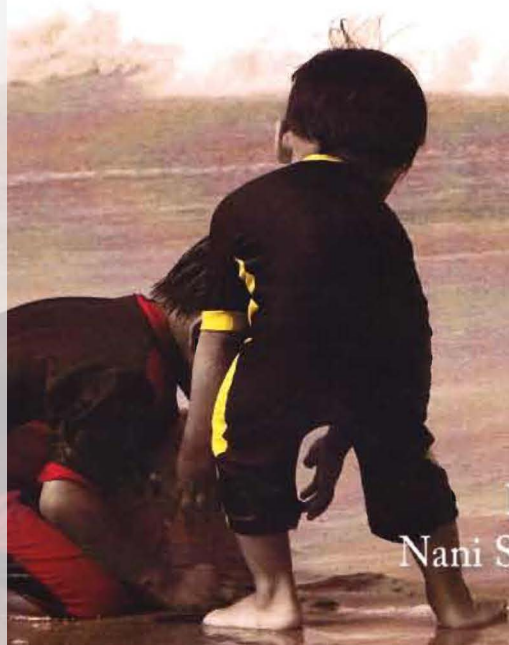


Growth, Cognitive Development and Psychosocial Stimulation of Preschool Children

in Poor Farmer and Non-Farmer Households

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2012





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DESCRIPTION

: Growth, Cognitive Development and Psychosocial Stimulation of Preschool Children in Poor Farmer and Non-Farmer Households

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SUMMARY

Malnutrition in children under five will have an impact on the delayed physical growth, motor development, and disordered cognitive development. In addition, a lack of nutrition will have an impact on social behavior changes, decreased attention, learning ability, and low learning outcomes. This negative impact on cognitive abilities occurs not only in children with severe underweight, but also in stunted children who have chronic malnutrition at an early age (Djalal 2009). Results of the Basic Health Research (2007) published by Kemenkes/Ministry of Health of Republic of Indonesia (2008) show the magnitude of nutrition problems facing Indonesia. The number of children suffering from malnutrition reached 18.4%, and stunted children 36.8% of children under five. If the nutrition problem is not resolved, there will be a lost generation.

The objectives of the study were (1) to identify the socio-economic and demographic characteristics of poor farmer and non-farmer households, (2) to identify the eating patterns of preschool children, (3) to analyze the trend of nutritional status among children aged 12, 24 months and at the current age, (4) to identify psychosocial conditions of preschool children, (5) to analyze the level of cognitive development of preschool children, and (6) to analyze the factors that influence growth and cognitive development of preschool children.

This research was of a cross-sectional and carried out in Subang District, West Java Province, Indonesia. The study was conducted in 2012. The population of this research was poor farmer and non-farmer households (income per capita less than US\$2 per day) with children aged 3–5 years. The number of the samples as the research subjects was 402 children. The primary data was collected through

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Summary

interview using a set of questionnaires, measurement and direct observation. The collected data had been through the process of coding, scoring, entry, and cleaning and then was analyzed using Microsoft Excel 2007 and Statistical Packages for the Social Sciences (SPSS).

The results of this study showed that the farmer households and non-farmer households had 4.5 household members on average. Based on the number of years that fathers and mothers spent for their study, the education of the non-farmer households was relatively better than of the farmer households. However, either in the farmer households or the non-farmer ones, the father and mother education was less than 12 years.

The income of the non-farmer households was higher than of the farmer households (IDR 300,245 vs IDR 229,760 per capita per month); where as the food expenditure of the farmer households was higher than the non-farmer households. These phenomena show that the higher the income is, the smaller the food expenditure is.

The mothers with a high nutritional knowledge (their scores $\geq 80\%$) were more frequently found in the non-farmer households. The average score of the nutritional knowledge for the mothers in the farmer households was 54.3 while for the mothers in the non-farmer households was higher, that is, 60.8. The result of the t-test showed that there was a very significant difference ($p < 0.01$) between the nutritional knowledge of the mothers in the farmer households and in the non-farmer households. The average score of the nutritional knowledge of the mothers with KMS (growth chart card distributed at *posyandu*/integrated health and nutrition services), 58.2, was not significantly different from that of the mothers without KMS, 58.8 ($p > 0.05$).

