



ORIGINAL RESEARCH ARTICLE

Effect of maternal deprivation on child development: A comparative study between orphanage and urban slum children in Odisha, India.

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Abstract

Objectives: To compare the development of children living in orphanage with that of the children living in slum with their biological parents.

Design: Cross-sectional study.

Setting: 3 orphanages of Bhubaneswar, one orphanage of Cuttack and two slum areas in Bhubaneswar.

Subject and methods: Total 146 children were included in our study, 73 from orphanage and 73 from urban slum. The total number of homes visited in slum were 217, out of which 201 gave consent for the study, 89 met our inclusion criteria. 73 children were selected by simple random method. Each child was examined, height, weight was recorded and physical examination was done. Each caretaker in the orphanage and mothers in the slum were questioned thoroughly by interview using a predesigned pretested proforma. Development was assessed by DDST-II.

Results: 73 Children 0-60 months were taken for the study from four different orphanages. Out of 73 children, total developmental delay was found in 37% of orphan children, 26% had global delay & 11% had isolated delay and 13.7% delay among the urban slum children, 4.1% had global delay and 9.6% had isolated delay. The caregiver to child ratio is 1:5 to 1:7 in orphanages.

Conclusion: Developmental delay among children residing in orphanages are observed to be high as compared to children living in urban slum with their parents. Despite the availability of good health facilities, and adequate nutrition to the children living in orphanages, they suffer from developmental delay due to maternal care deprivation. The Government should open up more number of orphanages with more caregivers for better care of the individual orphan children.

Key Words: Maternal deprivation; Child Development

INTRODUCTION

Childhood is a developmental stage in which emotional bonding between a child and his/her care givers for healthy physical, psycho-social development is important. Both biological & psychosocial factors influence the development of the child¹. Appropriate sensory input through hearing and vision, a secure environment, responsive parents, caregiver's sensitivity, affection provide a basis for healthy development². The children in the orphanages are raised by the caregivers who are the acting parent for the child. The poor socio-emotional interaction between caregiver and children are seen to have posed troubled developmental outcome. The children residing in slum live with their mother. Care of the children had been a traditional forte of the mothers, irrespective of their educational status, social class differences and income. The development of various schemes by the Government of India, the provision of door to

door health services by health workers and various other programmes has led to the improvement of living condition in the urban slums.

Our study is mainly directed towards the role of motherly care and active involvement of mother towards their children in relation to the developmental domains of child irrespective of the environmental condition in which the child is brought up.

MATERIALS AND METHODS

Place of study: Three orphanages in Bhubaneswar and one orphanage in Cuttack (Two slum area in Bhubaneswar)

Duration of Study: 2 years (January 2013 to December 2014)

Type of Study: Cross-section study

Study Group: Children 0- 60 months living in orphanages and urban slum

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Inclusion Criteria

Children 0-60 months of age residing in orphanage and slum having documented birth weight of ≥ 2.5 kg and no history of birth asphyxia and postnatal complications.

Exclusion Criteria

Malnourished child (WHO Z score growth chart $< -2Z$), Low birth weight, Unknown birth weight, Intrauterine growth retardation., Mentally retarded Children, physically handicapped children, Children with chronic disease, Children living with their biological mother in orphanage, Working mothers.

Each child were examined individually and each caretaker in the orphanage and mothers in the slum were questioned thoroughly by interview using a predesigned pretested proforma. Nutritional status were assessed by WHO Z score growth charts (0-60 months) and development by DDST-II (0-60 months). In order to fulfil the objectives of my study, data collected were subjected to different statistical procedures. Chi-square test of association was used.

RESULTS

Total number of children between the ages 0-60 months living in the orphanages are 193. Out of them, 132 (68.4%) were female and 61 (31.6%) were male. Total 73 children were included in our study (18 [24.7%] were male and 55 [75.3%] were female) as per the inclusion criteria. The caregiver to children ratio varies from 1:5 to 1:7. Out of total 73 children 27 (37%) had developmental delay. The total number of homes visited in slum were 217, out of which 201 gave consent for the study. Out of them 89 met our inclusion criteria. 73 children were selected by simple random method (31 [42.5%] were male and 42 [57.5%] were female). Developmental delay as per DDST –II in different age groups are given in Table 1 and Fig 1. The total developmental delay among orphan children was present in 37% of children, out of them 26% had global delay & 11% had isolated delay. Among the slum children the total delay was present in 13.7% of children, 4.1% had global delay and 9.6% had isolated delay (Fig. 2). Table 2 shows Total delay in among children living in orphanage and slum. The mean age of delay in orphanage is 16.5 months and 18.5 among slum children.

