the tendency of these variables to cause stunting. The descriptive data in Table 7.4 shows that mothers who performed ANC <4 times during pregnancy had 91.9% stunting children.

Health services for pregnant women (antenatal carme = ANC) are crucial for the health of the mother and her womb where it was found that mothers who had ANC visits less than 4 times during pregnancy were more likely to have stunted children at the age of 0-23 months compared to mothers who did four or more ANC visits (Torlesse et al., 2016).

The prenatal phase is an important period to prevent stunting. In this phase, fetal growth occurs and is the optimal period for child development up to the first 1000 days of life. Environmental and nutritional factors in this phase will affect fetal growth, brain development, gastrointestinal tract, metabolism and immune system. Nutritional intake is very important to support this phase of the first 1000 days of life, including amino acids, iron, iodine, calcium, zinc, magnesium, and vitamins (Saleh et al., 2021).

ANC was not associated with stunting in this study because the more influential factor was maternal nutritional intake during pregnancy. The nutritional intake was not identified in this study, so even though ANC was carried out, if the nutritional intake was not good, it would still increase the risk of stunting.

The variable of TTD consumption during pregnancy was also not associated with the incidence of stunting in this study. However, Table 7.4 shows that mothers who did not take iron tablets during pregnancy had 52.8% stunted children. This means that mothers who do not comply with taking iron tablets have a greater chance of giving birth to stunting children.

TTD consumption during pregnancy has a linear correlation with child growth. But in general, growth failure in toddlers is influenced by lack of nutrient intake. In addition to iron, folic acid, calcium, amino acids, and other nutrients (Saleh et al., 2021; Simbolon et al, 2021). The consumption of TTD during pregnancy affects fetal growth because it is associated with anemia in pregnant women. Anemia in pregnancy can cause a decrease in the flow of oxygen and nutrients to the placental tissue which will have an impact on disrupting the nutritional status of the fetus (Simbolon et al., 2021).

Nutrients other than iron in TTD were not identified in this study. Since the consumption of iron tablets is not the only one that affects the incidence of stunting, the factor of consuming iron tablets during pregnancy is not associated with the incidence of stunting. In addition, the mechanism that causes growth disorders is the condition of anemia in pregnant women. Hb levels were not identified in this study, so they cannot describe the condition of anemia as the cause of growth disorders.

The results of this study prove that health facilities where births and birth attendants are not associated with the incidence of stunting. This is shown by mothers who gave birth in health facilities having stunted children by 73.4% (Table 7.4).Torlesse et al. (2016) explained the ability of medical personnel in providing

ANC services and assisting deliveries in health facilities related to stunting. Giving birth in health facilities and birth attendants as a risk factor for stunting related to handling babies born, such as babies with low birth weight, neonatal examinations, and handling complications during childbirth (Simbolon et al., 2021).

The variables of place of delivery and birth attendant did not show a relationship in this study, it is assumed because the location of delivery and birth attendant is related to the management for delivery assistance, so there is still an advanced phase that has a long impact on the occurrence of stunting, That is nutritional intake in toddlers.

8.3.The Relationship between Toddler Characteristics and the Prevalence of Stunting Toddlers

This study analyzed several characteristics in children under five that were associated with stunting. It was found that the variables that were significantly related were age under five, birth weight, exclusive breastfeeding, and underweight.

Toddler age is a determinant factor for stunting (p-value <0.001), as can be seen from the large OR value shown in the toddler age category. Children aged 6-11 months have a 1.8 times risk of stunting compared to children aged 0-5 months. This risk tendency increases until children aged 24-35 months and then decreases again in children aged 36-60 months.

Toddler age is a risk factor for stunting because it is related to the growth period experienced by toddlers. In addition, children aged >6 months have a higher risk of stunting than children aged <6 months. Mulu et al. (2022) explained that this could be due to the fact that at this age they had experienced interactions with environmental factors and the feeding patterns they experienced. Das and Gulshan (2017) explained that children aged 0-6 months only received breast milk, while children aged > 6 months had received complementary foods other than breast milk. This illustrates that complementary feeding plays an important role in meeting the nutritional needs of children for growth and development.

