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# FACTORS INFLUENCING NUTRITIONAL AND DEVELOPMENT STATUS AMONG CHILDREN UNDER FIVE YEARS OLD OF EARLY MARRIAGE MOTHER

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## ABSTRACT

**Background:** Early marriage is a marriage at <21 years old. One of the districts in South Kalimantan Province with the percentage of early marriage are above the percentage of Regency was East Martapura District (23.39%). Early marriage leads to lack of mental readiness and cognitive mothers so that mothers are not optimal in carrying out their role and impact on their child growth.

**Material and Methods:** This research was an observational analytic research with cross-sectional approach with 205 toddlers as a sample. Primary data was collected by conducting interviews to fill out questionnaires, weight and height measurement, and using *Pre-screening Developmental Questionnaire* (PDQ) to measured child development.

**Result:** There was significant influence between family income (p=0.018), mothers education (p=0,032), feeding practices (p= 0,000), hygiene practices (p=0,000), health care practices (p=0,000), and early stimulation (p=0.009) with nutritional and development status of children under five years.

**Conclusion:** There was influenced between family income, mother's education, feeding practice, hygiene practices, health care practices, and early stimulation with the nutritional and development status of children under five years old It is necessary to improve the delivery of health information especially in relation to feeding practices, child hygiene practices, child health care practices and the provision of proper early stimulation to optimize child growth.

**Keywords:** Early Marriage Mother, Nutritional Status, Development, Children under Five Years

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## 1.0 Introduction

Early marriage is a marriage performed by women at the age < 21 years (National Population and Family Planning Institution, 2012). Marriage at under 20 years of age in Indonesia is still relatively high (20%) and ranked 37$^{th}$ in the world and second highest in ASEAN (UNPFA, 2012). Based on Riset Kesehatan Dasar (Riskesdas) 2010 showed that South Kalimantan Province was first ranked percentage of marriage under 15 years (9%) and third ranked of percentage marriage at age 15-19 years (48.4%). Central Bureau of Statistics survey in 2015 showed South Kalimantan Province second ranked of the highest prevalence of early marriage age (33.68%) compared to the national rate (23%). National Population and Family Planning data of South Kalimantan Province showed Banjar district is district with early marriage rate in women which increase every year and one of sub district with the percentage of early marriage is above percentage of district is East Martapura Subdistrict (23,39%) (National Population and Family Planning Institution, 2016; DP2KBP3A, 2016)

Based on data from Banjar District Health Office (2016) in East Martapura Subdistrict, there are children under five years with underweight (14,19%), stunting-severe stunting (23,54%), wasted-severe wasted (21,07%), child developmental problems such as motor delay, language disorders, behavioral disorders, autism, and hyperactivity are also found in communities with a percentage between 13-18% (Banjar District Health Office, 2016).

Women who married at an early age (<21 years) are in the emerging adulthood period in which children in this period have left dependencies in childhood and adolescence but have no adult responsibilities (Arnett, 2000). Instability and lack of the responsibility of the mother who is at that age stage causes the mother have difficulty in developing care and attention to her child so that can impact to child growth and development (Unicef, 2001).

The results of data analysis related to the impact of marriage of children aged in Indonesia conducted by the Statistics Institution of Indonesia (2016) showed that children who born from young mothers had 2 times greater risk to experiencing premature birth, low birth weight, and malnutrition, especially in mothers with middle-lower socio-economic. Women who marry too early also have a higher risk for experiencing psychological and emotional burden so that they tend to feel not confident in their ability in parenting so that it can affect the growth and development of children (Statistik Institution, 2016). This research aims to analyze the factors that influenced nutritional status and development of children under five years old on early marriage mother.

## 2.0 Material and Methods

This research is an observational analytic research with cross-sectional approach. The research location in East Martapura Sub-district, Banjar District, South Kalimantan Province. The study population was all under five years old children with mothers who married at age under 21 years (N=1,028). The sample size is calculated using the formula by Lemeshow (1990) that is equal to 205 under five years old children with criteria 1) Minimum age of 3 months 2) if the mother has more than one toddler, the child taken is the oldest child 3) Mother is the dominant caregiver .

Objectives and benefits of the study were explained to respondents orally and in a written format attached to the questionnaire. A written consent was obtained from those who agreed to participate. Approval of the study was obtained from the/departmental committee of the Faculty. Data was analyzed using SPSS (ver.21.0). All tests were performed at level of significance of 5%. Socio-Demographic data were presented as distribution and frequentcy table. Influenced Anlaysis of independent variable with dependent variable used Logistic regresion test.

