Original article

Development of children of 2 – 3 years old from pre-prosperous family and prosperous family stage II

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ABSTRACT In this study we assess the condition of children development of 2-3 years of age in prosperous family, pre-prosperous family and prosperous family stage II, and find the related factors. This was a cross sectional study on 94 children of pre-prosperous family and 94 children of prosperous family stage II at Medan Tuntungan district from December 1998 up to March 1999. Data is obtained by questionnaires and examination of the developmental bases by Denver II Method. Statistical analysis of relationship between 2 qualitative variables is tested by chi-square. In the pre-prosperous family we found 67 children with (35.6%) normal development and 27 (14.4%) children with abnormal development, on the prosperous family stage II there were 81 (43.1%) children with normal development and 13 (6.9%) children with abnormal development. We found significant difference between the children development of pre-prosperous and prosperous stage II ($p<0.05$), significant relationship between children development within 2-3 years of age and the parents' education level of the Pre-prosperous family ($p<0.05$), and no significant relationship of the following factors: mothers employment status, mother's age, number of family and the child's order in the family. **[Paediatr Indones 2001; 41:100-105].**

Keywords: child development, socio-economic status

IT IS GENERALLY AGREED THAT THE FUTURE OF A COUNTRY such as Indonesia rests largely on the productivity of its citizens. This productivity in turn depends largely on the educational of children who will be the future leaders of the nation. While the primary responsibility for promoting children's development rests with the family, it is society's responsibility to foster family promotion of child development.[1] We know that the prenatal period and under 5 years children is crisis period. Good environment can support the children through crisis period, on the other hand it can impair growth and developmental.[2] Economic and society prosperity are some factors that can influence growth and development process, low society population can affect education level, health, nutritional status and development. For the purpose of poverty's eradication the level of family prosperity is has been divided into 5 phases. Currently there are still many families in Indonesia coming from pre-prosperous family based on the result of data in 1995 namely approximately 56 percent from 39.4 million families.[3]

A reliable quality and productive human resources are the primary aims to improve and keep children welfare totally. For health for all in 2000 the development and protection upon children can't be separated from the aim to keep human resources in strength and qualified. Monitoring for children development periodically while children under five years old is absolute to execute at least by their parent. Since the optimal development of a child up is influenced by inner self and environmental surrounding, as well she/he should be fulfilled with basic needs such as physical, emotional and stimulation needs.[4]

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The objective of this study is to know whether any development differences of children age 2-3 years between pre-prosperous family and prosperous stage II, and to find the factors relating with the children velopment.

Methods

The study was conducted on pre-prosperous and prosperous families stage II at Medan Tuntungan district Medan city on period December 1998 up to March 1999. The sample size is 188 children for each group. The term of pre-prosperous family was defined as the families that have not fulfilled their basic needs minimally yet, such as needs on foods, clothes, woods and health. The prosperous stage II is the families that have already fulfilled the basic needs, but has not already fulfilled all needs for development such as deposit-store and information.[4]

The study was conducted by Cross Sectional Study on children age 2-3 years, samples of basic data pre-prosperous and prosperous families stage II was taken from BKKBN survey, samples and location of study were taken by random sampling, children data was taken by questionnaires and the development of children was examined by using a Denver II Method, by applying criteria; normal, unable to test and abnormal. The Denver II test was commonly used to screen young children for delays in the areas of personal-social, fine motor adaptive, language and gross motor development.[4,5] The children that had seizure, brain inflammation, head injury, severe malnutrition, and unable to test after 2 times examination in interval 2-3 weeks were excluded. The relationship between 2 qualitative variables was analyzed with chi-square test by using computer/static true epistate program. A value of $p < 0,05$ was considered significant.

Results

The details of sample characteristics of pre-prosperous and prosperous families stage II and its presentation can be seen on Table 1. The statistical analysis of result was based on factors possibly relating with the development of children age 2-3 years i.e. level mother's education, level father's education, mothers employment status, number of family, the mother's age, the child's order in the family. Ninety-four children age 2-3 years of pre-prosperous family and 94 children

prosperous family stages II were successfully conducted the examination of development by Denver II Method. We excluded 1 child having a repetitive convulsion history, 1 severely malnourished child and 6 children refused to conduct the examination from pre-prosperous family as well as 2 children refused to conduct the examination from prosperous stage II.

