

THE INFLUENCE OF SOCIO-ECONOMIC FACTOR, WOMEN'S EMPOWERMENT AND FAMILY RESILIENCE ON STUNTING INCIDENCES IN JAMBI PROVINCE

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ABSTRACT

Stunting is a condition of children who suffer from growth retardation due to poor nutrition or repeated infections so they tend to have a greater risk of getting sick and dying. Stunting is the result of long-term nutritional deficiencies and often results in retarded mental development, low school achievement and reduced intellectual capacity. Stunting rate in Jambi Province is still high, at 30.2% higher than the other province. The disparity between district is still high. The purpose of this study was to identify Socio-Economic factor, Women's Empowerment and Family Resilience, their impact on the incidence of Stunting in Jambi Province. The design used in this study is an Observational Study. This research was conducted in the Priority District for handling Stunting in Jambi Province in 2019. The number of samples as many as 298 people spread over several villages of the study locus. The number of samples for each village was determined through the Proportional simple random sampling method. The data analysis technique in this study uses SmartPLS Application program, with the Structural Equation Modeling (SEM). The results of the analysis showed that at the 90% confidence level ($\alpha=0,1$) socio-economic factors had a direct and positive effect on the incidence of stunting, women's empowerment had a significant and negative effect on stunting (p-value 0.002), family resilience (p-value 0.27) had no effect on the incidence of stunting. Women's empowerment (p-value 0.721) and family resilience (p-value 0.612) were not able to moderate economic factor on stunting incidence. The conclusion of this study is that socio-economic empowerment of families in Jambi Province should be focus on people with low socio-economic status, by providing additional employment opportunities according to the expertise of the head of the family. Empowerment of women needs to be improved and gender-friendly jobs prepared. It is necessary to apply permanent procedures for Early Breastfeeding Initiation and exclusive breastfeeding in all health service facilities and government institutions. Stunting prevention must involve all cross-sectors in an integrated manner at all levels of service.

Keywords: socio-economic factor, women's empowerment, family resilience, stunting

INTRODUCTION

Stunting is the impact of long-term nutritional deficiencies that result in retarded mental development, school achievement, and decreased intellectual capacity. This condition will affect economic productivity at the national level (WHO, 2010). Globally, data as of October 2019 shows that there are 149 million children under five year suffering from stunting. In South Asia and Sub-Saharan Africa 1 out of 3 children under five year suffer from stunting, in India stunting reaches 38%, in the Democratic Republic of the Congo this case is greater, at 43% (UNICEF/WHO/World, 2019). Result of Fundamental Health Research in 2018, 30.8% of Indonesian children under five year are stunted (Kemenkes RI, 2019). Among ASEAN countries, Indonesia ranks the second highest prevalence of stunting after Timor Leste (Kemenkes RI, 2018).

The root of the problem of stunting is the low socio-cultural, socio-economic and socio-political status, the next factor is the low potential of environmental resources, generally occurs in poor countries and developing countries. Efforts to reduce the prevalence of malnutrition in all countries can be done through increasing the Human Development Index (HDI), the UNDP report states that Indonesia's HDI since the last five years has a tendency to increase. Indonesia's HDI was at 71.92%, ranked sixth among ASEAN countries and ranked 111 out of 189 countries in the world (UNICEF/WHO/World, 2019). Jambi Province has an HDI below the national figure of 71.26%, lower than the HDI of Riau and West Sumatra Province, but higher than the HDI of South Sumatra and Bengkulu Province. Kerinci Regency ranks third with an HDI rate of 70.59% while Tanjung Jabung Timur Regency is in the last place out of eleven regencies/cities in Jambi Province with an HDI 63.32 (BPS RI, 2019).

The main problem of stunting is the lack in women's empowerment and family resilience. Empowerment of women is an important goal in the effort to achieve sustainable global development throughout the world (Huis *et al.*, 2017). The condition of women's empowerment is reflected in the Gender Development Index (GDI). In 2017 Indonesia's GDI was 90.96 while the Women's Human Development Index (HDI) was only 68.08. The level of education in a matter of years of school in Indonesia has only reached an average value of 8.58 years, 8.9 years for boys and 8.26 years for girls. This number is still quite low when compared to other countries in the region in Southeast Asia. The open unemployment rate is still quite high at 5.5% as of August 2018. The highest poverty rate is in rural areas, which is 13.20% (Kemenkes RI, 2019).