The results of this study are in line with the research of Mulu et al. (2022) which explains that age is related to the incidence of stunting. Das and Gulshan's research (2017) also found that infants aged <6 months were at risk of becoming stunted by 14-22%, which then along with increasing age also increased the risk of stunting.

Another variable that was statistically significant in influencing stunting was low birth weight (p-value 0.05). Babies whose birth weight is less than 2,500 grams have a 2.1 times risk of becoming stunted toddlers than babies with normal birth weight (≥ 2,500 grams).

Low birth weight (<2500 grams) will have an impact in the first 6 months of life. Then the impact will decrease until the child is 24 months old. If the baby can achieve appropriate growth in the first 6 months, it is possible for the baby to have a normal length / height. A history of low birth weight indicates a growth restriction since in the womb that occurs acutely and chronically (Lestari, Hasanah, and Nugroho, 2018).

This study is also in line with the results obtained by Lestari, Hasanah and Nugroho (2018), That is low birth weight has a relationship with stunting. Low birth weight increases the risk of stunting 12.5 times greater than normal birth weight.

Exclusive breastfeeding is also a determinant factor for stunting. Table 7.4 shows that infants who are exclusively breastfed until the age of six months are almost 2 times more likely to be stunted (1,984) than infants who are not exclusively breastfed (p value = 0.008).

Exclusive breastfeeding will reduce the risk of stunting. Introducing liquid/solid foods other than breast milk to children aged <4 months will increase the risk of gastrointestinal disease, which will result in growth disorders, nutritional deficiencies, and susceptibility to infectious diseases until the age of 2 years. Exposed to infectious diseases such as diarrhea and fever can increase the risk of stunting, as stated by Kuchenbeker et al. (2015) that the incidence of this disease is more common in children who do not get exclusive breastfeeding.

Early initiation of breastfeeding (IMD) is also needed to increase the success of exclusive AS. The first milk that comes out contains colostrum which is rich in nutrients and antibodies. Colostrum is essential for the growth of the gut microbiota and the immune system. Colostrum is only excreted in the first 2-3 days after delivery (Kuchenbeker et al., 2015).

The results of this study are in line with the research by Kuchenbeker et al. (2015) which explains that IMD as one of the practices of exclusive breastfeeding is significantly related to the growth of toddlers. Giving food before the age of 6 months turned out to also have an impact on the growth of toddlers.

Another variable that is statistically significant is underweight. Toddlers with underweight nutritional status have a risk of 7,119 times more risk of becoming stunted compared to toddlers with normal nutritional status with p value = 0.000 (Table 7.4).

Underweight which is a lack of nutrition can increase the risk of growth disorders. Underweight conditions can be caused by birth weight, birth length, frequency and quality of maternal ANC during pregnancy, and quality of food consumed by children. Consumption of these foods includes nutrients that must be met and will be exacerbated by a culture of abstinence by the family (Syeda et al., 2021).

The research of Syeda et al. (2021) are in line with this study which found that underweight in the second and third years will increase the risk of stunting greater than age <1 year. This data is related to the diet given to children by parents.

Other characteristics of children under five such as gender, history of premature birth, immunization status, history of prelacteal intake, nutritional wasting status, and adolescent mothers were not statistically associated with the incidence of stunting in children under five in South Kalimantan. These data show that stunting can occur in

both male and female sexes. Thus, gender differences in parenting can begin to change.

The next variable is immunization status. It turns out that the immunization status in this study did not show a relationship with the incidence of stunting. This happens because immunization is already a mandatory program that has been implemented by toddlers, especially mandatory immunization, so that it has been achieved in both stunted and non-stunted toddlers. This is shown by the data in Table 7.4, ie 82% of stunting toddlers have been immunized.

Wasting also not related to the incidence of stunting in this study, because wasting is an indicator of short-term (acute) nutrition, so it can change quickly. Meanwhile, stunting is an indicator of long-term (chronic) nutrition, so the factors that influence it are factors that have a long-lasting impact.

