

The Role of Socioeconomic Factors Contributed to The Prevalence of Children under Five Years Old with Small Stature in Jatinangor

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Abstract

Background: Indonesia is on the fifth in world population for children with small stature. It could affect to their future, so growth disorders should be detected as early as possible. The influence of growth disorders is inseparable from the socioeconomic condition of the family. This study aims to analyze the influence of socioeconomic based on education, occupation and family income towards small stature children under five years old in Jatinangor.

Methods: This was a study of analytic cross sectional with multi-stage proportionate consecutive sampling. 110 samples of children under five years of age (12–59 months) from 12 villages (6087 children) in Jatinangor sub district were taken on October and November 2012. Their height was measured using a microtoise based on WHO Growth Chart and the socioeconomic status was measured using questionnaire completed by their mother

Results: There were 32 children (29,1%) with small stature. The relationship between maternal education with short stature ($p=0.310$), father's education with small stature ($p=0.368$), mother's occupation with small stature ($p=0.774$), father's occupation with small stature ($p=0.524$) and family income with small stature ($p=0.890$) after it was examined using chi-square test were not significant ($p>0.05$).

Conclusion: In Jatinangor, there are still many children with small stature under five years old and the socioeconomic factors do not have any relationship with this condition. [AMJ.2015;2(1):298-303]

Keywords: Children under five years, small stature, socioeconomic

Introduction

Indonesia is the fifth highest country in the world with a population of children with small stature.¹ In 2010, there were approximately 35.7% of Indonesian children under five years of age with small stature. In West Java, it was 33.7%.² Children's growth and development must be maintained and nurtured properly, because children are the future generation. Therefore, growth disorders should be detected as early as possible. Small stature is one of the children's growth disorders characterized by children's smaller height (<-2 SD on WHO growth charts) compared to children with similar age and gender. Both children's growth and development cannot be separated from the family role and the surrounding environment, including

the family's socioeconomic conditions. Adler and Newman⁴ stated that children who grow within the high socioeconomic families will be different from a child with relatively low socioeconomic families. The socioeconomic status can be measured by education, occupation, and family income. Parent's education will affect beliefs, confidence and parental behavior, which will have an impact on parenting every day. Parents with a higher education level tend to know more knowledge that can be applied on children's growth and development progress. Based on data in terms of education level, 50% of workers in Jatinangor are primary school graduates, and only 4.1% is a college graduate.⁵ Another indicators for socioeconomic status are occupation and family income.⁴ Occupation is closely related to income. Occupation with a higher level will produce a bigger income that can help the economy of the families, and

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families with higher income level tend to select food material with better quality and quantity. In terms of occupation, 70% of people in Jatinangor, working as farm workers, traders, laborers, employees and entrepreneurs. Those occupations have an uncertain income that will affect their daily lifestyle. This study was undertaken to analyze the influence of socioeconomic based on education, occupation, and family income toward children with small stature under five years in Jatinangor.

Methods

This was an analytical study with cross-sectional approach. This study was conducted in 12 villages in Jatinangor Sub-district, Sumedang District, West Java Province on October and November 2012. The populations in this study were mother and children under five years (12–59 months) in 12 villages in Jatinangor, which is in the Cikeruh Village, Hegarmanah, Cipacing, Cibeusi, Sayang, Cileles, Mekargalih, Jatiroke, Cisempur, Cintamulya, Cilayung and Jatimukti Village. From 6087 children, 110 children had been taken to be sampled.

The method for the calculation was the method of Slovin, while the sampling method was conducted by a multi-stage proportional consecutive sampling. In this method, the number of samples was taken, divided by the proportion of children under five years in the village as compared to the overall number of children under five years in Jatinangor. The

results of the calculations showed in table 1

Data was collected by measuring child's height using microtoise. Then the results were plotted on the WHO growth chart. If the child's height was less than -2 SD (Standard Deviation), the child was categorized as small stature.³ Socioeconomic status was obtained by filling out the questionnaire directly by the mothers. Parental education was divided into three levels, which is the primary education level, secondary and high education level. The parent's job was also divided into 3 groups, namely formal occupation (civil servants, private employees, military, police), non-formal occupation (laborers, traders, self-employed), and not working, including retired or housewives.⁶ Family income was divided into two categories based on the Minimum Wage 2012 at Sumedang District, which is to income less than IDR1,240,000 classified into low categories, whereas if the above, classified as high category.⁷

The data obtained were then sorted regarding its completeness and then inserted into the computer to be processed and analyzed using the open sources program. The data analysis included calculating the prevalence of short stature, bivariate analysis with the chi-square test between each variable that is, education with small stature, occupation with small stature, and family income with small stature, and multivariate analysis with binary logistic analytic test to see the influence of the socioeconomic families toward children with small stature.