The measure of family resilience is developed with three latent resilience, i.e physical resilience, social resilience, and psychological resilience through optimizing family functions, i.e economic functions, social and educational functions, affection functions and reproductive functions (Sunarti E *et al.*, 2003). The resilience of Indonesian families in developing independence is related to material abilities and the level of family harmony as illustrated by the condition of the income per capita of household

heads according to household consumption expenditure (55.74%) decreased compared to 2017 (56.14%).), the number of marriages, divorces, and median age at first marriage for ever married women aged 25-49 years by area of residence in 2017 in urban areas 22.9 years and in rural areas 20.9 years. The divorce rate in Indonesia is increasing every year, the rate of increase in divorce cases from 2015 to 2016 has increased by 3.33%, in 2016 to 2017 the number of cases is 8,862 cases (BPS RI, 2019).

Integrated stunting management started in 2018 in 100 priority districts/cities with 10 villages in each district/city. The program will continue in 2019 with an additional 60 priority districts/cities or 600 villages. Jambi Province in 2018-2019 got priority in Kerinci Regency and East Tanjung Jabung Regency (Kemenko PMK, 2018). The nutritional status indicator of Jambi Province based on Height by Age of children under five year with short and very short criteria is 25.2%. This number increased significantly in 2018 to 30.2% which means that out of 100 children under five year, there are 30 children under five year who are stunting (Kemenkes RI, 2019).

Several data on social and economic indicators of Jambi Province in 2018 include the average inflation rate of 3.02% and the highest is the health sector at 7.56% followed by the food sector at 4.10%. 3.49% housing sector and 2.67% clothing sector. Gross Regional Domestic Product growth in 2018 was 4.71%, up only 0.07% from the previous year 2017 (BPS RI, 2019). Jambi Province PPH score with Recommended Dietary Allowances (RDAs) of 2,150 kcal/cap/day in 2017 of 86.3 is still in the silver category because it is less than 87. Energy consumption is still mostly based on food sourced from grains, i.e 1250 kcal/cap/day, so that the percentage of total expenditure on average per capita per month is also mostly still used to buy food sourced from rice (Kementrian Pertanian, 2018).

Jambi Province GDI in 2018 was 67.78, the fifth lowest among provinces on the island of Sumatra and still below the national average of 72.1 (BPS Provinsi Jambi, 2019). The 2019 e-PPPGBM data shows data on the number of children under five year who suffer from stunting in Jambi Province as many as 6,438 people from 60% of the targets that have been recorded. This number is likely to be greater if the number of data on the target children under five year has been recorded and entered 100% (Dinas Kesehatan Provinsi Jambi, 2020).

The prevalence of stunting in Kerinci Regency is 32.8% with a poverty rate in 2019 of 7.13%. Tanjung Jabung Timur Regency experienced a stunting prevalence of children under five year in 2018 of 31.9% with a poverty rate in 2019 of 11.54% (Kemenkes RI, 2019). Whereas the ranking and food security index score of Kerinci Regency is ranked 39 with a score of 81.00 while Tanjung Jabung Timur Regency is ranked 185 with a score of 74.18 out of 416 districts in Indonesia. (Kementrian Pertanian, 2018).