Teenage mothers in this study were not a risk factor for stunting. This is due to the fact that the number of teenage mothers who were sampled was not large. Although not significantly related, descriptive data shows that the percentage of stunting in adolescent mothers is 41.7% (Table 7.3). This percentage is higher than the percentage of stunting in adult mothers (32%). Although the results of the analysis show that there is no relationship between maternal age and the incidence of stunting, it can be stated that adolescent mothers have a higher risk of stunting compared to adult mothers.

Maternal age at marriage will affect the maturity of the reproductive organs. Those who are still too young (<20 years old) do not have reproductive organs that are physically and functionally mature, so they are not ready to get pregnant, give birth, and breastfeed. If a pregnancy occurs at the age of <20 years, the adolescent's growth will stop because the fulfillment of nutritional intake will be allocated to the fetus. Risk factors that may occur in young pregnant women are nutritional disorders such as anemia, Chronic Energy Deficiency (KEK), the risk of experiencing complications during pregnancy and childbirth such as preeclampsia/eclampsia. The risks that affect the fetus/baby are born, That is growth disorders such as Intra Uterine Growth Retardation (IUGR), LBW, and stunting.

This study does not prove that adolescent maternal age is a risk factor for stunting. This happens because stunting is more influenced by the fulfillment of children's nutritional intake. This study is in line with the research of Fonseka et al. (2022) which states that there is no relationship between maternal age and the incidence of stunting. The most important determinant is nutrient intake during childhood.

8.4.Dominant Factors Associated with Stunting in South Kalimantan

The results of the multiariat analysis in Table 7.5 show that there are several variables that are more dominant risk factors for stunting, age under five, premature birth, underweight, and wasting. If sorted by risk magnitude, the determinants with

the greater risk factors are underweight (18,241 times greater increase in stunting), under-five age 24-35 months (9,511 times greater increase in stunting), premature birth (2,187 times greater increase in stunting)), and wasting as the lowest risk determinant.

Underweight, under-five age and wasting is at risk of increasing stunting because it is related to the toddler's diet. Meanwhile, premature birth can be related to maternal age during pregnancy and health conditions during pregnancy, including maternal nutritional status. Thus, the results of the analysis of this study illustrate that nutritional intake is more dominant in increasing the risk of stunting compared to other variables.

The magnitude of the risk of under-five age, premature birth, underweight and wasting simultaneously has a 24.5% risk associated with stunting, while 75.5% is influenced by other factors. Factors that also affect the incidence of stunting in addition to the variables studied can be explained through Figure 3.1.

Figure 3.1 describes the complexity of the factors that contribute to the incidence of stunting. The basic factors that must be strengthened are the level of public knowledge and education, government policies, budget sources and leadership patterns, social, economic, and political environmental conditions. These basic factors can serve as inputs for stunting management.

These factors will affect food security, including the availability, access, and use of food. In addition, parenting and eating patterns at the home level, access and use of health facilities, as well as a healthy and safe environment will also be affected. These factors will play a role in the process of dealing with stunting. The expected outcome is that the nutritional status and development of the fetus and child will be optimal. The scheme explains that the interventions carried out can be in the form of sensitive and specific interventions to intervene in the process. Meanwhile, management and policy reviews can be strengthened to base inputs as a basis for linking processes to optimize outputs.

8.5.Community Data Analysis as Stunting Risk in South Kalimantan

The socio-economic picture in the community/region can be one of the risks of stunting. Table 7.2 describes the prevalence of editing and the general socioeconomic conditions of the community. The data in Table 7.2 states that there is no typical prevalence mapping in South Kalimantan by District/City. Characteristics of districts and cities both have a high prevalence of stunting, That is 42.1% in Banjarbaru City and 43.3% in Balangan Regency.

Balangan Regency, which has a high percentage of stunting, also has a high percentage of people living below the poverty line, which is 16.8%. The high percentage of poverty can illustrate that the income of the community is relatively low, thus affecting the ability to fulfill nutrition and family health.

