Child-minding and nutritional status of children 6 – 12 months old in Sarawak

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Summary

A case-control study was carried out to determine the child-minding practices and their relationships with nutritional status of children between 6 and 12 months old. Sixty-five percent of the mothers go to the farm and 25 percent of, them bring their children with them. Only 42.8 percent of the children were looked after by their mothers. The odds of being malnourished were greater among children who were not looked after by their mothers. It is suggested that nutrition education be given in the village so that the other child-minders can benefit from it.

Key words: Child care, nutritional status

Introduction

Malnutrition among children in Sarawak is a major problem especially in the rural areas. In 1988, 28.9 percent of children in the rural areas who were between one and four years of age had moderate malnutrition and 0.4 percent had severe malnutrition; among children below one year old, 10.7 had moderate malnutrition and 0.3 percent had severe malnutrition[1]. Usually malnutrition starts appearing in children who are between six to 12 months old, the period when they are being weaned.

There are many interrelated factors which are associated with malnutrition and some of these are food availability, food preparation and handling, socioeconomic status, birthweight, child care practices, etc. Child care practices for children between six to 12 months are important because: (a) their mothers may leave them in the care of others while she goes to work and (b) the children are starting to be weaned. The impact of a mother's activities on her children's health and nutritional status is widely recognised[2]. In the rural areas the majority of the mothers are padi farmers and the farms may be quite far from the village. Some of the mothers bring their children to the farms with them while others do not.

The purpose of this study is to determine the child-minder for children 6-12 months old. The main objectives of the study are to determine: (a) the proportion of the mothers who go to the farm, (b) the proportion of those going to the farm who bring their children with them and (c) the proportion of children who were looked after by their mothers. The association between these child-minder and nutritional status will be explored.

Material and methods

The case-control study was limited to children 6-12 months old and was carried out in 56 randomly selected rural Maternal and Child Health Clinics in the State. The first two children between 6-12 months old who were seen on the day of the survey and who had moderate to severe malnutrition (based

on Jellife's classification[3]) were selected as cases in each of the participating clinic. Controls were the first two children between 6-12 months old who were seen on the day of the survey and who had standard or satisfactory weight gain. The nutritional status were obtained from the under-7 child-health card while information on child-minders were obtained from the mothers by interview using a structured questionnaire. The interview was done by a Health Sister or Public Health Nurse.

Odds ratios and confidence intervals were calculated using Epi Info[4].

Results

Mother's Farming Activities and Persons Looking After the Children

Sixty-five percent of the mothers went to the farm and 25 percent of them brought their children along (Table 1). Most (94.6%) of those who brought their children to the farm had farm-huts for them to stay in.

Table 1
Distribution of children according to whether mother went to the farm and nutritional status

Person looking after child	Controls (Normal)	Cases (Mild to severe malnutrition)	Total
Mother went to farm; child brought along	30	26	56
Mother went to farm; child left at home	39	50	89
Mother stayed at home	43	36	79
Total	**112**	**112**	**224**

Thirty percent of the 56 children who were brought to the farm were looked after by the mothers themselves, 23.2 percent were looked after by their elder sisters (whose average age was 6.6 years), 17.9 percent by their grandmothers and the remainder by other members of the family (Table 2).

Of the 89 children left behind by the mothers who went to the farm, 59.6 percent were looked after by their grandmothers, 20.2 percent were looked after by their elder sisters (whose median age was 12 years) and the remainder were looked after by other members of the household.

Among the 79 children whose mothers did not go to the farm, 78 were looked after by their mothers and one was looked after by the child's aunt.

Overall fifty-three (47.3%) of the normal children and 43 (38.4%) of the malnourished children were looked after by their mothers.

Reasons For Not Taking The Children To The Farm

One-quarter of the mothers who left their children at home said they did so because they felt that they would not be able to concentrate on their work if they were to bring their children with them. Eighteen

Table 2
Percent distribution of children whose mothers went to the farm by whether children were brought to the farm, person looking after them and nutritional status

Person looking after child	Controls (Normal)	Cases (Mild to severe malnutrition)	Total
Children brought to farm	(n = 30)	(n = 26)	(n = 56)
Mother	33.3	26.9	30.4
Elder sister[a]	23.3	23.0	23.2
Grandmother	16.6	19.5	17.9
Father	10.0	11.5	10.7
Aunt	6.6	7.6	7.1
Brother	3.3	7.6	5.4
Others	6.9	3.8	5.4
Children left at home	(n = 39)	(n = 50)	(n = 89)
Grandmother	59.0	60.0	59.6
Elder sister[b]	17.9	22.0	20.2
Aunt	7.7	12.0	10.1
Father	12.8	2.0	6.7
Elder brother	2.6	4.0	3.4

Footnote:
a) The average age was 6.6 years.
b) The average age of the sisters looking after children who were not malnourished was 14.4 years and the average age of those looking after children who were malnourished was 10.7 years.

percent left the children at home because they had someone to look after the children there and 14.6 percent did so because their farms were very far. The remainder had other reasons (Table 3).