Table 1 The Number of Samples Per Village

No	Villages	Number Of Samples
1	Cikeruh	12
2	Hegarmanah	12
3	Cipacing	18
4	Cibeusi	7
5	Sayang	10
6	Cileles	7
7	Mekargalih	8
8	Jatiroke	8
9	Cisempur	8
10	Cintamulya	8
11	Cilayung	6
12	Jatimukti	6
	Total	110 child

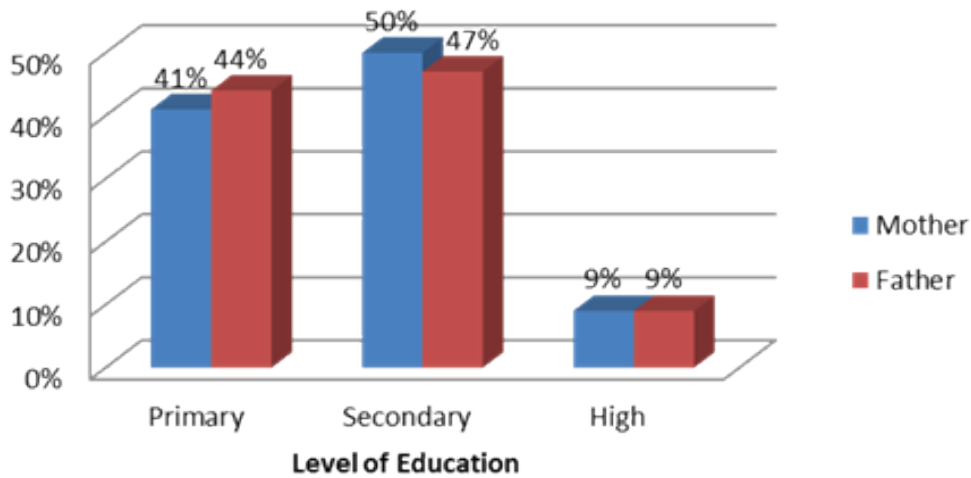


Figure 1 Education of Mother and Father of Children with small stature

Results

The prevalence of small stature occurred in children under five years in Jatinangor was 29.1%. The majority of parents of the children with small stature underwent the education level until primary and secondary level, where the parents have nearly the same percentage. Only 9% of the parents have higher education level (Figure 1).

There was 63% (20 people) of the children with small stature have a housewife mother, 34% was informal worker and only 3% was a formal worker (Figure 2).

There are 81% (26 people) of the short stature children with small stature having a father who was an informal worker. Among those, 19 people were an entrepreneur and 7 people were laborers. Only 19% was formal worker (Figure 3).

Based on the level of family income, 56%

(18 people) of children with small stature had parents with incomes below the Minimum Wage 2012 at Sumedang District which was below IDR 1,240,000 (Figure 4).

The relationship between maternal education with short stature ($p=0.310$), father's education with short stature ($p=0.368$), mother's occupation with short stature ($p=0.774$), father's occupation with short stature ($p=0.524$) and family income with short stature ($p=0.890$) that was examined using chi-square test were not significant ($p>0.05$). Based on the test results, it can be concluded, at the 95% confidence level, there was no correlation between the mother's education, father's education, mother's occupation, father's occupation and family income with children with small stature under five years in Jatinangor.