The mothers from the non-farmer households gained a high score of the nutritional attitude, the total was greater than that of the mothers from the farmer households (82.4% vs 67.1%). The average scores of the nutritional attitude from the non-farmer groups and the farmer groups were 87.0 and 83.4, respectively. The t-test showed that there

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was a very significant difference ($p < 0.01$) between the nutritional attitude scores of the mothers from the non-farmer households and from the farmer ones. However, there was no difference ($p > 0.05$) between the nutritional attitude of the mothers who possessed KMS and those who did not possess KMS. This is in line with the correlation between the nutritional knowledge of the mothers who owned KMS and who did not own one, which was insignificantly different. Thus, in this study, KMS possession could not be used to differentiate the nutritional knowledge and attitude of the mothers.

The mothers had the greatest role in preparing food for the children if compared with the other household members, either in the farmer households (88.9%) or in the non-farmer households (85.0%). However, it can be seen that the percentage of the mothers in the non-farmer households who prepared the child food was higher compared with that of the mothers in the farmer households. The percentage of the mothers who always gave attention and supervised when their children under five years old ate was 27.9% in the farmer households, more than in the non-farmer households (42.0%).

In regards to feeding the children, there were a great number of the mothers who applied a strict discipline to their children under five so the children could finish eating fast. The farmer household group was in fact, more disciplined in giving food the children under five than the non-farmer household group. As many as 63.6% of mothers in the farmer household group were disciplined and did not allow their children to eat while playing; on the other hand for the non-farmer household group as many as 51.9%.

This study revealed that the mothers played a smaller role in determining the eating schedule for children under five either in the farmer household group (20.0%) or from the non-farmer household group (32.1%). Most of the feeding times were decided by the under-five-year-old children themselves, with a percentage of 77.1% in the farmer households, and 65.3% in the non-farmer households.

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Summary

The percentage of the children under five who faced an eating problem either from the farmer or non-farmer households were still great, that is, 35.0% to 38.9%. The eating problem that mostly dominated the children under five in both household groups was the long eating duration of the children under five. The others were the food was often sucked and vomited up, eating had to be done while playing, and children preferred street-foods.

The average scores of the feeding patterns for the children under five was 84.3 and 85.7 in the farmer households and non-farmer households, respectively. Based on a statistic test, there was no significant difference ($p > 0.05$) between the average score of feeding patterns for children under five from the farmer households and of those from the non-farmer ones.

In the non-farmer households the number of the children with the energy adequacy level of $< 70\%$ was 21.8%. This figure was lower than that in the farmer households (33.6%). This might be connected with the prosperity level of the non-farmer households which in general was better, so the food consumption of their children under five was also better. The number of children under five with the protein adequacy level of $< 70\%$ was 7.6%–9.3%. As a whole either in the farmer and non-farmer household, in fact, there were still relatively many children under five who could not meet the recommended dietary allowances.

The majority of the children under three when born (0 month) from the farmer households (92.8%) and from the non-farmer households (95.6%) had a normal nutritional status based on an indicator of weight for age (W/A). However, the average Z-score of the children in the non-farmer households (-0.030) was better ($p < 0.05$) than that of the children in the farmer households (-0.372). At the age of 12 months, the number of the children with a normal nutritional status slightly decreased either in the farmer households or in the non-farmer ones. The decrease of the 12-month-old children's nutritional status may be understood as a phenomenon which was related with

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Summary

the children's food consumption which did not fully meet nutritional requirements. At the age of 18 months the number of the children with a normal nutritional status decreased more and more, and at the age of 24 months the children's nutritional status based on the mean of Z score of weight for age (W/A) got worse.

