Indonesian Journal of Global Health Research
Volume 7 Number 2, April 2025
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

RELATIONSHIP BETWEEN EDUCATION LEVEL, EMPLOYMENT, SOCIO-ECONOMIC CONDITIONS AND STUNTING INCIDENTS (CASE STUDY IN KARANGANYAR REGENCY)

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ABSTRACT
The problem of stunting is a priority for the government to resolve. Stunting is closely related to nutritional problems experienced by toddlers so that the appearance of length and height does not match their age development. Several factors are suspected of influencing the incidence of stunting such as education level, type of work and socio-economic conditions. Central Java Province has several areas that are recorded as having a fairly high incidence of stunting, one of which is in Karanganyar Regency. This study aims to determine the relationship between education level, work, socio-economic conditions and the incidence of stunting in Karanganyar Regency. This study uses primary data obtained by directly interviewing 30 respondents in the research area randomly. The data analysis method used is Pearson correlation. Based on the results of the study, the p-value for the indicator variables of education level and socio-economic conditions is less than the alpha value of 5% so that both have an effect on the incidence of stunting, while the p-value for the type of work is more than the alpha value of 5% so that it does not affect the incidence of stunting.

Keywords: karanganyar; stunting; toddlers

How to cite (in APA style)
Musta'in, M., Marni, M., Sani, F. N., & Ramdhani, A. (2025). Relationship between Education Level, Employment, Socio-Economic Conditions and Stunting Incidents (Case Study in Karanganyar Regency). Indonesian Journal of Global Health Research, 7(2), 745-752. https://doi.org/10.37287/ijghr.v7i2.5522.

INTRODUCTION

Nutritional problems in Indonesia are a problem that is increasing over time. Nutritional problems are actually still experienced by toddlers in Indonesia (Salsabila et al., 2022). This is because toddlers have a phase that is still vulnerable to nutritional problems. In fact, toddlers are a period where individuals need sufficient nutritional intake. This large nutritional fulfillment is intended so that their development and growth period is not hampered (Susilowati, 2016). Some nutritional problems that are often experienced by toddlers in Indonesia include vitamin A deficiency, protein energy deficiency, anemia to stunting which has not been completely resolved. Stunting is known as a problem in toddler nutrition which is indicated by the appearance of toddler height that is not as optimal as their age development. Stunting will gradually result in less than optimal brain development if not resolved, resulting in decreased intelligence so that individuals are susceptible to disease and decreased productivity (Rahmawati, 2020).

The issue of malnutrition is a health problem that has not been fully resolved in Indonesia (Simbolon et al., 2024). The negative consequences of children not receiving full nutrition are growth and development disorders such as stunting. WHO states that there are still 14 countries that have a fairly high percentage of stunting, more than 24.5% (Adimuntja, 2022). Indonesia is in fifth place with a record of many toddlers with malnutrition problems, so it is not surprising that the government has focused on solving this problem in recent years (Tiara

and Sanjaya, 2022). The record of more than 7,500 children at the stunting level is a problem that has become a national priority (Rilau et al., 2022). Individuals with a record of stunting from an early age are faced with long-term risks such as psychomotor, nutritional deficiencies and intelligence problems (Dwidyaniti, 2022).

The problem of stunting, which has begun to decline from year to year with various programs being implemented, is still a national priority. This is intended so that the problem of stunting can be monitored throughout the year (Rachman et al., 2021). Various factors are suspected of influencing the incidence of stunting in Indonesia, one of which is parental education. The nutritional status of children is in line with the role of parents in supporting the growth and development of children by providing adequate and good nutrition. The high or low level of parental education will affect the nutritional intake that will be given to children, especially the higher the parental education, the more in line with the access to information they have, both from health services and information from other sources related to children's nutritional needs. Of course, the level of education is also suspected of influencing the incidence of stunting because parents with a sufficient level of education tend to be open and willing to accept input and suggestions from related health services (Rahmawati & Rasni, 2019).

The role of parents in taking the time to observe their child's growth and development is also key to overcoming stunting. The time provided is identical to the type of work held by the parents. The type of work is also in line with the mother's nutritional knowledge, which is known as conversations from coworkers and their behavior will affect the child's growth and development and health (Fauzi, 2020). In addition to the type of work, socioeconomic status also has an influence on the occurrence of stunting in an area. The ability of households to provide food and other needs, both primary and tertiary, is an important need that must be provided to support life. In contrast, if low socioeconomic status is also in line with difficulties in fulfilling life (Nurmayasanti & Mahmudiono, 2019).

