

Early Childhood Development: Child-to-child approach
Baseline Survey 2003

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Executive Summary

Introduction: In Bangladesh, programs for children up to five years have been directed to ensure their survival, physical growth and good health. There is no nation wide structured program that addresses the cognitive, emotional, and social development of young children, resulting in lost opportunities to develop full potential of the child during the early years. Taking this into consideration, the Early Childhood Development (ECD) program has been initiated in the current country program cycle (2001-2005) of the Government and UNICEF. One of the strategies is to accomplish this through "Child-to-child approach", a time honoured system by which older children is taking care of their younger siblings. The objective of the child-to-child approach is to provide adolescents with the knowledge and skills to interact creatively and effectively with the young children, and to develop skills of critical-thinking and problem solving.

Baseline Survey methods: The purpose of the baseline study is to investigate and understand the knowledge on, and existing practices of, child rearing among a representative sample of rural adolescents. Based on this understanding, an effective intervention using child-to-child approach will be developed in the ECD program. Villages under Sherpur area office (of BRAC) having and not having Union Libraries (ULs) and Community Learning Centres (CLCs) were listed. Thereafter, five villages from each group were taken randomly for the survey.

The study area was divided into three cells: Treatment area I: villages having CLCs and ULs where usual ECD activities as well as the child-to-child approach will be implemented; Treatment area II: included villages without CLCs and ULs where only usual ECD activities will take place; Treatment area III (Control area): This is a non-BRAC area. In this area, no intervention will take place. Unmarried adolescents aged 12-19 years and having at least one under-five child in the household including their sibling(s) were included in this study. From each of the two intervention areas, 850 adolescents were selected while 500 adolescents were taken from the control area. Thus the total sample consisted of 2,200 adolescents.

Results: Differences were observed among the study areas with respect to socioeconomic and other characteristics. Proportionately, more adolescents from

Treatment area I was ignorant about 'physical development' or 'mental growth' compared to other areas. Majority of the adolescents identified 'adequate nutritious diet' as an important requirement for proper physical development and 'fondness to children' as an for good mental growth. More than 50% of the adolescents identified 'beating' and 'scolding' is harmful for normal mental growth of the children. They were mostly aware that there is a relationship between 'mother's antenatal care and both physical development and mental growth and also knowledgeable about the beneficial effect of antenatal care on child's growth, both physical and mental. Knowledge about the importance of 'birth weight' was more prevalent in the treatment areas (I and II) compared to the control area. While the importance of 'immunizing the under-five child' for physical and mental growth was common knowledge among the respondents, only in the Treatment area I a substantive proportion of them were involved in motivation and facilitating activities for immunization. Majority of the adolescents knew that starting weaning diet at proper time is important for physical and mental growth of the children.

Majority of the adolescents would spend their time with children by playing or singing songs and rhymes. Mostly, they displayed a positive attitude towards playing regularly with children. According to most of them, children are happy to play with them. They often also buy toys for the children. Notable differences among study areas were found with respect to 'singing songs' or 'telling rhymes'; the control area lagged behind the treatment areas in this respect. However, no difference was seen regarding frequency, timing or children's reaction to singing. Majority of them could relate singing songs with mental growth of the children (more in treatment areas compared to the comparison area) but not physical development. Story telling was another way adolescent's interacted the children, occasionally if not frequently; which made the children happy. This activity was more frequent in the treatment areas. Physical or verbal abuse against the children, the former lesser than the latter, is used by most of the adolescent respondents occasionally. They related the adverse affect of this behaviour to physical development rather than to mental growth. Traumatic impact on body or brain was mostly identified to be the main factor behind this presumed relationship. There was some variation among study areas in this aspect. Promoting social interaction with other children is actively done by greater proportion of the adolescents and has greater importance for mental growth compared to physical development, as recognized by the adolescents.

'Talking frequently to the child', 'encouraging children to study', 'making the children curious about different matters' are some of the reported activities usually done by the adolescents to stimulate children's mental development.

Discussion: Findings reveal that the majority of adolescents possess some general level of awareness about early childhood development and also some superficial knowledge on the importance of adequate nutrition, birth-weight of children, immunization, close supervision for preventing accidents etc. In practice, they spend with the children by playing, singing rhymes and story-telling etc. Though they are coming towards the children they also use verbal and physical abuse to discipline them. They reported several activities for stimulating children's mental development, such as 'talking frequently to the child', 'encouraging child to study', 'make the child curious to different matters' etc.

