

Growth and development profile of children at two day care centers in Jakarta

Siti Budiati Widyastuti, Soedjatmiko, Agus Firmansyah

ABSTRACT

Background Working mothers with toddlers are often confused with the difficulties of caregiver substitutes. This leads to the concern about neglecting their toddlers. Day care centers are expected to respond by substituting the absent mothers, in order for the children's needs of growth and development to become optimal.

Objective To examine the profile of day care centers in correlation with growth and development of toddlers, and to understand the characteristics of facilities for growth and development in toddlers at day care centers.

Method This cross-sectional study was conducted at the day care centers (DCC) of the Department of Social Affairs of the Republic of Indonesia Harapan Ibu (HI) in Salemba, Central Jakarta and Teratai in Bekasi from February 1-August 1, 2004.

Results There were 106 children enrolled in this study; 47 children in DCC HI and 59 in DCC Teratai, male:female ratio was 1:1, mostly at age 3.1-5 years. Growth status was measured according to body weight/age, body height/age, height circumference/age and found good, normal, and proper growth status in 85 children (80.2%), 48 children (45.3%), 102 children (96.2%), respectively. We found good nutritional status in 44 children (41.5%) and normal developmental status (Denver II) in 81 children (76.4%). Ratio of caregivers to child was 1:10. All children had complete immunization. No trauma or upper respiratory tract infection was recorded as frequent morbidity. Parents' reasons for relying their children in DCCs were to enable their children to socialize (50 children/47.2%), and to allow them to become independent (49 children/46.2%).

Conclusion DCCs can serve as a safe alternative caregiving substitute based on good growth and development, good nutritional status, also good characteristics facilities [Pediatr Indones 2005;45:275-279].

Keywords: day care center, growth and development, toddlers, working mothers

Children's early years are the golden period for establishing the foundation of their personality.^{1,2} Working mothers who have toddlers are often confronted with difficulties in acquiring reliable caregiving substitutes to care for children at home, which causes the rise of concerns in neglecting them.³

Child care is an effort to fulfill the basic needs of children required for optimal growth and development. Child care and environment are determining factors for the development of basic potentials necessary for the continuation and quality of a child's life.^{4,5}

Considering that day care centers (DCCs) are able to take the role as a mother's substitute, it must fulfill criteria that are able to facilitate optimal growth⁶ and development of a child. This study examined the profile of DCCs pursuing the growth and development of toddlers at their care.

Methods

This was a cross-sectional study conducted at two DCCs from the Department of Social Affairs of The

From the Department of Child Health, Medical School, University of Indonesia, Cipto Mangunkusumo Hospital, Jakarta, Indonesia.

Reprint requests to: Siti Budiati Widyastuti, MD, Department of Child Health, Cipto Mangunkusumo Hospital, Jakarta, Indonesia. Tel. 62-21-3907740/3907742; Fax. 62-21-3907743.

Republic of Indonesia, Harapan Ibu DCC in Salemba, Central Jakarta, and Teratai DCC in Bekasi during February 1-August 1, 2004, and gathered all children at both DCCs.

All healthy children, aged 1-5 years old were included. We took each subjects parent's approval before the study. Those who were born pre-term, and had genetic-congenital disorders were excluded.

Patient's data which included name, age, sex, immunization status were recorded. Data of caregivers at the DCCs were also recorded, i.e. age, marital status, education, duration of contact with toddlers as well as the ratio of caregivers to children.

The next phase included physical examination, measurement of body height (using a microtoise, able to measure body height in decimal up to 140 cm), body weight (using a bathroom scale with the sensitivity 0.1 kg and maximum capacity of up to 110 kg), and head circumference (using a measuring tape). Denver II examination was performed as a standard for screening, followed by an interview with caregivers regarding health care, disease (immunization, morbidity and trauma), and sanitation. All measurements were conducted by the investigator. We also used anthropometric measurement. Immunization, prevalence of morbidity, and trauma at DCCs along with facilities and environment were recorded. Immunization was divided into complete immunization, complete immunization with additions, and incomplete immunization according to the standard government recommendation for immunization and whether it was prompt in schedule. Association between the independent and dependent variables was analyzed using the chi-square test.

Results

There were 106 children enrolled in this study; 47 children were from Harapan Ibu DCC in Salemba and 59 were from Teratai DCC in Bekasi. The ratio of boys to girls was 1:1. The age ranged at 3.1-5 years old.