There are 6 areas in Central Java province that have a record of toddler stunting trends. Karanganyar Regency is one of the regencies that is still recorded as having a fairly high toddler stunting trend in Central Java Province. In 2018, the prevalence was recorded at 28, in 2019 it reached 23.4, and in 2021 it reached 16.2. In the period of three years, it has indeed decreased, but there are still stunted toddlers, so prevention and anticipation are needed in handling stunting that occurs in Karanganyar Regency. Karanganyar Regency is also still one of the areas recorded as having quite high stunted toddlers compared to several other areas (Darnoto et al., 2023). This study aims to determine the relationship between education level, employment, and socio-economic conditions with the incidence of stunting in Karanganyar Regency.

METHOD

In answering the first research objective, a phenomenological approach was used, which is included in one of the qualitative methods. The sampling technique was carried out purposively, namely in Gebyog Village, Mojogedang District. The selection of this location was based on the village that had the highest number of stunted toddlers in Karanganyar Regency. The research activities were carried out in October-November 2024. The sample size in the qualitative study was adjusted to the achievement of the completeness of the information needed by the researcher with the criteria for respondents being households that have toddlers and are in Gebyog Village, Mojogedang District, as many as 30 parents who have stunted children at the research location. The use of purposive sampling was carried out in selecting respondents who could provide comprehensive and comprehensive information for researchers. In order to collect information, researchers conducted in-depth interviews and

took field notes on several things such as respondent characteristics. A cross-sectional approach was used in order to answer the research objectives, especially by conducting analytical observations. Data collection using questionnaires. Data processing by editing, coding, scoring, tabulating, and data analysis using Pearson correlation. Pearson correlation is a statistical method used to measure the strength and direction of a linear relationship between two variables. Mathematically, the calculation of Pearson correlation can be calculated using the following method (Purnama & Nuzleha, 2021):The correlation coefficient indicates the strength of the association between two variables. Values of 0 to 0.20 imply a poor association. Values of 0.20 to 0.40 imply a poor association. Values of 0.40 to 0.70 show a moderate association. Values between 0.70 and 0.90 suggest a substantial correlation. Values close to 1 or -1 suggest a significant correlation.

RESULTRespondent characteristics are important to know as a description of the extent to which general conditions occur at the research location. Respondent characteristics are described into several important aspects. The important aspects referred to are such as the mother's age where age will be divided into three parts, namely 17-25 years, 26-35 years, and 36-45 years. The next respondent characteristic is education which is the mother's achievement in the formal education process. The type of work is also an important respondent characteristic to describe as well as the level of income they have. Knowledge of stunting conditions is also a description of the characteristics of respondents along with the number of household members owned by the respondents.

Table 1.
Respondent Characteristics

Characteristics	f	%
Mother's Age		
17-25 Age's	6	20.00
26-35 Age's	16	53.33
36-45 Age's	8	26.67
Education		
Very Low	5	16.67
Low	6	20.00
Medium	5	16.67
High	8	26.67
Very High	6	20.00
Occupation		
Housewife	16	53.33
PNS	1	3.33
Private	2	6.67
Self-employed	3	10.00
Farmer	8	26.67
Income		
< 2 million rupiah	16	53.33
≥ 2 million rupiah	14	46.67
Stunting Knowledge		
Very Poor	16	53.33
Poor	8	26.67
Enough	2	6.67
Good	2	6.67
Very Good	2	6.67
Household Member Frequency		
Less Than 4 People	22	73.33
More Than 4 People	8	26.67

Based on table 1, it can be seen that most respondents, namely mothers, are still in productive age with a range of 26-35 years as much as 53.3%. The rest of the respondents have an age range of 36 to 45 years with a percentage of 26.67% and respondents with an age range of 17-

25 years with a percentage of 20%. The respondent criteria are also indicated by the level of education possessed by the respondents, namely mothers of toddlers with education levels starting from very high, namely taking undergraduate education at college to the lowest at elementary school level. Table 1 indicates that the level of education of the respondents is evenly distributed from very low to very high education, although in terms of calculations, the level of higher education has a percentage of 26.67%. The level of higher education indicates that there are respondents with education levels up to taking a diploma.Table 1 also provides information on the characteristics of respondents that can be seen from the types of jobs available. The distribution of characteristics of the types of jobs of the largest respondents is housewives with a percentage of 53.33% followed by the type of work as farmers in the next order with a percentage of 26.67%. The type of work will of course also be in line with the income they have. Table 1 indicates that most respondents have an income of less than two million rupiah. Table 1 also shows the characteristics of respondents from the perspective of knowledge about stunting. Most respondents still do not know much about stunting. Table 1 also provides information on the average number of family members of respondents, which in fact the average number of household members is still at a level of less than 4 people. The number of household members is important to know as a description of information on the fulfillment of needs that must be met.