Fifty-three (28,2%) mothers of pre-prosperous family and 48 (25,5%) mothers of prosperous family stage II were aged 20-29 years old. Most (77 or 40,9%) of the subjects' mothers of pre-prosperous family were housewives, and so were 53 mothers (28,2%) of prosperous stage II. Seventeen percent abnormal developmental children's and 20,1% abnormal developmental children's mother had elementary level of education, there was significant difference of parent's level education by developmental status of children. (Table2) On the prosperous family there were 9% of mothers' who were employed and 5.3 % of this group had children with abnormal development, while whose mothers' who were unemployed had 23.4% children with abnormal development. No found any significant relationship of development child from mothers' employment and unemployment. There was no significant relationship between developmental children status and number of family. On pre-prosperous family there were 67 children (35.6%) who had normal development and 27 children (14.4%) with abnormal development while on prosperous family stage II there were 81 children (43.1%) with normal development and 13 children (6.9%) with abnormal development, $p < 0.05$ (Table.4).

Discussion

The Denver II is designed simply to identify children who are not up to snuff or not performing as their age mates, for whatever reason. If a child is not acquiring skills at the normal time (as are his/her age mates), then the child is considered to be at greater risk of having a biological or environmental condition which would interfere seriously with future development.[6,7,8] Developmental rates are determined by a variety of factors such as heredity, biological intactness, emotional health, physical and psychosocial environment.[8] Although stimuli from the environment already start at birth, the impact of the influence of the environment may show distinct changes of deve-

TABLE 1. CHARACTERISTICS OF AGE CHILD 2-3 YEARS FROM PRE-PROSPEROUS AND PROSPEROUS FAMILY STAGE II

Characteristics		Pre-prosperous		prosperous		Total	
		N	%	n	%	n	%
Sex :	Male	47	25.0	50	26.6	97	51.6
	Female	47	25.0	44	23.4	91	48.4
Father's age :							
	20-29	29	15.4	17	9	46	24.5
	30-39	50	26.6	63	33.5	113	60.1
	> 40	15	8.0	14	7.4	29	15.4
Mother's age :							
	20-29	53	28.2	48	25.4	101	53.7
	30-39	37	19.7	41	21.8	78	41.5
	> 40	4	2.1	5	2.7	9	4.8
Level of mother's education :							
	Elementary	49	26.1	17	9.6	66	35.1
	Junior school	31	16.5	24	12.8	55	29.1
	High school	14	7.4	48	25.5	62	32.9
	University	-	0.0	5	2.7	5	2.7
Level of father's Education							
	Elementary	44	23.4	10	5.3	54	28.7
	Junior school	33	17.6	25	13.3	58	30.9
	High school	17	9.0	46	24.5	63	33.5
	University	-	0.0	13	6.9	13	6.9
Mothers employment :							
	Employed	17	9.0	41	21.8	58	30.9
	Unemployment :	77	41.0	53	28.2	130	69.1
Father's Occupation :							
	Labor	36	19.1	8	4.3	44	23.4
	Un-Perm	35	18.6	27	14.4	62	33.0
	Merchant	13	6.9	17	9	30	16.0
	Employee	10	5.3	42	22.3	52	27.6
Number of family							
	< 4	33	17.6	45	23.9	78	41.5
	≥ 4	61	32.4	49	26.1	110	58.5
The child's order in the family							
	1	33	17.6	32	17.0	65	34.6
	2	22	11.7	35	18.6	57	30.3
	3	14	7.4	16	8.5	30	15.9
	4	25	13.3	11	5.4	36	14.2

lopmennt at the age between 18-36 months. This is due to the fact that at the age the transition period of the cognitive development is taking place, the moment when the functions of symbolization start to develop, speech development and formation concepts begin to expand.[9]

Wagner et al[10] indicating that on rural homeless family at Ohio 52% of children age under 6 years had DDST score indicating that they may find lately for development. Whereas, a study in Hongkong found score of development had significant related with the number of family, type of home classified bases on the numbers of room, lighting and ventilation, and a fully crowded occupying home.[11] Susanah found 28,5% children (under five years) on urban dirty region suspect experiencing lately of development and crowded is a very significantly factor over the development of children.[12] On this study we found that in pre-prosperous family 14.4% children age 2-3 years old have abnormal development and there was significantly de-