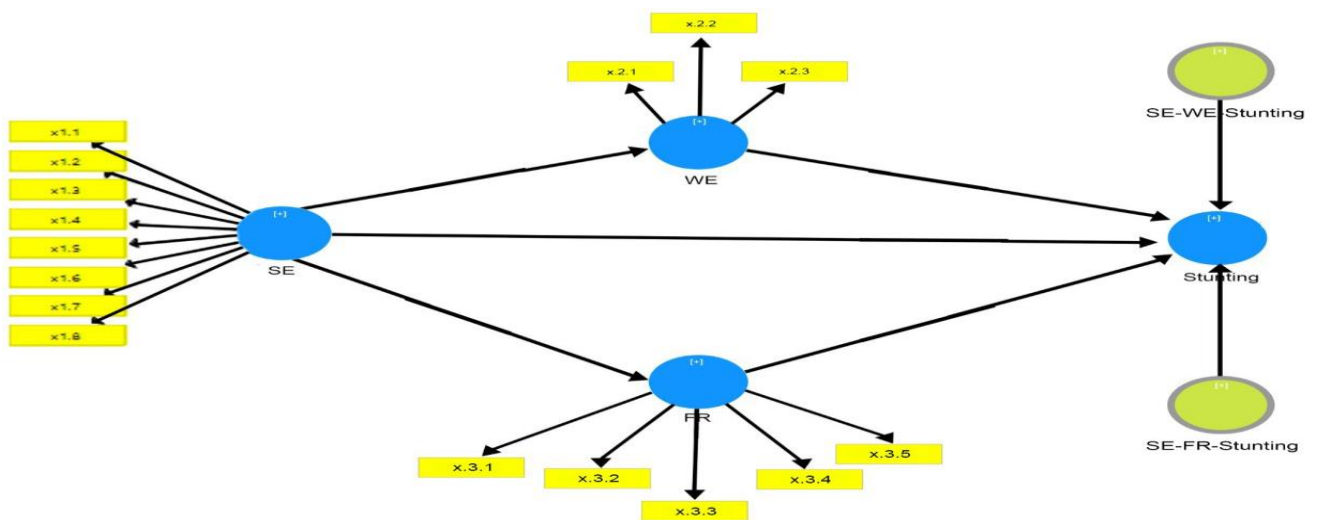
RESEARCH METHODS

This research is a quantitative research by examining the relationship between variables. The variables in this study were analyzed using statistical procedures. The design of this research is observational analytic which describes general characteristics related to people, places and times.

The research was carried out in the priority districts for stunting handling in Jambi Province in 2019, East Tanjung Jabung District and Kerinci District. Calculation of the sample using the Slovin formula with 95% confidence level ($\alpha=0,05$) with a sample of 298 people in 2 districts of the study locus. The sample was determined using the Multistage Cluster Sampling method, the village sample used the Proportional simple random sampling method. Respondents in this study are mothers of children under five year who were selected with the criteria of being able to read and write, physically and mentally healthy, cooperative and able to communicate using Indonesian. The variable in this study is the incidence of stunting, the independent variable consists of socio-economic factors, women's empowerment and family resilience.

Data analysis using Structural Equation Modeling (SEM) model with SmartPLS application. The analysis model of this research is as follows:

Picture 1. Analysis Model



Information:

Y = Stunting

Y1 = Mother's Nutrition

Y2 = Early Breastfeeding Initiation (EBI)