However, the unique thing is that Banjarbaru City, which has a higher stunting

percentage than Banjarmasin City, has fewer people living below the poverty line, which is 6.1%, compared to Banjarmasin City which is 9.4%. The HDI of Banjarbaru City is also higher than Banjarmasin City. HDI shows the health index, welfare index, and education index. This illustrates that it is probably not the level of poverty and HDI that is the risk of stunting in Banjarbaru City. Thus, the general condition of this area has not been able to describe the risk of stunting per district/city.

The problem of stunting is a nutritional problem due to lack of long-term nutritional intake. This is related to the ability to fulfill family nutrition, which is also influenced by economic and environmental conditions. The economic condition can be described by the parents' work and income, while the environmental conditions that play a role can be seen from the ownership of permanent or non-permanent houses and the sanitation of the home environment. Poverty is a big factor causing malnutrition since in the womb. Poverty is also associated with unhealthy environmental conditions (Rengma, Bose, and Mondal, 2016). Thus, districts/cities with high poverty levels are at risk for the emergence of various complex health problems, so strong multi-sectoral efforts are needed to address them.

8.6.Pernikahan remaja dan stunting

This study found various reasons for the occurrence of adolescent marriage. Some of the same reasons were found in other studies. Yanti et al (2018) found that one of the factors causing early marriage can be due to parents. Furthermore, Hardianti and Nurwanti (2020) stated that adolescent marriage can occur due to the urging of the family and parents who move to marry their children if they have entered adulthood. This research is also in line with the results of Wardani's research (2021) which states that one of the cultures that develops in Indonesia is that if a girl gets married over the age of 20, she will become and will be a disgrace to her family. Likewise, the research of Yanti et al (2018) states that early marriage is also mostly caused by pregnancy outside of marriage due to promiscuity. The easier access to internet media has affected the mindset of teenagers.

The psychic impact of adolescent marriage is the feeling of regret after marriage so that there are often quarrels and quarrels in the household. Domestic violence in early couples can lead to divorce (Wardani 2021). It was also stated by FGD informants in this study that KUA is often encountered by wives of adolescent marriages who consult about difficulties in their households, although they do not always end in divorce.

Furthermore, it is explained that there are many negative impacts of early marriage, among which are the opportunities to lead a poor life (Gordon 2010). The physiological impact of early marriage is miscarriage, premature delivery, low birth weight, congenital abnormalities, easy infection, anemia and even maternal death (Wardani 2021). However, this was considered not a problem by informants in this study because according to them, in the event of a miscarriage, the teenage mother

could still get pregnant again for the second time, and so far there have been no complaints from the perpetrator of early marriage regarding this matter.

The sociological aspects of marriage at the age of children or young can also have an impact on the growth of children both physically and mentally due to the age of both parents who are still young. In addition, according to Pangestu and Ayu (2020), young marriage also causes children's rights to be difficult to realize for him, such as children's civil rights.

This research reveals a contradiction between Law No. 16 of 2019 concerning Amendments to Law Number 1 of 1974 (containing a minimum age limit for brides-to-be) and Permendagri No. 9 of 2016, which contains a statement of absolute responsibility (SPTJM). The SPTJM degrades the authority of the Ministry of Religious Affairs because indirectly the Ministry of Home Affairs can legalize marriages carried out in series so that the perpetrators of siri marriages (including juvenile marriages) to obtain residency documents. The SPTJM allows for juvenile marriage practitioners to obtain a family card and a child's birth certificate containing the names of both parents, just like a formal marriage.

Islamic law does not regulate the age of marriage. However, referring to the purpose of marriage, the married individual must be physically competent and non-physically competent (Pangestu and Ayu, 2020). The impact of early marriage in this study was less observable because there was no data on the perpetrators of early marriage. Perpetrators of juvenile marriages are mostly carried out informally (siri) because the regulations prohibit kua from marrying underage brides-to-be. In addition, the existence of the opposite regulation, causes the KUA to be unable to freely prevent teenage marriage.

One of the impacts of adolescent marriage is the lack of knowledge in parenting patterns. Teenagers who decide to get married, most of them do not have time to complete their further education. This will affect the child's parenting ability. Referring to the results shown in the quantitative analysis in this study that the education of fathers and mothers is one of the determinants of *stunting* of toddlers from adolescent mothers, then this qualitative study supports these results. The results of research by Das and Gulshan (2017) and Wicaksono & Hartanti (2020) also showed the same thing, namely thatthe education of fathers and mothers had a very real relationship with *stunting* events.