The caregivers were mostly aged >30 years, found to be 16 (80%) of them. Eleven (55%) caregivers have received additional education, 1 on management of DCCs. The caregiver-toddler contact at the DCCs was approximately more than 8 hours

daily. The caregivers have worked in this field for more than 14 years.

The ratios of caregiver to toddler at both day care centers for the 1-3 year old group and 3.1-5 year old group had a ratio of 1:5, and 1:10, respectively.

Fever, cough, and runny nose (including upper respiratory tract infections) were the most common illnesses found in 47 (48.9%) children, 25 children in Harapan Ibu DCC and 22 children in Teratai DCC. Diarrhea, measles, and typhoid fever were also found (Table 1).

The immunization status recorded from both Harapan Ibu DCC and DCC Teratai was complete immunization status in 84 (79.2%) children.

The most common growth status using body weight/age (BW/A) was good in 85 (80.2%) children. The most common growth status found by using body height/age (BH/A) was normal in 48 (45.3%) children. By using head circumference/age (HC/A), proper growth status was found in 102 (96.2%) children. Good nutritional status was found in 44 (41.5%) children (Table 2). Normal development status (Denver II) was found in 81 (76.4%) children (Table 3).

Parents' reasons for relying their children in DCCs were to allow their children to socialize (47.2%) and become independent (46.2%).

Discussion

At Teratai DCC, girls were predominant (30 children or 50.8%), whereas a study conducted by the Faculty of Psychology, University of Indonesia, does not mention sex predominance of children at DCCs.⁷

Our study found that the most common age of children in this study was 3.1-5 years, similar to that found by a study at the Faculty of Psychology, University of Indonesia which revealed that the most common age group at DCCs was 3-5 years old.

Parent's reasons for relying their children in DCCs were different for both places; socialization (61.7%) and independence (48.9%) were from Harapan Ibu DCC, whereas from Teratai DCC independence (44.1%) is followed by socialization (35.6%) and absence of substitutes (27.1%).

Good growth status according to BW/A, BH/A, and HC/A was found in both places, 85 (80.2%) children, 48 (45.3%) children, 102 (96.2%) children, re-

spectively. According to another study conducted by the Faculty of Psychology, University of Indonesia revealed that the DCCs nutrition program included discussing with parents about habits and patterns of various diets for their children.

On the developmental aspect, there were no significant differences in children from both places. Score for gross motor was less in 9 (15.3%) children, fine motor 7 (11.9%) children, language in 10 (16.9%) children, and social skills in 9 (15.3%) chil-

dren (Table 3). However, the investigator examined these findings only once, therefore the progress of children with a lesser score could not be scored. There was no significant correlation between nutritional status and developmental status in this study.

The ratio of caregivers to toddlers in this study is in accordance with the regulations issued by the Department of Social Affairs of the Republic of Indonesia and NAEYC (*National Association for the Edu-*

TABLE 1. DISTRIBUTION OF TODDLER MORBIDITY PATTERNS AT HARAPAN IBU DCC, JAKARTA AND TERATAI DCC, BEKASI

Manifestation	n=44	%	n=52	%
Fever, cough, runny nose	25	56.8	22	42.3
Runny nose	4	9.1	6	11.5
Fever, cough	3	6.8	6	11.5
Fever	2	4.5	4	7.7
Cough, runny nose	3	6.8	2	3.8
Fever, cough, runny nose, persistent cough	1	2.3	2	3.8
Fever, cough, runny nose, diarrhea	2	4.5	0	0
Cough	1	2.3	1	1.9
Fever, runny nose	0	0	1	1.9
Fever, diarrhea	0	0	1	1.9
Cough, stomach ache	1	2.3	0	0
Fever, cough, diarrhea	0	0	1	1.9
Fever, cough, persistent cough	0	0	1	1.9
Fever, runny nose, diarrhea	0	0	1	1.9
Fever, cough, runny nose, vomiting	1	2.3	0	0
Fever, cough, runny nose, smallpox	0	0	1	1.9
Fever, cough, mencret, persistent cough	0	0	1	1.9
Fever, cough, runny nose, seizures	0	0	1	1.9
Fever, cough, runny nose, "typhoid fever"	0	0	1	1.9
Fever, cough, runny nose, diarrhea, measles	1	2.3	0	0