Table 2.
Characteristics of Toddlers in the Research Area

Characteristics	f	%
Gender		
Male	12	40.00
Female	18	60.00
Birth Weight		
< 2.800 grams	6	20.00
> 2.800 grams	24	80.00

In addition to the characteristics of the respondents, it is also necessary to know the characteristics of the toddlers in the research location. Based on table 2, it can be seen that the toddlers with gender are mostly female with a percentage of 60% while the rest are male with a percentage of 40%. It is also important to know the birth weight of each toddler in addition to gender. Most toddlers in the research area actually have a fairly good birth weight, which is more than 2,800 grams with a percentage of 80% while the remaining 20% still have toddlers whose weight is less than 2,800 grams. In answering the research objectives to determine the influence of education level, type of work and socio-economic conditions are shown in the following table.

Table 3.
Relationship between Education Level and Stunting Incidence

Education Level	Nutritional Status				N	%	p value	r
	Stunting	%	Normal	%				
Very Low	3	10.00	2	6.67	5	16.67		
Low	1	3.33	5	16.67	6	20.00		
Medium	2	6.67	3	10.00	5	16.67	0.048	-0.370
High	0	0.00	8	26.67	8	26.67		
Very High	0	0.00	6	20.00	6	20.00		

Based on table 3, it can be seen that the level of education of mothers in a family is divided into five groups starting from very low education levels to very high education levels. The table above also suggests that education levels at very low to moderate levels are vulnerable to toddler conditions that are included in stunting. The table above also states that as many as 10 percent of stunted toddlers have a low level of parental education, namely mothers. There are also 3.33% of stunted toddlers who have mothers with low levels of education and as many as 6.67% of stunted toddlers who have mothers with moderate levels of education. Based on the Pearson correlation, it can be seen that there is a relationship between education

level and the incidence of stunting that occurs. This can be seen in the p-value of less than the alpha value of 5% or 0.05 so that the education level variable has a significant effect on the incidence of stunting at the research location. In addition, the r value in the table above is 0.370 which indicates a weak relationship.

Table 4.
Relationship between Work and Stunting Incidence

Occupation	Nutritional Status				N	%	p value	r
	Stunting	%	Normal	%				
Housewife	2	6.67	14	46.67	16	53.33		
Civil Servant	0	0.00	1	3.33	1	3.33		
Private	0	0.00	2	6.67	2	6.67	0.320	0.191
Self-Employed	1	3.33	2	6.67	3	10.00		
Farmer	3	10.00	5	16.67	8	26.67		

Based on table 4 regarding the relationship between work and stunting cases, it shows that stunted toddlers in the research area have parents who work as housewives, entrepreneurs and farmers. Table 4 also provides information that toddlers with stunting cases have mothers who work as housewives with a percentage of 6.67%, but there are also toddlers with stunting cases who have mothers who work as farmers with a percentage of 10% and toddlers with stunting cases with mothers who work as entrepreneurs with a percentage of 3.33%. Based on the table above, it can be seen that the p value is greater than the alpha value of 5% so that the type of work has no effect on the incidence of stunting. In addition, the r value of 0.191 indicates that if a relationship occurs, a very weak relationship is formed.

‘Table 5.
Relationship between Socioeconomic Status and Stunting Incidence

Socioeconomic Status	Nutritional Status				N	%	p value	r
	Stunting	%	Normal	%				
Very Poor	4	13.33	12	40.00	16	53.33		
Poor	1	3.33	4	13.33	5	16.67		
Sufficient	1	3.33	2	6.67	3	10.00	0.029	0.201
Prosperous	0	0.00	3	10.00	3	10.00		
Very Prosperous	0	0.00	3	10.00	3	10.00		

Based on table 5 regarding the relationship between socio-economic status conditions and stunting incidents that occurred at the research location, it is illustrated by the five levels of socio-economic status that exist. Socio-economic status is illustrated by the rate of status from very poor to very prosperous. Socio-economic status is suspected of having a relationship with stunting incidents related to household accessibility in accessing nutritional needs for the child. Based on table 5, it can be seen that toddlers with stunting incidents have a household socio-economic status that is at a very poor level with a percentage of 13.33%. In addition, toddlers with stunting incidents are also found in households with poor and sufficient socio-economic status conditions with a percentage of 3.33% each. If seen from the p value of 0.029, this value is less than the alpha value of 5%. This indicates that household socio-economic status affects stunting incidents at the research location. The relationship formed can be seen in the r value of 0.201 with a weak relationship level.