The results of binary logistic test that measures the influence socioeconomic

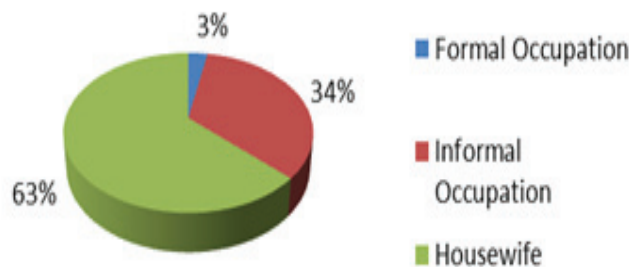


Figure 2 Mother Occupations in Children with Small Stature

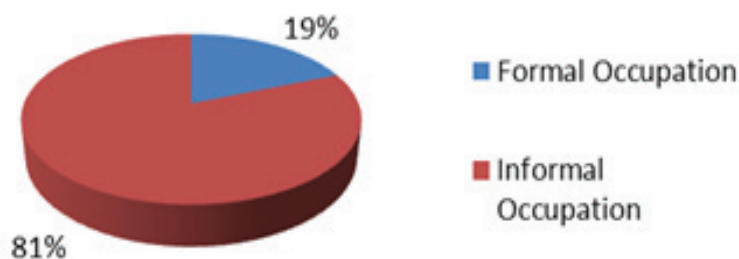


Figure 3 Father Occupations in Children with Small Stature

families based on education, occupation and family income toward children with small stature under five years in Jatinangor was not significant with the p value $0.474 > 0.05$. Based on these test results, it can be concluded, at 95% confidence, there was no influence of socioeconomic families based on education, occupation and family income toward children with small stature under five years in Jatinangor.

Discussions

Prevalence of short stature children under five years in Jatinangor was classified as moderate (29.1%). The result of this study does not have much difference with the incidence of short stature children in West Java in the amount of 33.7%. The prevalence obtained in this study is also not much different from Indonesian Basic Health Survey (Riset Kesehatan Dasar/ Riskesdas). Data from Riskesdas² showed that in 2010, there were 35.7% of children under five years of age have small stature.

Figure 1 shows that children with small stature mostly had parents with primary education, and secondary education level. Only 9% of the children with small stature

had parents with higher educational level backgrounds. The results were consistent with the theory that suggests that parental education affects the development of children, where the parents with higher education have more knowledge to be applied in daily parenting style. Parental education will affect the confidence, belief, and parental behavior, which will have an impact on parenting style everyday.^{4,8}

In Figure 2 and 3, shows parental occupation of children with small stature. Based on the occupation mother, the mother who is either a worker or a housewife may have children with small stature. Mother's occupation, whether they work or not, can produce negative and positive effects on children. A Study by Glick⁹ mentioned that mothers who work will help the family economically that will produce beneficial effects for the nutritional status of the children, so that the children can grow and develop optimally. On the other hand, mother who work, especially who works with a dense time, did not have enough time to care for their children, including controlling the nutritional needs for the child.

Figure 3 showed father's occupation in children with small stature. Based on the results of this study, it seems that the majority

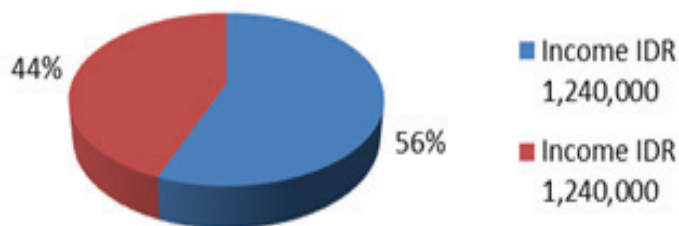


Figure 4 Family Incomes in Children with Small Stature

of children with small stature had a father who worked as informal workers such as laborers or self-employed. This father's occupation will be related to the results of the studies about family income that showed in Figure 4. In that figure, it can be seen that most of the children with small stature have parents with incomes below the minimum wage in Sumedang. Both of these results are related, where the work will affect family income. The higher a person's rank or position in the job, the larger the income of the family owned. Almost in all countries, children of parents with low incomes have worse health conditions compared to children with parents who live wealthy and prosperous. Parental income may be related to the child's health because it can affect the quality and quantity of health care services for children.¹⁰

Further result of the study showed that there was no relationship between socioeconomic factors toward the prevalence of children with small stature under five years in Jatinangor. These results different with the studies conducted in Johannesburg¹¹, where socioeconomic families influence short stature in children. It can happen due to the possibility of socioeconomic families that have no direct influence toward development of children. In other studies, there are factors that are directly related toward short stature in children, such as genetics, nutrition or chronic disease which may influence the development of children.^{12,13}

In the conclusion, in Jatinangor, there are still many children with small stature under five years and the socioeconomic factors have not relationship with that condition. Further study should be carried out to find other factors that can cause children with small stature under five years old.

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