## 3.0 Study Instruments

Data collection of socio-demographic characteristics of early marriage mother (first age of marriage, first age of birth, mother's job, family income, mother's education, number of children, feeding practices, hygiene practices, health care practices, and early stimulation used questionnaires and direct interviews to respondents. Nutritional status was measured based on 3 anthropomorphic indicators (BB/U, TB/U, BB/TB) by World Health Organization (WHO) growth chart where the weight measured by weighing scale and height by microtoise/baby length board whereas child development measured by pre-screening development questionnaire (PDQ) From Ministry of Health Republic of Indonesia

## 4.0 Results

Characteristic of early marriage mother and characteristic of under five years old children are presented in table 1

**Table 1**: The Characteristic of Early Marriage Mother and Under Five Years Old Children

| Characteristics | Respondents | |
|---|---|---|
| | n=205 | % |
| **Early Marriage Mother** | | |
| **Age** | | |
| 16-21 year | 141 | 68,8 |
| > 21 year | 64 | 31,2 |
| **First Age of Marriage** | | |
| 14 year | 3 | 1,5 |
| 15 year | 43 | 21,0 |
| 16 year | 23 | 11,2 |
| 17 year | 61 | 29,8 |
| 18 year | 42 | 20,5 |
| 19 year | 21 | 10,2 |
| 20 year | 12 | 5,9 |
| **First Age of Children** | | |
| < 20 year | 165 | 80,5 |

International Journal of Public Health and Clinical Sciences
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| Characteristics | Respondents | |
|---|---|---|
| | n=205 | % |
| ≥ 20 year | 40 | 19,5 |
| **Education Level** | | |
| Elementary School | 43 | 21,0 |
| Junior High School | 92 | 44,9 |
| Senior High School | 70 | 34,1 |
| **Family Income** | | |
| < Rp. 2.258.000,- | 149 | 72,7 |
| ≥ Rp. 2.258.000,- | 56 | 27,3 |
| **Number of Family** | | |
| ≤ 4 people | 135 | 65,9 |
| > 4 people | 70 | 34,1 |
| **Number Of Children** | | |
| > 2 children | 47 | 22,9 |
| ≤ 2 children | 158 | 77,1 |
| **Children Under Five Years Old** | | |
| **Sex** | | |
| Boy | 83 | 40,5 |
| Girl | 122 | 59,5 |
| **Age** | | |
| 0-6 bulan | 9 | 4,4 |
| 6-9 bulan | 6 | 2,9 |
| 9-12 bulan | 11 | 5,4 |
| 12-24 bulan | 42 | 20,5 |
| > 24 bulan | 137 | 66,8 |

Total of 141 respondents (68%) were in the age range 16-21 years. The first age of marriage was highest at 17 years old as many as 61 respondents (29.8%) with the youngest age married is 14 years old. Because mothers married at a very young age, 165 respondents (80.5%) gave birth at under 20 years of age. Total of 135 mothers (65,9%) have low education level (elementary school-junior high school). All respondents (100%) didn't work (housewives) and had large families because have more than 4 people (due to living with parents or in-laws) and as many as 158 respondents (77.1%) had only one or two children. Total of 149 respondents (72.7%) had low incomes (<Rp.2258.000,-) because most of the husband worked as farm laborers, construction workers, self-employed and others

Total of 122 under five years old children (59.5%) were female and 83 (40.5%) were boys. Total of 137 under five years old children (66.8%) who were > 24 months of age where the youngest was in the 0-6 month of age.

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Nutritional and Development Status of Children Under Five Years Old Based On WHO growth chart and Pre-Screening Development Questionnaire (PDQ are presented in table 2

**Table 2:** Nutritional and Development Status of Children Under Five Years Old Based On WHO growth chart and Pre-Screening Development Questionnaire (PDQ)

| Nutritional and Development Status | Responden | |
|---|---|---|
| | n=205 | % |
| **Weight For Age (BB/U)** | | |
| Underweight | 50 | 24,4 |
| Normal | 155 | 75,6 |
| **Height For Age (TB/U)** | | |
| Severe stunted | 42 | 20,5 |
| Stunted | 28 | 13,7 |
| Normal | 119 | 58,0 |
| Tall | 16 | 7,8 |
| **Weight For Length (BB/TB)** | | |
| Severly wasted | 25 | 12,2 |
| Wasted | 14 | 6,3 |
| Normal | 150 | 73,2 |
| Obese | 16 | 7,3 |
| **Development** | | |
| Disruption | 19 | 9,3 |
| Dubious | 27 | 13,2 |
| Appropriate | 159 | 77,6 |
| **Nutritional and Development Status** | | |
| Not Appropriate in Age | 118 | 57.6 |
| Appropriate in age | 87 | 42,4 |

Total of 155 children under five years old (75.6%) include into the category of good nutrition (BB/U), 119 children under five years old (58.0%) include into the normal category (TB/U), and 150 children under five years old (73.2%) include into the normal category (BB/TB). But still found children with growth problems such as malnutrition, stunted-severe stunted and wasted-severe wasted. Total of 159 children under five years old (77.6%) include into the category of appropriate development. But still found toddlers with dubious developments and developmental disruption with highest cases of disturbance in socialization and independence aspect, and speech and language aspect, fine motor aspect and gross motor aspect.