Some variation was noted among the study areas with respect to level of awareness, knowledge and practice. Overall, adolescents from treatment areas possessed better knowledge and practice compared to the control area. This has to be taken into account while comparing post-intervention impact.

Programme implications

Based on the findings from the survey, following recommendations are made:

- Efforts to enhance in-depth knowledge on different components of ECD
- Promotion of favourable practices, neutral attitude to harmless practices and motivation to discourage harmful practices like physical and verbal abuse
- Skill-development training for quality interaction with the children at the time of playing, story-telling etc. will help quality time spending
- Making the above inter-actions rational and scientific (for example discourage telling ghost stories etc.)
- Innovative activities to develop new games, low cost toys etc. which will stimulate cognitive development
- Wider dissemination of ECD interventions in the community

Background

Early Childhood Development (ECD) is a comprehensive approach to develop full cognitive, emotional, social and physical potentials of children from birth to five years. Over the last few years, there has been a renewed interest in the influence of the first few years of life on child health and development, educational attainment, and economic well-being. Research findings showed that the majority of physical and brain development occurs by the age of three that lays the foundation of a child's life long mental and social development (RAND 1998). In order to support the realization of a child's full potential, physical development is not enough, but needs to be accompanied by mental and social development as well. In developed countries and many parts of the developing countries ECD activities have taken place. In South-East Asia, most countries are in some ways involved with ECD activities. For instance, in Philippine and Nepal, the government and NGOs have jointly undertaken national radio education program, parenting education program and community based child development program. These programs have achieved much success in enhancing the social and cognitive capacity of children (Waiser 1996, Phanjaruniti 1998).

Over the recent decades, in Bangladesh programs for children up to five years have been directed to ensure their survival, physical growth and good health. There is no nation wide structured program that addresses the cognitive, emotional, and social development of young children, which results in lost opportunities to develop the full potential of the child. Recent studies, however, have addressed the importance of paying attention to the mental development of young children as well. Taking this into consideration, the Early Childhood Development program has been initiated in the current country program cycle (2001-2005) of the Government and UNICEF. The aim of this project is to support activities that empower caregivers to create a safe, secure and enabling environment, which promotes the physical, emotional, cognitive and social development of a child from conception to five years. The target group is the family. Messages will be disseminated to the newly wed couples, mothers, fathers, grand parents, older siblings and other family members. In order to achieve holistic child development, the project intends to integrate activities for mental and social development with activities targeting physical development and welfare of the child.

Child-to-child approach is a time honoured system by which older children take care of their younger sibling. The older children routinely "watch over" the health and development of a younger brother or sister. In doing so, they are not only providing care to others, but are also being socialized into the role of parenthood. This child-to-child approach is now being rediscovered and being applied in new ways as a basis for programming not only in health sector, but in areas like working with disabled children, working children, helping children in war and conflict, etc. The objective of the child-to-child approach is to provide adolescents with the knowledge and skills to interact creatively and effectively with young children, and to develop skills of critical-thinking and problem solving. The young children, therefore, can learn in a "safe heaven" environment.

BRAC, an indigenous NGO, is taking part in the ECD project. The ECD project plans to reach a population of more than 4 million households via BRAC core programs and infrastructures by 2005. The front line workers (FLW) of BRAC's development, education and health program will be used for empowering the family care-givers. Different outlets like village organizations, issue-based meetings, health forum, teachers-parents meetings, community based nutrition centers, BRAC health centers, schools, union and community libraries, etc. will be used to reach the target community.

Purpose

The purpose of the study is to investigate and understand the knowledge on, and existing practices of, child rearing among a representative sample of rural adolescents. Based on this understanding, an effective intervention using child-to-child approach will be developed in the ECD program. In order to measure the impact/effect of the intervention over time, the baseline survey results are necessary for comparison at the later stage of study.

Objectives

The objectives of the baseline survey are to:

1. Assess the prevailing knowledge of adolescents about a child's physical, mental and social development;
2. Identify the existing child rearing practices of adolescents necessary for a child's physical, mental and social development;

3. Seek adolescents' suggestion on how we can create a safe, secure and enabling environment to promote cognitive, emotional and social development of the child.