TABLE 2. DISTRIBUTION OF TODDLERS ACCORDING TO THE GROWTH AND NUTRITIONAL STATUS

Growth status	Day care centers					
	Harapan Ibu		Teratai		Total	
	n=47	%	n=59	%	n=106	%
Growth status (BW/A)						
Overweight (>110-120%)	0	0	3	5.1	3	2.8
Good (80-100%)	39	83	46	78	85	80.2
Less (60-80%)	8	17	10	16.9	18	17
Growth status (BH/A)						
More (>P95 NCHS)	21	44.7	19	32.2	40	37.7
Normal (P5-P95 NCHS)	22	46.8	26	44.1	48	45.3
Less (<P5 NCHS)	4	8.5	14	23.7	18	17
Growth status (HC/A)						
More (>+2SD Nellhaus)	0	0	2	3.4	2	1.9
Good (-2SD- +2SD Nellhaus)	45	95.7	57	96.6	102	96.2
Less (<2SD Nellhaus)	2	4.3	0	0	2	1.9
Nutritional status (BW/BH)						
Overweight (>110-120%)	18	38.3	15	25.4	33	31.1
Good (90-100%)	20	42.6	24	40.7	44	41.5
Malnutrition (70-90%)	9	19.1	20	33.9	29	27.4

BW = body weight, A = age, BH = body height, HC = head circumference

TABLE 3. DISTRIBUTION OF TODDLERS ACCORDING TO THE DEVELOPMENT STATUS

Development status	Day care centers					
	Harapan ibu		Teratai		Total	
	n=47	%	n=59	%	n=106	%
Denver						
Normal	39	83	42	71.2	81	76.4
Suspected delayed	8	17	17	28.8	25	23.6
Gross motor						
Normal	44	93.6	50	84.7	94	88.7
Suspected delayed	3	6.4	9	15.3	12	11.3
Fine motor						
Normal	42	89.4	52	88.1	94	88.7
Suspected delayed	5	10.6	7	11.9	12	11.3
Language						
Normal	42	89.4	49	83.1	91	85.8
Suspected delayed	5	10.6	10	16.9	15	14.2
Social skills						
Normal	44	93.6	50	84.7	94	88.7
Suspected delayed	3	6.4	9	15.3	12	11.3

cation of Young Children), however, the ratio of caregivers is not valid for a caregiver with same toddlers for a certain time.

DCCs' facilities and environment in both Harapan Ibu DCC and Teratai DCC have met the criteria of the Department of Social Affairs of the Republic of Indonesia. As a result, both of these DCCs obtained good scores. Most DCCs from other studies managed child-caregiver ratio by coordinating each caregiver to be responsible for a group of children. Only 40% of DCCs used the ideal type of child care.⁷

In this study, all of the children had received complete basic immunization and several additional immunizations obtained outside the DCCs. Data on the comprehensive immunization based on the complete basic immunization were found more at Teratai DCC (53 children/89.8%) and complete basic and additional immunizations were found more at Harapan Ibu DCC (16 children/34%).

This study encountered fever, cough, and runny nose as the most common illnesses (56.8%) at Harapan Ibu DCC and 42.3% at Teratai DCC (Table 1). The incidence of upper respiratory tract infection was caused by droplet transmission and difficulty of caregivers to ask the children to put on masks to prevent infection. The incidence of diarrhea at Harapan Ibu DCC was 3 children and 1 child at Teratai DCC (Table 1). This incidence was quite low, since both DCCs have applied the facilities as ruled by the Department of Social Affairs of the Republic of Indone-

sia and by the Office of Child and Family Policy.⁸ Age, frequency, and time of the most frequent morbidity was not found in detail.

The incidence of trauma at both DCCs was not found over the past 6 months; this is in accordance with the purpose of facility provision, tools, and buildings in the areas of the DCCs; location of building/rooms must be safe, not located near a road or near a river, there is no open well, or barbed wire fences and should be distant from a garbage dump. There should be no hazardous part of the building, such as stairs, low-positioned sockets. The material of the building should be inflammable. Play facilities should be safe and proportionate with the number of children, their sizes should be adjusted to each age group. There should be protective fences, railing, harmless holes, non-toxic surfaces, and soft grounds.^{9,10}

We concluded that DCCs can be an alternative for caring children while their parents work, especially working mothers. This was based on good growth status, good development status, good nutritional status, ratio of caregivers to toddlers, no incidence of trauma at DCCs, complete immunization coverage, as well as reasons posed by their parents.

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