TABLE 2. DEVELOPMENT OF CHILDREN IN 2-3 YEARS OLD OF PRE-PROSPEROUS FAMILY

Variable	Status of development				p value
	Normal	%	Abnormal	%	
Mother's age :					
20-29	41	43.6	12	12.7	p > 0.05
30-39	23	24.5	14	14.9	
> 40	3	3.2	1	1	
Level of father's education :					
Elementary	26	27.7	18	19.1	p < 0.05
Junior school	27	28.7	6	6.4	
High school	14	14.9	3	3.2	
Level of mother's education :					
Elementary	30	31.9	19	20.2	p < 0.05
Junior school	26	27.7	5	5.3	
High school	11	11.7	3	3.2	
Mother empoyment :					
Employed	12	12.8	5	5.3	p > 0.05
unemployed	55	58.5	22	23.4	
Number of family					
<4	22	23.4	11	11.7	p > 0.05
> 4	45	47.9	16	17	
The child's order in the family					
1	22	23.4	11	11.7	p>0.05
2	19	20.2	3	3.2	
3	10	10.6	4	4.3	

TABLE 3. DEVELOPMENT OF CHILDREN IN 2-3 YEARS OLD OF PROSPEROUS FAMILY STAGE II

Variable	Status of development				Result
	Normal	%	Abnormal		%
Mother's age :					
20-29	40	42.6	8		8.5	p > 0.05
30-39	36	39.3	5		5.4	
> 40	5	5.3	-		0	
Level of father's education :					
Elementary	9	9.6	1		1.1	p>0.05
Junior school	22	23.4	3		3.2	
High school	39	41.5	7		7.4	
University	11	11.7	2		2.1	
Level of mother's education :					
Elementary	13	13.8	4		4.3	p > 0.05
Junior school	21	22.3	3		3.2	
High school	42	44.7	6		6.4	
University	5	5.3	-		0.0	
Mother employment :					
Employed	35	37.2	6		6.4	p > 0.05
Unepmployed	46	49	7		7.4	
Number of family					
< 4	36	38.3	9		9.6	p > 0.05
>4	45	47.8	4		4.3	
The child's order in the family					
1	26	27.7	6		6.4	p > 0.05
2	30	31.9	5		5.3	
3	16	17.0	-		0.0	
4	9	9.6	2		2.1	

TABLE 4. DEVELOPMENT CHILDREN IN 2-3 YEARS OLD ACCORDING TO FAMILY STATUS

Family status	Developmental status		Total
	Normal	Abnormal	
Pre-Prosperous	67	27	94
Prosperous Stage II	81	13	94
Total	148	40	188

X^2 : 5.37   df:1; p<0.05

velopmental difference between pre-prosperous and prosperous stage II family. On pre-prosperous family, the parent's education level related with the children development age 2-3 years while on prosperous family stage II there was no relationship of parent's education level with the children development. According to Susanah's study,[12] they found relationship between development status of under 5 years old children and the parent's education level. On the other hand, it was different to Marbun and Hariyono.[13,14] Durmazlar et al[15] said that the effect of maternal education on the child's development is more important in countries where preschool education is not commonly available. On this study both the family group nothing capable to identify the deviation of their children development. There were 36,2% mothers and 28,9% fathers with educated elementary. In Palfrey study, they found that a family with a lower economic social status perhaps had a bad capability to identify children experienced deviation of development.[16] This study found 53,7% mothers with younger age, no significant difference between the age of mother and the development of children either on pre-prosperous family or prosperous family stage II. A result by Roosa,[17] that the age of mother is not an important variable on children's development. It is found that existed a significant difference status of children development with the status of mother employment status on pre-prosperous family and prosperous family stage II. There are more abnormal development on children coming from number of family more than four, but no significant difference status of children development with number of family. This indication refers to a previously study conducted by Haryono and Marbun.[13,14]

This study shows that there are many abnormal development children the oldest child either on pre-prosperous and prosperous family stage II. It is however, no significant relationship between status of child development with the child's order in the family. On Medan Tuntungan District we found the difference of development status of children age 2-3 years old between Pre-prosperous family and prosperous family Stage II. Parent's education level have relationship with the development of children age 2-3 years on pre-prosperous family, and there were no significant relationship of the following factors; mothers employment status, the mother's age, number of family and the child's order in the family. Further study is still required with more total sample and variables.

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