The Intervention

Initially the project will be implemented in one thana (Sherpur thana). In all villages, the regular ECD activities will take place where the community and the family caregivers will be sensitized and trained on ECD issues by BRAC's FLWs. In the villages having Community Learning Centers (CLCs) and Union Library (UL), adolescents (12-16 years) who are members of these centers will be trained on ECD issues and then implement these among adolescents in the community. Each adolescent will be tagged with a number of families. The relevant ECD issues and essential preventive health related activities include awareness building among family members on importance and techniques of ECD issues and preventive health, interact with the under-fives using ECD techniques, and create a safe environment (safe haven) for the under-fives.

Research design

A brief and focused baseline survey was done to record benchmark information regarding the breadth and depth of ECD knowledge and practice among adolescents before the intervention began. Villages under Sherpur area office having and not having ULs and CLCs were listed. Thereafter, five villages from each group were selected randomly for the survey. The study area was divided into three cells:

Treatment area I: Treatment area I included villages having CLCs and ULs, where usual ECD activities, as well as, the child-to-child approach will be implemented.

Treatment area II: This area included villages without CLCs and ULs, where only usual ECD activities will take place.

Treatment area III (Control area): This was a non-BRAC area. In this area, no intervention will take place.

Study population and sampling

Unmarried adolescents aged 12-19 years and having at least one under-five child in the household including their sibling(s) were included in this study. First, a list of households having unmarried adolescents of the above age group was prepared. Next, households having 0-5 years child were identified. From each of the two intervention areas, 850 adolescents were selected while 500 adolescents were taken from the control area. Thus the total sample consisted of 2,200 adolescents.

Data collection

Before launching the quantitative survey, a number of qualitative interviews had been carried out. The qualitative interviews involved 5 boys and 6 girls who were sampled using strategic technique. This technique involves informal discussion with community people to find out appropriate persons to interview. The interviews focused on respondents' knowledge and practices regarding the issues related to child's physical and mental development including the importance of love, affection and care for children; their daily child rearing practices; daily time spent on a daily basis with their younger brother and sister; relationship of mothers' antenatal check-up, birth weight, immunization, weaning food, etc. with the child's development; type of plays they do, nature of talking, songs, rhymes, stories they tell and how it is important in their brothers' and sisters' development; and violence (mental & physical) against their brothers/sisters; etc. From the qualitative research findings, some indicators had been sorted out to develop a structured questionnaire. In addition to the above issues, the questionnaire also included some SES variables of the respondents.

Results

Socio-demographic characteristics

Differences among the study areas were observed with respect to variables of interest (Table I). Adolescents from Treatment area I appeared to have higher level of schooling and was involved in more income-earning activities than other areas. The same trend was also noted in case of parents' education and mother's occupation. Eighty-six percent of the households had at least one child below five years and mostly they were siblings of the index adolescent (71%) (Table 2).

Table 1: Adolescents' socioeconomic characteristics by study area.

Characteristics	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Sex			
Male	429 (51.2)	451 (50.2)	130 (49.4)
Female	409 (48.8)	448 (49.8)	133 (50.6)
BRAC Eligibility			
Eligible	358 (42.7)	407 (45.3)	109 (41.4)
Non-eligible	480 (57.3)	492 (54.7)	154 (58.6)
Education			
Illiterate	49 (5.8)	71 (7.9)	27 (10.3)
Primary	470 (56.1)	565 (62.8)	187 (71.1)
Secondary	319 (38.1)	263 (29.3)	49 (18.6)
Involve in income earning activities**			
Yes	191 (22.8)	134 (14.9)	35 (13.3)
No	647 (77.2)	765 (85.1)	228 (86.7)
Father's education¹			
Illiterate	519 (63.2)	516 (57.6)	176 (66.9)
Primary	140 (16.7)	187 (20.8)	35 (13.3)
Secondary	139 (16.6)	165 (18.4)	48 (18.3)
Higher secondary	29 (3.5)	29 (3.2)	4 (1.5)
Mother's education²			
Illiterate	616 (73.6)	643 (71.8)	217 (82.5)
Primary	158 (18.9)	178 (19.8)	36 (13.7)
Secondary	59 (7.0)	73 (8.1)	10 (3.8)
Higher secondary	4 (0.5)	3 (0.3)	-
Mother's occupation³			
Household activities	778 (94.2)	857 (96.6)	261 (100.0)
Income earning activities	48 (5.8)	30 (3.4)	-