Table 1: Developmental delay as per DDST II

Age in months	Gross Motor				Fine Motor				Personal-Social				Language			
	Orphanage	%	Slum	%	Orphanage	%	Slum	%	Orphanage	%	Slum	%	Orphanage	%	Slum	%
<6	2	2.7	0	0	3	4.1	0	0	0	0	0	0	5	6.8	0	0
6 to 24	7	9.6	1	1.4	11	16.4	4	5.5	13	17.8	3	4.1	16	21.9	6	8.2
>24 to 60	2	2.7	0	0	2	4.1	1	1.4	4	5.5	1	1.4	6	8.2	1	1.4
Total	11	15	1	1.4	16	21.9	5	6.8	17	23.3	4	5.5	27	36.9	7	9.6

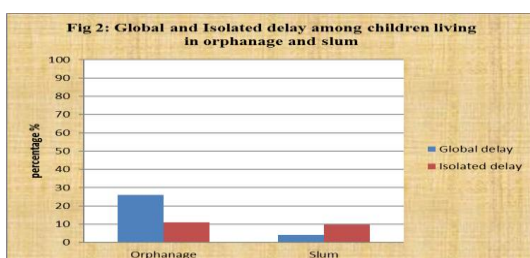
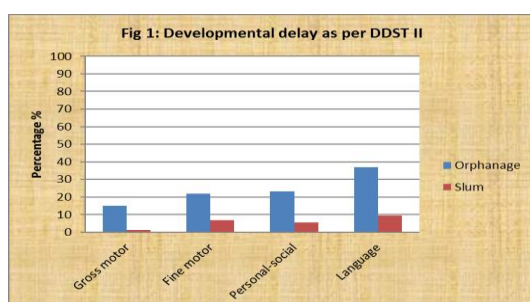


Table 2: Total delay among children living in orphanage and slum

	Delay	%	No delay	%	Total	%	p'value
Orphanage	27	37	46	63	73	100	< 0.001
Slum	10	13.7	63	68.3	73	100	

DISCUSSION

The prevalence of developmental delay in children under 2 years of age in India is 1.5% to 2.5%³. Our study found 37% delay among orphan children and 13.7% among slum children. Healthy development of the child comes from a secure environment provided by a close and quality interaction with the mother. The quality of the time spend by the parents with the child directly reflects the parent-child relationship and attachment. The developmental delay among the children in

orphanages is probably due to the lack of quality time given to each child by the caregivers, as each caregiver is allotted for the care of a minimum of 5 children. Social and emotional deprivation, lack of adequate interaction and stimulation, causes developmental impairment. Nair MKC *et al.*,⁴ (2009), performed developmental screening by using DDST II on 2111 children between 0 to 6yrs and stated that 45.1% were developmental delay, 60.9% were gross motor delay, 36.6% were fine motor delay, 34.1% were personal social delay and 44.5% were language delay and Miller⁵, 2000, studied on adopted children in China (large scale study) showing 55% children having gross delay, fine motor delay in 40%, cognitive delays in 32%, language delays in 43%, social emotional delays in 28%. Similarly, the language delay is high in our study in both the groups 36.9% in orphan children and 9.6% among slum children. The reasons for language delay were the paucity of language exposure in institutional environment, auditory hypersensitivity and inattention (possibly due to diminished auditory exposure during early life) and global developmental delay¹³, among the children living in slum, language developmental delay may be due to the lack of audio-visual stimulation, lack of proper birth spacing and maternal education.

CONCLUSION

Maternal deprivation in orphan children leads to psychosocial deprivation, and care given by caregiver leads to developmental delay. Despite good nutrition, regular health assessments, the children in orphanage who were born with normal birth weight also have an increased risk for developmental delay. The child to caregiver ratio should be improved in order to improve the basic care of each child. Those caregivers should also be educated and should be solely responsible for taking care of a single child. The Government should also open up more number of orphanages and

employ sufficient number of care givers for better care of children living in orphanages. Developmental screening should be performed periodically for all children living in orphanages and slum, in early ages for early diagnosis, evaluation and intervention.

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