The eating history and diet of children under five are very influential on the growth and development of children under five, this is related to the golden period of 1000 days of life to improve the child's growth and development optimally, namely from the beginning of pregnancy to the child aged 2 years (Cetthakrikul *et al* 2018 and Lestari *et al al* 2018). The results of in-depth interviews in this study found that there are still many parents in their teens who do not understand good parenting, especially in feeding. Riskesdas data that have been analyzed in this study corroborate the evidence that *stunting* events are more at the age of over 24 months. This means that *stunting* occurs more after the child is weaned and given family food.

It can be seen from the results of in-depth interviews that generally informants understand exclusive breastfeeding and try to give it to their babies. But after the child is over 24 months old and begins to consume family food, eating problems begin to occur and parents are not able to cope properly.

A supportive environment keeps mothers-to-be or mothers in their teens with good access to health services. It can be seen from the selection of the place of delivery, namely the midwife, puskesmas, or hospital. Thus, the safety of mother and child in the labor process can be improved. This is inseparable from parental support, including financial assistance. The awareness of the presence of posyandu is also quite good. This is proven by the informant's answer that they were present at the posyandu since pregnancy, and checked their child after birth. However, there are still adolescent mothers who stop checking their children because they feel that immunization is complete. There are also teenage mothers who stop taking their children to posyandu because they feel ashamed that their children are thin and their physical growth is not like other children of their age. This proves that it is necessary to educate adolescents to increase awareness of health. Pangaribuan *et al* (2020). recommend tha thealth services be held in adolescents and integrated monitoring of toddlers to reduce the risk of early marriage and stunting toddlers.

Toddlers in the case of parents with early marriage are more susceptible to growth and development disorders (Pangaribuan *et al.* 2020). The results of quantitative data analysis in this study have reported that the percentage of *stunting* in adolescent mothers is higher than in adult mothers. Therefore, marriage in adolescence must be avoided so that the quality of the younger generation can be improved.

CHAPTER 9. CONCLUSION

This study resulted in the following conclusions:

1. The dominant determinant of stunting in children under five in a patrilineal society in IndonesiaSouth Kalimantan Province is the age of under five years old, history of premature birth, underweight status of toddlers and wasted status of toddlers.
2. The employment status of parents, as well as the number of household members did not affect the difference in the risk of stunting among children under five in South Kalimantan. Stunting in this population is almost twice as common in toddlers whose fathers and mothers have not completed formal high school education.
3. Although the prevalence of stunting under five in South Kalimantan is higher among under-fives from mothers who gave birth in their teens than in adult mothers, maternal age is not statistically proven as a risk factor for stunting in this population. There is no relationship between stunting and the level of utilization of maternal health services.
4. Teenage marriages in South Kalimantan tend to be triggered by economic motives and the desires of the teenagers themselves, which are supported by economic conditions,

social influences, and lack of encouragement to get an education. Family eating habits that prioritize men have been abandoned. Sometimes there are still some dietary restrictions that lack scientific evidence for breastfeeding mothers. The importance of breastfeeding is well understood in the community, although sometimes there are certain obstacles to implementing exclusive breastfeeding. On the other hand, some doer of early marriage do not understand a good diet for their children.

5. There is no visible pattern linking the prevalence of stunting and teenage pregnancy with regional characteristics in the form of income per capita, poverty rate, ratio of health workers to the population of children under five, as well as HDI at the city and district levels.
6. Characteristics of children under five (gender, age, birth weight, and family area of residence) and eating history (pre-lacteal diet and history of exclusive breastfeeding) in children under five in South Kalimantan Province. Stunting was more common in male toddlers but in this population the difference was not statistically significant. Toddlers who have passed the breastfeeding period, especially those aged 24-35 months are more at risk of stunting. Infants with a history of LBW have at least double the risk of stunting in this population. The type of area of residence and the practice of pre-lacteal feeding did not provide a significant difference in the incidence of stunting in South Kalimantan. The practice of exclusive breastfeeding in this population tends to increase the risk of stunting.
7. Immunization status of children under five is not related to the incidence of stunting in children under five in South Kalimantan.