* $P_{\text{treat area I vs. II}} = <0.01$
 $P_{\text{treat area I vs. control area}} = <0.001$
 $P_{\text{treat area II vs. control area}} = <0.01$

** $P_{\text{treat area I vs. II}} = <0.001$
 $P_{\text{treat area I vs. control area}} = <0.01$
 $P_{\text{treat area II vs. control area}} = \text{ns}$

¹ $P_{\text{treat area I vs. II}} = <0.05$
¹ $P_{\text{treat area II vs. control area}} = <0.05$

² $P_{\text{treat area I vs. control area}} = <0.05$
² $P_{\text{treat area II vs. control area}} = <0.001$

³ $P_{\text{treat area I vs. II}} = <0.05$

Table 2: Information about under-5 children in the household.

	Frequency	Percent
No. of child in HH		
1	1729	86.5
2 and more	271	13.6
Relationship with respondents		
Brother/sister	1421	71.1
Nephew/niece	489	24.5
Cousin	90	4.5
Sex preference		
Boy	50	2.5
Girl	49	2.5
Both	11	0.6
Not stated	161	8.1
Birth registration		
Yes	66	3.3
No	1237	61.9
Don't know	697	34.9

Knowledge and awareness

Differences in level of awareness on ECD related issues were seen among the study areas (Table 3). Proportionately, more adolescents from Treatment area I was ignorant about 'physical development' or 'mental growth' than from other areas. Majority of the adolescents identified 'adequate nutritious diet' as an important requirement for proper physical development (Table 4) while 'fondness to children' was identified as necessary for good mental growth (Table 5). More than 50% of the adolescents knew that 'beating' and 'scolding' is harmful for normal mental growth of the children (Table 6).

Table 3: Adolescents' awareness on ECD matters

	Treatment area I	Treatment area II	Control area	p <i>I vs. II</i>	p <i>I vs. cont</i>	p <i>II vs. cont</i>
Have heard of ECD						
Yes	642 (76.6)	738 (82.1)	155 (58.9)	<0.01	<0.001	<0.001
No	196 (23.4)	161 (17.9)	108 (41.1)			
What is physical development						
Gradual growth of body	248 (38.6)	212 (28.7)	66 (42.6)			
Growing up from childhood	410 (63.9)	562 (76.2)	80 (51.6)			
Don't know	44 (6.9)	25 (3.4)	6 (3.9)			
Others	30 (4.7)	50 (6.8)	6 (3.9)			
Total valid cases	642	738	155			
What is mental growth						
Intellectual growth along with bodily development	306 (47.7)	354 (48.0)	57 (36.8)			
Cerebral intensification	212 (33.0)	270 (36.6)	83 (53.5)			
Changing behavior	45 (7.0)	56 (7.6)	1 (0.6)			
Enhance capability to understand	87 (13.6)	81 (11.0)	9 (5.8)			
Don't know	75 (11.7)	44 (6.0)	10 (6.5)			
Others	48 (7.5)	64 (8.7)	6 (3.9)			
Total valid cases	642	738	155			
Difference between physical & mental growth						
Yes	444 (69.2)	560 (75.9)	108 (69.7)	<0.05	ns	ns
No	165 (25.7)	140 (19.0)	40 (25.8)			
Don't know	33 (5.1)	38 (5.1)	7 (4.5)			

Table 4: Adolescents' knowledge on care needed for proper physical development of children.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Colostrum feeding	66 (10.3)	65 (8.8)	9 (5.8)
Breast feeding	51 (7.9)	59 (8.0)	13 (8.4)
Weaning diet (after 5 months)	94 (14.6)	51 (6.9)	10 (6.5)
Adequate nutritious diet	542 (84.4)	644 (87.3)	123 (79.4)
Immunization	137 (21.3)	95 (12.9)	21 (13.5)
Clean environment	197 (30.7)	164 (22.2)	40 (25.8)
Medical care if sickness	96 (15.0)	83 (11.2)	22 (14.2)
Don't know	42 (6.5)	42 (5.7)	12 (7.7)
Others	23 (3.6)	31 (4.2)	2 (1.3)