Y3 = Exclusive breastfeeding

X1 = Social Economic Factors

X1.1 = Employment

X1.2 = Education

X1.3 = Skill

X1.4 = additional business

X1.5 = Social Security

X1.6 = Current Asset Investment

X1.7 = Non-current Asset Investment

X1.8 = Income

X2 = Women's Empowerment

X2.1 = Education

X2.2 = Employment

X2.3 = Income

X3 = Family Resilience

X3.1 = Legal Resilience

X3.2 = Physical Resistance

X3.3 = Economic Resilience

X3.4 = Psychological Resilience

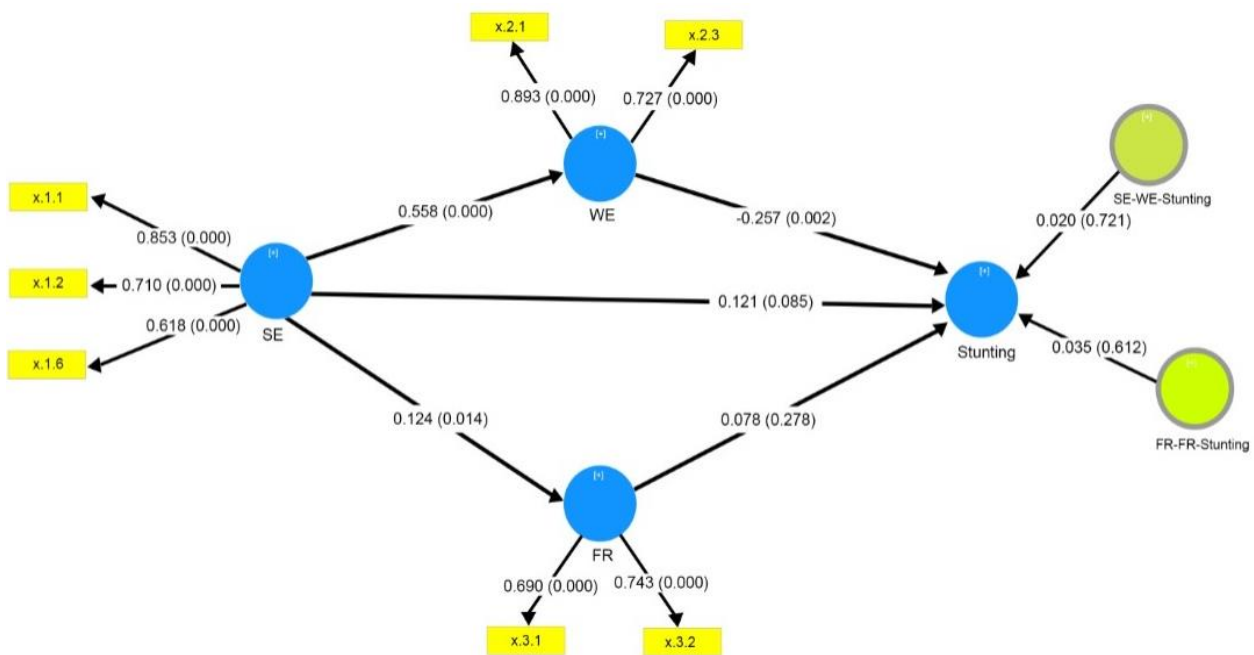
X3.5 = Cultural Resilience

RESULT AND DISCUSSION

The result of the univariate analysis shows that most of head of family had non-formal jobs as many as 240 families (80.5%), higher education as many as 170 families (57%), no additional business as many as 248 families (83.2%), do not have social security as many as 152 families (51%), have investment in current assets as many as 182 families (61.1%), and have investment in non-current assets as many as 211 families (70.8%).

The indicator of women's empowerment found that most of the mothers studied had low education as many as 186 people (62.4%), mothers who did not work as many as 186 people (62.4%), and mothers who had sufficient income as many as 154 people (51.7%). Several components of family resilience show that most families have a high legality basis, as many as 222 families (74.5%), low and high physical resilience 149 families (50%), high economic resilience as many as 152 families (51%), low psychological resilience as many as 283 families (97%) and high cultural resilience as many as 245 families (82.2%). To prove the research hypothesis, data analysis was carried out with the Structural Equation Modeling (SEM) test using the SmartPLS application, as shown below:

Picture 2. Results of Data Analysis and Hypothesis Testing



1. The Influence of Socio-Economic Factors on Women's Empowerment

The socio-economic factors has an effect on women's empowerment of Jambi Province. Head of the family education will allow the process of literacy and understanding of gender in the family to be better. The culture of the Jambi Province community, especially the Stunting Handling Locus Regency, which mostly has a Muslim background, should have been accompanied by an understanding of the husband's duties and responsibilities in educating and providing educational opportunities for his partner (wife). This study is suitable to Nurhadi (2019) that concludes that in Islamic teachings and culture it is an obligation for the husband to be a leader for his wife by providing protection and providing proper educational opportunities to his wife (Nurhadi, 2019).

The results are in line with research conducted by Habib et al (2019) on women in Quetta, Pakistan, who found that education was positively and significantly correlated with women's empowerment. Education is proven to be one of the main key factors with the most significant positive impact and influence on women's empowerment (Habib *et al.*, 2019). A good level of education of the head of the family allows them to have good skills, so they have the opportunity to get a better job. A good job with higher salary and wages will eventually increase income. The number of heads of families who have additional expertise in this study is 32.7%, proving that the skill factor of the head of the family significantly and convincingly has an influence on the income level of women (housewives). This statement is reinforced by the research of Dedi Julianto, Puti Annisa Utari (2019) in West Sumatra Province which found that the education level factor can have a significant effect on individual income, level of education is correlated with the level of income. The income level of men is greater than women (Julianto & Utari, 2019)

2. The Influence of Socio-Economic Factors on Family Resilience

The socio-economic factors had a direct, positive, and significant effect on family resilience with a p-value of 0.014 (<0.05). According to the Law of the Republic of Indonesia Number 52 of 2009 concerning Population Development and Family Development, family resilience and welfare are family conditions that have tenacity and resilience and contain material physical abilities to live independently and develop themselves and their families to live harmoniously in improving birth and welfare. Inwardly, one component of family resilience is family welfare (BPK RI, 2009).