As many as 118 children under five years old include into the category of nutritional and development status is not appropriate with age. Nutritional and development status are not appropriate if there is one of growth disorder seen from 3 anthropometric indicators (BB/U, TB/U and BB/TB) and/or dubious developments and developmental disruption.

International Journal of Public Health and Clinical Sciences
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Factors that influenced nutritional and development status of children under five years old on early marriage mother are presented in table 3

**Table 3:** Factors That Influenced Nutitional and Development Status of Under Five Years Old Children On Early Marriage Mother

| No | Variables | *P-value* | *Exp(B)* |
|---|---|---|---|
| 1 | Family income | 0,018* | 1,483 |
| 2 | Mother's education | 0,032* | 1,455 |
| 3 | Number of children | 0,662 | 1,136 |
| 4 | Feeding practices | 0,000* | 3,231 |
| 5 | Hygiene practices | 0,000* | 2,889 |
| 6 | Health care practices | 0,000* | 3,909 |
| 7 | Early stimulation | 0,009* | 1,722 |

**significant*

The result of analysis by using logistic regression test showed that there were influence of family income (p=0,018, Exp (B)=1,483), mother's education (p=0,032, Exp (B)=1,455), feeding practice (p=0,000; Exp(B)=3,231),hygiene practices (p=0,000; Exp(B)=2,889), health care practice (p=3,909); Exp (B)=1.483), and early stimulation (p=0,009;Exp (B)=1,722) on nutritional and development status of children under five years old. While the number of children does not have significant influence on the nutiritonal and development status of children under five years old (p=0.662)

## 5.0 Discussion

Early marriage culture in East Martapura sub-district is caused by several factors. The low education of parents and the education of women causes the tendency of early marriage. In addition, early marriage has become a tradition in some ethnic one of them on the Banjar tribe. As a religious community, Muslim culture is based on Islamic law which states that if the teenager is old enough, then the parent is obliged to marry their children so man and women don't have a free sex. In addition, early marriage is done because of the assumption in the community that girls should be married soon in order not to become an old maid, other than that the belief that refusing the marriage propose will make the child will be difficult in getting a partner. So that parents as soon as possible will marry off their children even though not old enough.

Based on the result of growth measurement, it's known that although most of the children are included in the good and normal category based on the indicator of BB/U, TB/U and BB/TB but still found toddlers that are included in the category of underweight, stunting-severe stunting, wasted-severe wasted. The results of the assessment using the pre-screening development questionnaire (PDQ) showed that most of the toddlers had the appropriate development but still found toddlers with dubious development status and disruption development with highest cases of disturbance in socialization and independence aspect, and

speech and language aspect, fine motor aspect and gross motor aspect. This condition is in accordance with field observations, that most mothers declare children cannot be independent of their parents as cannot eat alone, wear their own clothes, wash their own hands and still often whine to the mother if want something.

Most vulnerable age in the process of growth and development is the toddler because at that time the child is easily sick and easy to experienced malnutrition. In order for the child doesn't experience nutritional problems, nutritional fulfillment plays an important role, in addition to environmental sanitation and food safety aspects should also be considered for the environment and children food where those aspect be necessary to free of physical, chemical, or biological pollution that can be harmful to the health of children (Soetjiningsih, 2002).
The results of statistical tests show that there is an influence of family income with nutritional and development status of children under five years old. The results of this study are in line with the research conducted by Handini (2013) which shows there is a relationship between family income with nutritional status of children. Mothers in families with lower-middle economic status caused low of food consumption for the family so that it can affect nutritional status in children under five years old (Handini, 2013). Research conducted by Firdaus (2018) showed there was a relationship between family incomes with social development of children under five years old. The family as the first social environment for children has an important role in the development process. The economic level of the family affects the ability of parents in the provision of infrastructure such as games appropriate to the age of the child or books for drawing and writing and so on for the process of child developmental stimulation (Firdaus, 2018).

There is an influence of mother's education with nutritional and development status of children under five years old. The results of this study are in line with the results of studies conducted by Hamman (2014) which shows that the education level of mothers who married early will affect the incidence of stunting in children. Maternal education is one important factor in the growth because if the level of education is high, t the parents can be more better to receive all the information from outside, especially about child growth (Hamman, 2014) Another study conducted by Waqidil and Adini (2016) shows there is a relationship between mother's education with the development of children under five years old. A high level of maternal education can help the process of child care and stimulation. Although not directly related, mothers education and supported by good feeding and care for children will have an effect on the growth and development of children under five years old (Waqidil, 2016).