Table 5: Adolescents' knowledge on care needed for proper mental growth of children.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Fondness to children	235 (36.6)	241 (32.7)	108 (69.7)
Often talking to children	120 (18.7)	166 (22.5)	14 (9.0)
Playing with children	183 (28.5)	165 (22.4)	47 (30.3)
Not rebuking, beating and criticizing if they do something wrong	66 (10.3)	65 (8.8)	8 (5.2)
Complementing on good accomplishments	51 (7.9)	21 (2.8)	4 (2.6)
Arranging treatment during illness	26 (4.0)	23 (3.1)	1 (0.6)
Creating opportunity for schooling	179 (27.9)	250 (33.9)	45 (29.0)
Providing nutritious diet	93 (14.5)	160 (21.7)	13 (8.4)
Don't know	123 (19.2)	102 (33.9)	45 (29.0)
Others	82 (12.8)	61 (8.3)	2 (1.3)

Table 6: Adolescents' knowledge on practices harmful to mental growth of the children.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Quarrelling among family members in presence of the child	43 (6.7)	41 (5.6)	13 (8.4)
Restricting child to play with other children	70 (10.9)	44 (6.0)	5 (3.2)
Beating the child	327 (50.9)	407 (55.1)	91 (58.7)
Scolding the child	376 (58.6)	456 (61.8)	103 (66.5)
Maltreating others in presence of the child	106 (16.5)	182 (24.7)	25 (16.1)
Don't know	92 (14.3)	72 (9.8)	23 (14.8)
Others	203 (31.6)	193 (26.2)	13 (8.4)

They were mostly aware that there is a relationship between 'mother's antenatal care and both physical development and mental growth (Table 7) and also knowledgeable about the beneficial effect of antenatal care on child's growth, both physical and mental (Tables 8 & 9).

Table 7: Aware adolescent's knowledge on association between mother's antenatal care, and physical development and mental growth of the child.

Association with ANC	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)	p <i>I vs. II</i>	p <i>I vs. const</i>	p <i>II vs. const</i>
Physical development	525 (81.8)	560 (75.9)	115 (74.2)	<0.01	<0.05	0.681
Mental growth	385 (60.0)	384 (52.0)	83 (53.5)	<0.01	0.147	0.791

Table 8: Aware adolescent's knowledge on effect of mother's antenatal care on child's physical development.

	Treatment area I (n=525)	Treatment area II (n=560)	Control area (n=115)
Child's physical growth would be appropriate if mother is in good health	235 (44.8)	194 (34.6)	17 (14.8)
Child will not become sick	258 (49.1)	336 (60.0)	67 (58.3)
Don't know	90 (17.1)	89 (15.9)	32 (27.8)
Others	45 (8.6)	60 (10.7)	1 (0.9)

Table 9: Aware adolescent's knowledge on how mother's antenatal care affects child's mental growth.

	Treatment area I (n=385)	Treatment area II (n=384)	Control area (n=83)
Child's physical health becomes good if mother is in good health	174 (45.2)	162 (42.2)	44 (53.0)
Good physical health influences proper mental growth	76 (19.7)	95 (24.7)	4 (4.8)
The child becomes intelligent	81 (21.0)	90 (23.4)	17 (20.5)
Don't know	212 (31.4)	89 (23.2)	25 (30.1)
Others	14 (3.6)	26 (6.8)	1 (1.2)

Knowledge about the importance of 'birth weight' was more prevalent in the treatment areas (I and II) compared to the control area (Table 10).

Table 10: Distribution of ECD aware adolescents according to selected variables on birth weight.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)	P <i>I vs. II</i>	P <i>I vs. cont</i>	P <i>II vs. cont</i>
Birth weight is recorded for the selected <5 child	394 (61.4)	500 (67.8)	33 (21.3)	<0.05	<0.001	<0.001
Birth weight influences physical development	516 (80.4)	612 (82.9)	93 (60.0)	0.235	<0.001	<0.001
Birth weight affects mental growth	341 (53.1)	380 (51.5)	65 (41.9)	0.553	<0.05	<0.05

While the importance of 'immunizing the under-five child' for physical and mental growth was common knowledge among the respondents (Table 11), only in Treatment area I, a substantive proportion (54%) of them were involved in facilitating activities for immunization (Table 12).