The education level of the head of the family will affect compliance with laws and regulations related to legality and family integrity. This study found that the latent variables that affect family resilience are the dimensions of the legal basis and family integrity and the dimensions of physical resilience consisting of family health and the availability of a place/fixed location for sleeping. This are in line with Hanum and Safuridar (2018) in Karang Anyar Village, Langsa City which found that socio-economic conditions can be influenced by income levels, the results of statistical tests show that income has a positive influence on family welfare (Hanum & Safuridar, 2018).

Family resilience can be seen from the conditions or circumstances in the family concerned, such as good communication between family members, the fulfillment of family needs for clothing, food and shelter, affection between family members.

Indrawati's research (2015) conducted in North Semarang, from the results of regression analysis shows that socioeconomic status is positively correlated with the intensity of communication in the family, indicated by the value of $r = 0.327$ (Indrawati, 2015). This study's results are different with Qoyyimah (2016) in Tulungagung Regency which found that socio-economic factors in the form of parental education had no significant effect on family welfare (p-value 0.270), as well as the work of parents it was known that there was no significant relationship to family welfare (p-value 0.771) (Qoyyimah & Wahini, 2017). In addition to welfare, the component of family resilience includes happiness in the family. However, according to Wenas (2015) happiness is not directly influenced by the socioeconomic status of the family, this is evidenced by the results of the statistical correlation test $r=0.269$ in families in Artembaga, Bitung City (Wenas *et al.*, 2015).

3. The Influence of Socio-Economic Factors on Stunting Incidence

The results of statistical calculations found that at the 90% confidence level ($\alpha=0,1$) socio-economic factors had a direct and positive effect on the incidence of stunting, p-value shows a number of 0.057 so that the hypothesis is accepted. The higher the socio-economic status of the family (level of education, occupation and expertise of the head of the family) the more likely it is to get a decent income so as to be able to meet the needs of the family, especially food consumption, high accessibility to food will be able to increase the nutritional intake of family members, especially children under five year as a source of income. risk group. Many national and international studies have proven the influence of this factor, research conducted by Dewi (2015) in Kanigoro Village, Gunung Kidul found that the income of the head of the family was significantly related to the incidence of stunting (p-value 0.036) (Dewi, 2015).

Most of the percentages of stunting occur in heads of families with incomes below the minimum wage (Ngaisyah & Dewi, 2015). Low socio-economic factors have a greater risk of experiencing poor nutritional status, good socio-economic factors will show good nutritional status as well (Basri *et al.*, 2013). Ernawati et al (2018) who conducted research on the relationship between socio-economic factors and the incidence of stunting in children under five year in Surabaya, found that parental occupation and parental education were significantly related to stunting in children under five year. Socio-economic factors are divided into three, namely education, work, and family income. From the results of statistical testing, it is known that parental education ($p<0.001$) has an effect on stunting. Due to parents' level of education, it can change the dietary habit of a family member which will affect the nutritional status of the family. In addition to parental education, parental work also affects the incidence of stunting, therefore the type of work parents do will determine how much household finances are used to meet family needs (Ernawati, D., Hastuti, P., Rachmawati, D. S., Susanti, A., Yuliastuti, C., Widyastuti, M., & Mahmudah, 2018). Research by Kaunang et al (2016) on families in Minahasa Regency, found different results based on the results of the correlation test, it was known that the p-value was 0.615, which means that there is no relationship between father's education level and nutritional status (Kaunang, C., Malonda, N. S. H., & Kawengian, 2016).

4. The Influence of Women's Empowerment on Stunting Incidents

Based on statistical calculations, there is a relationship between women's empowerment and the incidence of stunting, showing a p-value of 0.002 ($<0,05$). However, the negative influence of women's empowerment to stunting shows that the variables of women's empowerment consisting of education and work will actually increase stunting cases. The risk of working mothers based on the type and time of work compared to mothers who do not work will be different in parenting patterns. Working women who live in rural areas work more in the informal sector than those who live in urban areas. The cultural pattern of the people of Jambi Province is more entrusting the care of children under five year to other family members who have not yet ascertained the ability of good parenting. Meanwhile, women who work in urban areas prefer to entrust their children under five year to child care centers where standard of care cannot be ascertained. This condition will affect the level of morbidity (morbidity) which will ultimately affect the nutritional status of children under five year.