There is an influence of feeding practices by early marriage mothers to nutritional and development status of children under five years old. The results of this study are in line with Perdani (2016) study indicating that there is a relationship between feeding practices with nutritional status of children aged 3-5 years. Parents who provide optimal feeding practices to their children are 8 times more likely to have children with normal nutritional status. Good feeding practices such as feeding frequency or selecting the right foods for children will support the child's growth process (Perdani, 2016). A good feeding practice is important for the nutritional status of children and a good nutritional status can support the child developmental process. Research conducted by Ramadhani (2017) shows that there is a relationship between nutritional status with the development of children under five. The process of growth and development of children require nutrients for growth and development process goes well. If under five years old children suffer from malnutrition it will affect

growth restriction, susceptible to infection, skin inflammation and may inhibit the development (Ramadhani, 2017).

There is an influence of hygiene practices by early marriage mothers to the nutritional and development status of children under five years old. The results of this study are in line with research conducted by Rah, et al (2014) indicating that there is a relationship between hygiene practices and the incidence of stunting (Rah et al, 2014). A healthy environment needs to be created so as not to affect the health status of children. Personal hygiene and environmental hygiene plays an important role for the development of children, less personal hygiene will facilitate the occurrence of skin diseases and digestive tract such as diarrhea, worms, and others. While the cleanliness of the environment is closely related to respiratory diseases, digestive tract, and mosquito-borne diseases. Diseases caused by these environmental problems can result in sick children and disrupt their growth and development (Istiany, 2013).

One of the most important aspects is the health care for children. There is an influence of health care practices by early marriage mothers to nutritional and development status of under five years old children. Health care is one of the basic needs of children, including immunization, regular child weighing, treatment during illness and maternal efforts in the search for treatment of children if the mother's illness to bring children to health care such as hospitals, clinics, public health center, etc (Soetjiningsih, 2002). Through the good health care is expected to produce a good nutritional status and can optimize the process of growth and development of child growth. Results of research conducted by Solekhan et al (2013) showed there is a relationship between nutritional status of children with gross motor of under five years old children. Gross motor development tends to involve most parts of the body and usually requires energy because it is done by large muscles so it needs good nutrition. Children with less nutritional status will experience this developmental obstacle due to decreased number and size of brain cells. The ability of the nervous system in the brain to make and release neurotransmitters depends on the concentration of certain nutrients in the blood obtained from the composition of the food consumed (Solekhan et al, 2013).

There is an influence of early stimulation by early marriage mother to nutritional and development status of children under five years old. The results of this study is in line with research conducted by the Hati (2016) which states there is a relationship between stimulation with growth and development of children aged 1-3 years. Stimulation is given regularly and continuously with affection, play methods, etc, so the development of children will run optimally (Hati, 2016). Research conducted by Suwarti (2016) shows there is a relationship between early stimulation the independence of children aged 4-5 years. The best time to teach children is when they are 2-3 years old by showing their children that they can feed themselves, wear their own clothes, etc, so that when the child enters the pre-school they becomes more and more self-trained. If the child is less independent, it is usually caused by the parents always serving the child's needs (Suwarti, 2016).

There is no influence of the number of children with the nutritional and development status of children under five years old. Mothers who have 1-2 children still have the same possibilities with mothers who have more than 2 children to face nutritional problems because there are other factors that can affect the nutritional status of toddlers one of them poor feeding patterns .If the mother's parenting is less appropriate then it can have an impact on the growth of children. In addition, mothers who already have several children will have more

experience in caring so that mothers will be better in caring and fulfilling the nutritional needs for their children (Pasaribu, 2014; Karundeng, 2015). The results showed that most of respondents have children between 1-2 people and this is in accordance with the number of ideal children, but still found the problem of development in children so it can be said that the mother who has an ideal child is not necessarily not experiencing developmental problems. Research conducted by Tilaar (2016) showed there is no relationship between the number of children with child development. This is because even though the mother has more than 2 children but if the attention and affection are given by mother in balance, then every aspect of development can be run well, especially if the mother does not work (housewives) so that the time provided for children will be more (Tilaar, 2016).

## 6.0 Conclusion

Study concluded that there were significant influenced between family income, mother's education, feeding practice, hygiene practices, health care practices, and early stimulation with the nutritional and development status of children under five years old.

## 7.0 Recommendation

It is necessary to improve the delivery of health information especially in relation to feeding practices, child hygiene practices, child health care practices and the provision of proper early stimulation to optimize child growth. Primary Health Center (PHC) can optimize health officers in each village to carry out monitoring activities in developing activities at local health post assisted by cadres who had previously been given about early detection of growth and development.

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## Declaration

Author(s) declare that all works are original and this manuscript has not been published in any other journals. There was no financial support of any organization for this work.

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