Table 11: Distribution of ECD aware adolescents according to selected variables on immunization.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)	P <i>I vs. II</i>	P <i>I vs. cont</i>	P <i>II vs. cont</i>
Selected <5 child in the HH is immunized	613 (95.5)	688 (93.2)	136 (87.7)	ns	<0.01	<0.05
Immunization influences physical development	592 (92.2)	671 (90.9)	143 (92.3)	ns	ns	ns
Immunization affects mental growth	467 (72.7)	486 (65.9)	112 (72.3)	<0.01	ns	ns

Table 12: Distribution of ECD aware adolescents on their activities for immunization campaign.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Take community children to the EPI center	130 (20.2)	112 (15.2)	16 (10.3)
Motivate community people to bring their children to the EPI center	180 (28.0)	172 (23.3)	17 (11.0)
Advise mothers to immunize their children	72 (11.2)	82 (11.1)	3 (1.9)
Work with volunteers at the center	8 (1.2)	8 (1.1)	1 (0.6)
Do nothing	295 (46.0)	389 (52.7)	119 (76.8)

That starting weaning diet at proper time (5-6months) is important for physical and mental growth of the children is known by majority of the adolescents (Table 13).

Table 13: Distribution of ECD aware adolescents according to selected variables on weaning diet.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Weaning diet at proper time influences physical development Chi-squared significance, P=0.453	625 (97.4)	713 (96.6)	148 (95.5)
Weaning diet at right time affects mental growth Chi-squared significance, P=0.262	567 (88.3)	631 (85.5)	132 (85.2)
Initiating weaning diet for the selected child in the HH at (age in months)			
1 – 4	99 (15.4)	117 (15.9)	19 (12.3)
5 – 6	346 (53.9)	331 (44.9)	67 (43.2)
7 – 18	49 (7.6)	39 (5.3)	7 (4.5)
Did not initiate	42 (6.5)	49 (6.6)	21 (13.5)
Don't know	106 (16.5)	202 (27.4)	41 (26.5)

Majority of them are also aware that to protect children from 'injury' or 'drowning', constant supervision and keeping them away from water bodies are necessary (Tables 14 and 15).

Table 14: Knowledge of ECD aware adolescents on the protection of child from injury.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Keep the child under continuous supervision	485 (75.5)	539 (73.0)	119 (76.8)
Keep away the child from sharp cutting instruments	165 (25.7)	125 (16.9)	18 (11.6)
The child should remain to one's lap	35 (5.5)	69 (9.3)	5 (3.2)
The child should be away from fire, water, ferocious animal, high-altitude	45 (7.0)	63 (8.5)	6 (3.9)
Do nothing	39 (6.1)	35 (4.7)	16 (10.3)

Table 15: Knowledge of ECD aware adolescents on the protection of child from drowning.

	Treatment area I (n=642)	Treatment area II (n=738)	Control area (n=155)
Keep the child under continuous supervision	335 (52.2)	374 (50.7)	95 (61.3)
Taking measures to keep away the child from pond, river & boating	492 (76.6))	769 (63.6)	91 (58.7)
Others	17 (2.6)	31 (4.2)	5 (3.2)
Do nothing	18 (2.8)	18 (2.4)	11 (7.1)

Practice

Great majority of the adolescents spent some time with the children regularly (Table 16). No gender discrimination in spending time with children was observed in the study areas (Tables 17 and 18).

Table 16: Adolescents' participation in spending time with under-5 children in their households.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Spend time each day regularly	792 (94.5)	843 (93.8)	236 (89.7)
Spend time occasionally	41 (4.9))	43 (4.8)	27 (10.3)
Do not spend any time	5 (0.6)	13 (1.4)	-

Table 17: Adolescents' participation to spend time with male and female child.

	Treatment area I (n=833)	Treatment area II (n=886)	Control area (n=263)
Spend time equally with boy & girl	251 (30.1)	257 (29.0)	98 (37.3)
Do not spend time equally with boy & girl	240 (28.8))	241 (27.2)	66 (25.1)
Not stated	342 (41.1)	388 (43.8)	99 (37.6)

Chi-squared significance, $P=0.101$

Table 18: Distribution of adolescents who do not spend time equally with male and female child.

	Spending time more	
	With male child	With female child
Treatment area I	122 (42.7)	118 (45.2)
Treatment area II	128 (44.8)	113 (43.3)
Control area	36 (12.6)	30 (11.5)

$P=0.817$

Majority of the adolescents would spend their time with children by playing or singing songs and rhymes (Table 19). Mostly, they displayed a positive attitude towards playing with children, regularly (Tables 20 and 21). According to most of them, children felt happy while playing with them (Table 22). They bought toys for them (Table 23).