Based on the KMS (growing chart card) possession, the nutritional status of the 0-to-24-month-old children was no difference between children possessing a KMS and those who did not have any KMS. KMS possession did not make the children's nutritional status get better compared with those who did not have any KMS. Basically, the children without any KMS also visited *posyandu* every month to get a nutritional service.

Current nutritional status showed that by indicator of weight for age (W/A) the children with a normal nutritional status in the farmer households were as many as 71.4% and those in the non-farmer households were 67.6%. There were still relatively many children with underweight status, that is, >25.0%, and this showed that the nutritional problems were still huge in the community level. No difference was found in the nutritional status of children in farmer and non farmer households. By using indicator weight for height (W/H), it was known the number of the children with a normal nutritional status was over 50%. However, by using indicator height for age (H/A) the number of children with a normal nutritional status was in fact lower. The percentage of the stunted children based on the H/A indicator was relatively high (>30.0%) in this research site.

Based on KMS possession the nutritional status of the children with KMS was not different from the nutritional status of those without KMS ($p>0.05$). Problems of underweight and stunting were entered in both groups with a similar prevalence (about 30%).

The result of the t-test showed that the psychosocial stimulations in the farmer household group and in the non-farmer household group were not significantly different ($p>0.05$). The result of the t-test also

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Summary

showed that the psychosocial stimulations in both of the groups, the PAUD (early childhood education) members and the non-PAUD members, were insignificantly different ($p>0.05$). Other research results revealed that the psychosocial stimulations given by the mothers or caregivers in this research were not different for the boys and girls; and the psychosocial stimulations to the children with KMS (growth chart card distributed at *posyandu*) and to the children without KMS were not significantly different ($p>0.05$).

The cognitive development achievement of the children in the non-farmer household group was slightly better than that in the farmer household group. However, the result of the t-test showed that the cognitive developments in both groups were not significantly different ($p=0.06$). However, the cognitive development of the children in the PAUD member group was significantly better than that of the non-PAUD member group ($p<0.05$). Based on their sex, the average cognitive development achievements of the boys and girls were relatively similar. Similarly, based on KMS (growth chart card) possession, the result of the research showed that the children possessing KMS and those having no KMS gained average scores of the cognitive development which were almost the same.

The results of a correlation test revealed that a nutritional status indicated by index weight for age (W/A) was positively correlated with the consumption of energy and protein significantly. The nutritional status indicated by the height for age (H/A) index was positively correlated with the feeding pattern, mothers' nutritional knowledge, the consumption of energy and of protein significantly.

The study revealed that the cognitive development was correlated with the length of fathers and mothers' education, involvement in PAUD (early childhood education), nutritional status by index W/A and H/A as well as the psychosocial stimulation ($p<0.01$).

Summary

Although a good nutrition will improve the children's cognitive development, the psychosocial stimulation and the involvement of children in early childhood education also played an important role as an intermediary factor in the cognitive development of preschool children. Based on this evidence we can conclude that the nutritional status and psychosocial stimulation as well as the participation of children in early childhood had an important role in the cognitive development of preschool children. In a synergic entity, a good nutrition can help children prepare themselves to receive psychosocial stimulation optimally. However, an optimal cognitive development cannot be achieved if it is only supported with good nutrition without any efforts to provide good stimulation as well. The presence of nutritional intervention and psychosocial stimulation is expected to contribute to the children's optimal cognitive development.

Following the deep study of this research the researchers recommend the government to arrange socialization for all parents to know to practice exclusive breastfeeding, good eating habits for children, and to create good caregiving environment and psychosocial stimulation to achieve the children's optimal cognitive development. It can be done through extension activities and trainings.

The improvement of PAUD (early childhood education) entity is needed, since PAUD had significant role in developing cognitive development of children. Trainings for PAUD teachers are recommended. Most PAUD teachers had no psychosocial education background and it is necessary for the government to train them.

For further research, it is important to measure not only cognitive development but also all variables on child development. And it might be interesting to compare child development in urban and rural.

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Growth, Cognitive Development and Psychosocial Stimulation of Preschool Children

in Poor Farmer and Non-Farmer Households

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