Research on children under five year aged 24-59 months in the city of Makassar, found there is a significant relationship between education and the incidence of stunting, it is said that maternal education can reduce the incidence of stunting, this is because in general, mothers are the main caregivers for children, so that the education level of the mother has a strong relationship with stunting in children (Ibrahim, I. A., & Faramita, 2015). The variable of mother's education level can play an important role in the occurrence of stunting, than nutrition education to the community related to a person's mindset in seeing a problem related to health, education to mothers of children under five year about stunting can have an impact on the First 1000 Days of Life, which later can have the potential to reduce stunting (Norfai, 2021).

The results of this study are not in line with research conducted in Tembalang Village which obtained the results that there was no relationship between maternal education level and stunting in children under five year ($p=0,646$). Due to the education level of the majority of respondents is the level of advanced education which means that respondents have a good education (Putri, 2012). There was no relationship between maternal education level and nutritional status because the number of babies with normal nutritional status is more in mothers who have a high level of education than mothers with low education (Aisyah *et al.*, 2015)

5. The Influence of Family Resilience on Stunting Incidents

Statistical analysis found that there was no relationship between family resilience and the incidence of stunting. The p-value shows a number of 0.278 (>0.05), increasing family resilience will not affect the incidence of stunting. The level of family resilience in this study was mostly 98.7% in the low category. The legal basis in the form of ownership of proof of marriage administration, birth certificates, togetherness of family members, and physical resilience in the form of ownership of a decent house and separate beds between children and parents do not have a direct and significant effect on the increase or decrease in the incidence of stunting in Jambi Province.

The family structure variable was not associated with stunting in Haaba and Zeway Ethiopia (Ersino *et al.*, 2018). According to Iftikhar *et al* (2017) the status of parents who live separately or who live together is not significantly related to the nutritional status of children as evidenced by the p-value 0.50. Family type can also be a risk factor for stunting (Iftikhar *et al.*, 2017). Components of family resilience which include structures, and indicators are interrelated in achieving family welfare. All aspects of internal and external family functions have no relationship to nutritional status (Hanifah *et al.*, 2017).

Research with different results in Sub-Saharan Africa have found the level of family integrity as assessed by parents who live together or does not have a significant relationship with stunting children under five year (p-value <0.001), as well as the type of family that has a significant relationship with the incidence of stunting as evidenced by the p-value <0.001 (Yaya *et al.*, 2020). Rohmawati *et al* (2019) found that the implementation of the role of the family had a significant correlation with children's stunting in Arjasa District, Jember Regency, as evidenced by a p-value of $0.002 < 0.005$ (Rohmawati *et al.*, 2019). The application of family functions plays a very important role in meeting nutritional needs, so it is important to have a health function in the family.

6. Moderating Effect

The women's empowerment variable and the family resilience variable were not able to moderate the influence of socio-economic factors on the incidence of stunting. As shown in the following table:

Table. 1. Moderating Effect

	Original Sample (O)	Average sample (M)	STDEV	T Statistic (O/STDEV)	p-value
SE-WE- Stunting	0.02	0.01	0.05	0.36	0.72
SE-FR- Stunting	0.03	0.03	0.07	0.51	0.61

The results of this study are not similar to Rabaoarisoa *et al.*, that socioeconomic status of the household which is strengthened by the empowerment of women in the family will affect stunting phenomenon. Low socio-economic status and requiring mothers to work will affect the mother's time in caring for and taking care of children at home. Although family income increases with the status of working mothers, the workload faced by mothers will affect the mother's attention to the nutrition received by the child, so that children with mothers who are busy outside the home will tend to have a greater risk of stunting (Rabaoarisoa *et al.*, 2017). Families with poor socio-economic status conditions with a large number of children can result in not meeting primary needs such as food, clothing and housing, thereby increasing the risk of malnutrition in a household (Soetjningsih, 2013).

CONCLUSION

Socio-economic factors and empowerment of women has a significant effect on the incidence of stunting, while family resilience have no effect on the incidence of stunting. The variables of women's empowerment and family resilience were not able to be a moderator between socio-economic factors on the incidence of stunting. Socio-economic empowerment efforts in Jambi Province must focus on people with low socio economic status, by providing additional employment opportunities according to the expertise of the head of the family. Empowerment of women needs to be improved and prepared for gender-based jobs. The household head's per capita expenditure should be increased for food needs. It is necessary to apply regular procedures for EBI and exclusive breastfeeding in health service facilities and government institutions. Stunting prevention must involve all cross-sectors in an integrated manner at all levels of service.

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