Table 19: Distribution of adolescents on how would they spend time with children in their household.

	Treatment area I (n=833)	Treatment area II (n=886)	Control area (n=263)
Playing	816 (98.0)	866 (97.7)	256 (97.3)
Singing songs and rhymes	836 (100.4)	879 (99.2)	149 (56.7)
Feeding	192 (23.0)	154 (17.4)	57 (21.7)
Bathing, cleaning & changing cloths	101 (12.1)	69 (7.8)	47 (17.9)
Telling stories & jokes	240 (28.8)	258 (29.1)	27 (10.3)
Taking out & showing different things	314 (37.7)	330 (37.2)	172 (65.4)
Others	48 (5.8)	73 (8.2)	4 (1.5)

Table 20: Distribution of adolescents according to their preference to play with the children in the households.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Like to play	823 (98.2)	881 (98.0)	260 (98.9)
Don't like to play	15 (1.8)	18 (2.0)	3 (1.1)

Chi-squared significance, $P=0.652$

Table 21: Distribution of adolescents on how frequently they like to play with children.

	Treatment area I (n=823)	Treatment area II (n=881)	Control area (n=260)	P <i>I vs. II</i>	P <i>I vs. cont</i>	P <i>II vs. const.</i>
Playing every day	673 (81.8)	756 (85.8)	201 (77.3)	<0.05	ns	<0.01
Playing occasionally	150 (18.2)	125 (14.2)	59 (22.7)			

Table 22: Responds of children while playing with adolescents.

	Treatment area I (n=823)	Treatment area II (n=881)	Control area (n=260)
Responds very actively	342 (41.6)	362 (41.1)	94 (36.2)
Be happy with playing	711 (86.4)	714 (81.0)	223 (85.8)
Others	28 (3.4)	19 (2.2)	5 (1.9)

Table 23: Distribution of adolescents about toys the children in the households.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)	P <i>I vs. II</i>	P <i>I vs. cont</i>	P <i>II vs. const.</i>
Make toys for the children	393 (46.9)	407 (45.3)	100 (38.0)	ns	<0.05	<0.05
Material for making toys are safe	288 (34.4)	291 (32.4)	58 (22.1)	ns	<0.001	<0.01
Buy toys for the children	635 (75.8)	629 (70.0)	160 (60.8)	<0.01	<0.001	<0.01

The adolescents usually interacted with children in a loving manner (Table 24) and children became delighted at this expression of love in most cases (Table 25).

Table 24: Distribution of adolescents on how do they talk to the children.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Talking normally with smile	360 (43.0)	384 (42.7)	103 (39.2)
Talking with love	468 (55.8)	502 (55.8)	159 (60.5)
Talking with anger	3 (0.4)	2 (0.2)	-
Do not speak	7 (0.8)	11 (1.2)	19 (1.0)

Table 25: Distribution of adolescents according to their responses on children's reactions while they are with children.

	Treatment area I (n=831)	Treatment area II (n=888)	Control area (n=262)
Children became delighted	824 (99.2)	876 (98.6)	257 (98.1)
Children are not became delighted	7(0.8)	12 (1.4)	5 (1.9)

Chi-squared significance, $P=0.341$

Table 26: Distribution of adolescents according to whether they sing songs or rhymes to the children in the household.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)	p <i>I vs. II</i>	p <i>I vs. cont</i>	p <i>II vs. cont</i>
Sing songs	415 (49.5)	396 (44.0)	58 (22.1)	<0.05	<0.001	<0.001
Tell rhymes	583 (69.6)	603 (67.1)	115 (43.7)	ns	<0.001	<0.001

Notable differences among study areas were found with respect to 'singing songs' or 'telling rhymes', the control area lagged behind the treatment areas in this respect (Table 26). However, no difference was seen regarding frequency, timing or

Table 27: Distribution of adolescents according to selected variables on singing songs/rhymes.