DISCUSSION

The problem of stunting is still a global health topic of concern. Stunting is identical to the condition of toddlers who do not grow optimally according to their age. This condition occurs in toddlers with a length or height of minus two from the standard deviation determined by WHO. This condition of toddlers is due to nutritional intake problems which are thought to be influenced by many factors including socio-economic conditions, education, work, maternal nutrition during pregnancy and lack of nutritional intake during infant growth and development. This problem will continue to the difficult cognitive and physical development

of stunted toddlers (Haerianti et al., 2024). Parental education is one of the thematic steps that have been taken to maximize knowledge so that it will have an impact on providing assistance for child growth and development (Hangestiningsih et al., 2015). Education is divided into two types, namely informal and formal, both of which have differences in the competencies possessed by individuals. Education will be in line with a person's knowledge, especially health problems. Knowledge about health is important to have, especially for parents in implementing healthy behaviors that are carried out (Aditianti et al., 2016).

The incidence of stunting is influenced by many factors such as the gender of the toddler, the birth weight of the toddler, parenting patterns, education and type of work. Work will be in line with the income of the family. The better the parents' work will be balanced with the availability of parents in providing food for their children. Work is also closely related to the time provided by parents in controlling the growth and development of their children because it is the responsibility of the parents (Murtini and Jamaludin, 2018). The level of public health is played by the socio-economic status of a household. People who have good socio-economic conditions are better able to meet their living needs compared to socio-economic status that is still at a low level. A low socio-economic level is also in line with low nutritional fulfillment because access to buying the food needed is limited and in accordance with the purchasing ability of the income they have (Rochaida, 2016).

Based on the research results described in the previous chapter, it can be seen that there are two indicators that influence the incidence of stunting. The indicators in question are the level of education and socioeconomic status, while the type of work has no influence on the incidence of stunting at the research location.The level of education affects the incidence of stunting in the research area, namely in Karanganyar Regency. This can be seen from the p-value of less than alpha 5%. This indication states that the level of education significantly affects the incidence of stunting. Based on the value of the relationship that occurs, it is weak based on the r value of 0.370. In line with the research of Vollmer et al., (2017) which states that the level of education, especially for mothers of toddlers, is an important key, especially in minimizing nutritional intake for children at a low level. Education will also be in line with the nutritional information received by parents. The education of mothers at an inadequate level is more difficult to receive information, especially regarding nutrition. Mothers with higher education will be more open-minded and willing to accept nutritional information so that consumption behavior in their homes will adjust to the information received.

Nurmaliza and Herlina's (2019) research also stated that a high level of education allows children to receive attention up to 73% more than mothers with inadequate education. Other indications also state that toddlers with mothers with less education tend to have a threefold risk of stunting. On this basis, the role of mothers is important in minimizing the incidence of stunting. Understanding or knowledge transfer must be encouraged more often by holding meetings to improve informal education so that understanding must be carried out continuously, not just once in providing health and nutrition information to mothers. Mothers with a high level of education will be in line with the ease of receiving information when compared to mothers with a lower level of education. This will also be in line with the high level of knowledge of mothers so that the parenting patterns provided are better and the incidence of stunting can be minimized (Ni'mah, C., & Muniroh, 2015). Competent maternal education is also needed to play an important role in raising children, starting from purchasing groceries to serving food (Ahnafani et al., 2024). Insufficient food consumption will cause an imbalance in the metabolic process in the body. If this continues, there will be growth and development disorders such as stunting in children (Husnaniyah, D., & Yulyanti, 2020).The condition of socio-economic status also affects the incidence of stunting in Karanganyar

Regency. This is indicated by a p-value of less than the alpha value of 5%. In addition, the r value of 0.201 indicates that the relationship is weak. This is in line wi Ramayulis (2018) who stated that low socio-economic status will be in line with the prestige or position of individuals in society who are less respected so that it has implications for the work they get. Position in society also affects the attention of other people so that the socio-economic status that supports it will also improve the material ownership owned by the household. Social stratification in society which is formed hierarchically is in fact also a real manifestation in community groups into high and low classes. The high class in question is a sufficient class so that the values of fulfilling needs are met. Fulfillment of sufficient needs allows households to provide accessibility not only to good food but also to good housing so that children's growth and development can be optimal. The socio-economic status condition can be done by mothers who may be able to do it by adding a side job, for example, those who were originally housewives can then expand into trading or other side jobs in the time that can be spared in order to optimize household income. Optimizing household income is what can later become access to fulfill good nutrition not only for toddlers but for all family members.

CONCLUSION

Based on the research results, the p-value for the variable indicators of education level and socio-economic conditions is less than the alpha value of 5% so that both have an effect on the incidence of stunting. Based on the research results, it was also found that the r value for the variable of education level and socio-economic conditions is in a weak relationship. The p-value of the type of work is more than the alpha value of 5% so that it does not affect the incidence of stunting.

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