Relationship Between Child-Minders and Nutritional Status

Children who were not looked after by their mothers had 1.5 times higher odds of being malnourished compared to children who were looked after by their mothers (Table 4). This finding is consistent irrespective of whether the mothers look after the children at home or at the farm.

Among children who were brought to the farm, those who were looked after by others at the farm had 1.4 times higher odds of being malnourished compared to those who were looked after by their mothers at the farm.

Among children who were not brought to the farm, those who were looked after by others had 1.5 times higher odds of being malnourished compared to children who were looked after at home by their mothers.

Table 3
Percent distribution of children left by their mothers at home according to reasons for leaving them behind and nutritional status

Reasons for leaving child at home	Controls (Normal) (n = 39)	Cases (Mild to severe malnutrition) (n = 50)	Total (n = 89)
Mother cannot concentrate at work as there was no one to look after child at farm	23.0	26.0	24.7
Someone was available to look after child at home	20.5	16.0	17.0
No farm hut or ill-equipped[a] hut	15.4	18.0	16.8
Afraid child may get ill from sun and insect bites	12.8	18.0	15.7
Farm was very far	17.9	12.0	14.6
Troublesome to bring child[b]	5.2	4.0	4.5
Other reasons	5.2	6.0	5.8
Total	**100.0**	**100.0**	**100.0**

Footnote:
a) Ill-equipped farm hut because of no water supply or farm hut too small.
b) For example, have to bring cooking utensils, etc.

None of the relationships stated were statistically significant because of the small numbers of children in the study.

Discussion

This study showed that 64.7 percent of the mothers go to the farm and it is believed that the care of children of these mothers would be less than optimal even if they were to bring the children with them to the farms. Overall, only 42.9 percent of the children in the age group studied were looked after by their mothers. Thus it appears that since most of our nutrition education is given at maternal and child health clinic level, and mostly to the mothers, less that half of the children in the 6 to 12 month age-group may benefit from it.

Even though the association between the child-minders and nutritional status of the children studied were not significant statistically, positive trends were noted. For example, children who were not

Table 4
Odds of being malnourished according to type of person looking after child and whether child was brought to farm or not

Person looking after child	Odds ratio of being malnourished	95% confidence interval
For All Children (N = 224)		
Person looking after child		
Mother	1.00	
Others	1.50	0.85, 2.64
Mothers goes to the farm?		
No, stays home	1.00	
Yes	1.36	0.73, 2.37
Child brought to the farm?		
No, stays home	1.00	
Yes	0.83	0.43, 1.58
Only for Children brought to the farm (n = 56)		
Looked after by mother	1.00	
Looked after by others	1.36	0.37, 5.02
Only for Children who stayed home (n = 168)		
Looked after by mother	1.00	
Looked after by others	1.53	0.80, 2.95

looked after by their mothers were more likely to be malnourished compared to those who were looked after by their mothers. This finding is consistent with those found in 34 rural barrios in Laguna, Philippines. In that study it was found that increased child care time of the mother is significantly positively associated with preschool nutritional status whereas the increased inputs of older siblings were significantly negatively associated with child nutritional status[2]. One reason for this negative relationship may be socioeconomic status; those who are relatively poor cannot afford to stay at home to look after the child, for instance. The findings of this study points to the need for further research in this area.

Of course, nutritional status of children is influenced by many other factors. Some of the factors which have been found to be statistically significant in predicting nutritional status of children 0 to 59 months of age in rural Sarawak were the child's birthweight, age group, ethnic group and socioeconomic status[5]. Children whose birthweight were between 3.0 and 3.9 kilogramme had only about one-third of the odds of children whose birthweight were between 1.5 to 1.9 kilogrammes, of being malnourished. The odds of being malnourished in the age range also increased with age. It was also found that Malay children had only about half of the odds of other indigenous groups, of being malnourished. The odds of being malnourished increases with lower socioeconomic groups.

In the simple study reported here, most of the children were from similar socioeconomic group (padi farmers) and they were all in the same age group. Most of them were non-Malay indigenous ethnic group. That leaves birthweight as a potential confounder which was not controlled for and this has to borne in mind when interpreting the data. Extension of the findings beyond the age-group and socioeconomic group of the sample have to be done with caution.

In spite of the limitations discussed, it is believed that this study has identified areas for possible intervention and change. We cannot improve child nutritional status by preventing the mothers from going to the farm. Rather we should try to improve the quality of child-minding practices of the other members of the household who act as mother surrogates. Instead of carrying out nutrition education activities in the clinics, it may be better if they are done in the villages, so that the other members of the family (especially the grandmothers and elder female siblings who were mainly responsible for child care) would also be involved.

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