

## Determinants of child malnutrition during the economic crisis in selected poor areas of Indonesia

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Abstrak

**ABSTRACT**

The social impact of the crisis in Indonesia, both monetary and natural disaster had been investigated by some studies. There is empirical evidence at national level that suggests the crisis impact is very heterogeneous both between urban and rural areas and across regions. It is also found that there is little connection between initial poverty levels and the extent to which an area had been hit by the crisis.

The main objective of this study was to investigate the influence of the recent economic crisis and the benefit of the Social Safety Net Program for the nutritional status of under-five children during the economic crisis in selected poor areas of Indonesia. A cross sectional study to get information on the nutritional status of children and its determinants in urban poor area of Jakarta, and rural areas of Banggai in Central Sulawesi, and Alor-Rote in East Nusa Tenggara was followed by another cross sectional study in one selected poor urban area of Cilincing sub-district, Jakarta to see the changes of key determinant(s) of the under-five children's nutritional status after receiving the Social Safety Net intervention program for 1 year period. Two-stage cluster sampling was used to get 1078 households with under-five children in the urban poor area of Jakarta, and 262 and 631 households with under-five children each for the rural areas of Banggai and Alor-Rote, respectively as the subjects of the cross-sectional study-1; and 587 households with under-five children for the cross sectional study-2 in poor urban area of Cilincing sub-district. For both studies, general socio-demographic characteristics, socio-economic, health and nutritional status, and child feeding practices data were collected through interview and observation methods using structured questionnaires. Anthropometrical assessments (of weight, stature, and arm-circumference) were done both for children and their mothers in both studies. Hemoglobin assessment was done for sub-samples of approximately 50% of the total under-five children in both studies. Quality control procedures were performed during the course of the study.

Data collection for both studies was performed from January 1999 to January 2001. It revealed that 34% of fathers in the study area of Jakarta had finished junior high school and even less for mothers (22%). More than 70% of the fathers had no regular income and 7% of the sample households had both the fathers and mothers work regularly. About 42 % of the sample households was classified as having sufficient purchasing power and less than 60% of sample households was classified as having appropriate luxury goods (mostly of electronic goods). For the study area in Banggai, 23% of fathers had finished junior high school

and even only 10% for mothers. Approximately 14% of the fathers had no regular income and 24% of the sample households was classified as having appropriate employment status. About 45% of the sample households was classified as having sufficient food production/purchasing power in this study and less than 50% of the sample households was classified as having appropriate luxury goods (mostly of cultivated land). For the study area in Alor-Rote, 23% of fathers had finished junior high school and even only 10.9% for mothers. Approximately 21% of the fathers had no regular income and 47% of the sample households had both the fathers and mothers work regularly. About 48% of the sample households was classified as having sufficient food production/ purchasing power in this study and 26% of sample household was classified as having appropriate luxury goods (mostly of cultivated land).

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Besides having a high severity of anemia (>40%), under-five children in the urban poor area of Jakarta had a very high severity of wasting (>15%) as compared to the medium severity of stunting condition (20-29%). Similar findings were found for the rural area of Banggai. Different findings for the rural area of Alor-Rote were only for its very high severity in stunting condition (>40%). By multivariate and path analyses, it was shown that Jakarta as the study site contributed significantly to the variation of wasting indicator (WHZ value) as the recent-type of malnutrition, and Alor-Rote as the study site contributed significantly to the variation of stunting indicator (HAZ value) as the longterm-type of malnutrition. For hemoglobin value, both Jakarta and Alor-Rote as the study sites contributed to its variation.

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High prevalence of infectious diseases in all study areas were significantly related to the higher prevalence of wasting in the study areas of Jakarta and Banggai, and also significantly related to the higher prevalence of stunting and anemia in the study area of Alor-Rote. For Jakarta, besides infectious diseases, BMI status of mothers and the possession of motorcycle used for income earning were also significantly related to the prevalence of wasting. On the other hand, for Alor-Rote, besides infectious diseases, possession of luxury goods (access to electricity, possession of transportation facility and electronic goods), environmental sanitation (housing conditions), maternal nutritional knowledge and access to complete immunization were also significantly related to the prevalence of stunting. And, infectious diseases and households' employment status contributed to the variation of stunting (HAZ value).

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Furthermore, for anemia, access to health services (for complete immunization) was the only key determinant which contributed significantly to the variation of hemoglobin value in Jakarta. For Alor-Rote, besides infectious diseases, formal education of the parents, employment status (especially working mothers), environmental sanitation (especially access to safe drinking water), maternal nutritional knowledge and access to health services were also significantly associated with the prevalence of anemia. And, infectious diseases, environmental sanitation, access to health services and households' employment status contributed significantly to the variation of hemoglobin value in Alor-Rote.

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The Social Safety Net Intervention Program in the urban poor area of Cilincing sub-district, Jakarta resulted in significant improvement in the prevalence of wasting and anemia among under-five children but not for the prevalence of stunting. It was also found that maternal and childcare, access to health services and hemoglobin were still retained as determinants of child malnutrition besides households' employment status and variety of food intake.

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There is a need to improve the nutritional and health status of under-five children and their mothers through the existing health care system providing basic health services and improving the capacity of health staffs across Indonesia as part of the decentralization process. Besides, the private sector and communities may support the local government in the form of informal Social Safety Net intervention programs. The significant association found between mother's BMI and wasting status of their under-five children found in this study can be used to prioritize the appropriate type of intervention needed by the poor households. Furthermore, since anemia was highly prevalent, besides iron supplementation, chronic diseases such as tuberculosis and malaria, and the prevalence of thalasemic-trait should also be considered. Further operational and academic research in the area of health and nutrition are needed to be able to construct a model that provides indicators used to predict the nutritional condition in each community setting across Indonesia during any crisis.

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