CHAPTER 10. OUTCOMES

10.1. Produced output

The implementation of this research resulted in several outcomes, including:

1. Research reports that are disseminated to various stakeholders/policy makers related to stunting alleviation in South Kalimantan Province. The participants who were presented were the South Kalimantan Provincial Government, the South Kalimantan BKKBN Representative Office, theThe Office of Women's Empowerment and Child Protection (DPPPA), and the Office of the Ministry of Religion. In addition, district/city participants consist of representatives from the OPD-KB Service, DPPPA, and the Regional Office of the Ministry of Religion.
2. One journal article was submitted in the Journal of Public Health Nutrition (Q1) aaentitled “Qualitative study on adolescent marriage and the risk of stunting in South Kalimantan”
3. One journal article published in Nutrients (Q1) entitled “Analysis of Socioeconomic, Utilization of Maternal Health Services, and Toddler's Characteristics as Stunting Risk Factors” (Nutrients 14(4373): 1-12 https://doi.org/10.3390 /nu14204373).
4. Policy Brief as input in making policies with the following titles and agencies:

a. BKKBN: Stunting alleviation through parenting class in South Kalimantan
b. Ministry of Religion/KUA: Stunting alleviation through improved education of prospective brides and advocation to religious leaders in South Kalimantan
c. Department of Agriculture Department of Food Security: Stunting alleviation through balanced diet and sustainable home gardens based on local food in South Kalimantan

10.2. Policy Recommendations

The resulting policy recommendation is the existence of a continuous effort in preventing the risk of stunting in children under five. This includes increasing formal education, educating prospective brides and young parents to be able to apply parenting knowledge and apply a good diet after exclusive breastfeeding. It is hoped that synergies will be created between the community, community leaders, religious leaders, government, and academics in alleviating stunting (Figure 9). It is hoped that this recommendation can also be applied to other regions that have similar problems.

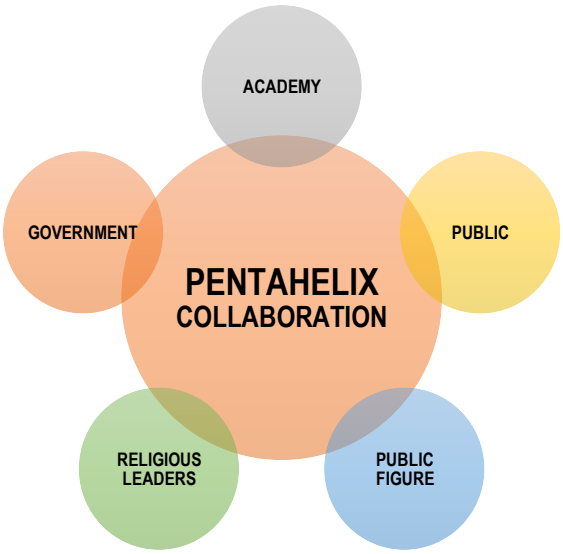


Figure 10.1 Pentahelix Collaboration Stunting Alleviation

Referring to the problems found, the research team provides several policy recommendations, that is:

1. Cross-sectoral collaboration efforts with the education sector to increase the average length of schooling and increase the chase packages A, B, and C programs for those who have not completed formal education.
2. Intensify education/guidance of prospective brides by KUA, public health center by involving other sectors (women empowerment, PKK, universities, and psychologists)

3. Utilization of local food to increase the diversity of food that can be consumed by the community, especially toddlers.
4. Organizing parenting schools for young families in collaboration with universities through social activities, including education on child feeding patterns based on balanced nutrition and exclusive breastfeeding.
5. Aligning inter-agency regulations regarding the rules of marriage at a young age and applying legal consequences to violators so that the bride and groom are better prepared to become parents.

10.3 Proposing Intellectual Property Rights

Intellectual Property Rights (IPR) of this research is the copyright of the research results. IPR will be registered with the Ministry of Law and Human Rights after the final report is completed.

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