	Treatment area I (n=589)	Treatment area II (n=605)	Control area (n=115)
Frequency singing songs/rhymes			
Sing each day regularly	307 (52.1)	309 (51.1)	52 (45.2)
Sing occasionally	282 (47.9)	296 (48.9)	63 (54.8)
When do they sing			
During sleeping	174 (29.5)	97 (16.0)	12 (10.4)
At any time of a day	377 (64.0)	482 (79.7)	92 (80.0)
Trying to stop cry	24 (4.1)	13 (2.1)	10 (8.7)
Others	14 (2.4)	13 (2.1)	1 (0.9)
Children's reaction while they sing			
Become very happy	454 (77.1)	457 (75.5)	96 (83.5)
Listen very carefully	191 (32.4)	164 (27.1)	30 (26.1)
Try to sing and dance	163 (27.7)	182 (30.1)	26 (22.6)
Others	34 (5.8)	27 (4.5)	5 (4.3)

children's reaction to singing (Table 27). Majority of them could relate singing songs with mental growth of the children (more in treatment areas compared to the comparison area) but not physical development (Table 28).

Table 28: Adolescents knowledge on association between singing songs, and physical and mental growth of a child.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Association of singing songs/rhymes with physical and mental growth of a child*	545 (65.0)	653 (72.6)	125 (47.5)
How singing songs effect physical development			
Happiness stimulate physical dev. in different ways through eating, playing, sleeping	173 (31.7)	153 (23.4)	35 (28.0)
Don't know	373 (68.4)	501 (76.7)	90 (72.0)
How singing songs effect mental growth			
Stimulate child to talk	420 (77.1)	527 (80.7)	110 (88.0)
Stimulate child to sing	47 (8.6)	68 (10.4)	1 (0.8)
Enhance capacity to recall	68 (12.5)	50 (7.7)	3 (2.4)
Don't know	137 (25.1)	122 (18.7)	27 (21.6)

*Chi-squared significance, $P_{I vs. II} < 0.01$, $P_{I vs. cont} < 0.001$, $P_{II vs. cont} < 0.001$

Story telling was another activity in the adolescent's interaction with the children, carried out occasionally if not frequently observed, that made the children happy (Table 29). This activity was more frequently in the treatment areas. Most of them could relate story telling with mental development, but not physical growth and

majority of them stated that it helped increase the capacity of understanding of the children (Table 30).

Table 29: Distribution of adolescents according to selected variables on story telling.

	Treatment area I	Treatment area II	Control area
Telling story to the children			
Yes*	385 (45.9)	381 (42.4)	32 (12.2)
No	453 (54.1)	518 (57.6)	231 (87.8)
Frequency of story telling			
Each day regularly	153 (39.7)	154 (40.4)	16 (50.0)
Occasionally	232 (60.3)	227 (59.6)	16 (50.0)
Total valid cases	385	381	32
Time of telling story			
During sleeping time	140 (36.4)	101 (26.5)	10 (31.3)
Any time of a day	225 (58.4)	265 (69.6)	19 (59.4)
Others	20 (5.2)	15 (3.9)	3 (9.4)
Total valid cases	385	381	32
Feeling of children during story telling			
Would become happy	257 (66.8)	265 (69.6)	20 (62.5)
Hear attentively	184 (47.8)	168 (44.1)	13 (40.6)
Others	73 (19.0)	84 (22.0)	5 (15.6)
Total valid cases	385	381	32

*Chi-squared significance, $P_{I \text{ vs. II}} = 0.147$, $P_{I \text{ vs. cont}} = <0.001$, $P_{II \text{ vs. cont}} = <0.001$

Table 30: Adolescents knowledge on association between telling stories, and physical and mental growth of a child.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Association of telling stories with physical and mental growth of a child*	512 (61.1)	643 (71.5)	116 (44.1)
How telling stories effect physical development			
Have relationship with mental growth, not with physical dev.	233 (45.5)	425 (66.1)	60 (51.7)
Happiness stimulate physical dev. in different ways through eating, playing, sleeping	147 (28.7)	145 (22.6)	28 (24.1)
Don't know	134 (26.2)	76 (11.8)	28 (24.1)
How telling stories effect mental growth			
Enhance capacity to learn a new thing	92 (18.0)	117 (18.2)	9 (7.8)
Increase capacity to understand	404 (78.9)	522 (81.2)	100 (86.2)
Enhance capacity to recall	50 (9.8)	59 (9.2)	0 (0.0)
Don't know	37 (7.2)	17 (2.6)	11 (9.5)
Others	44 (8.6)	23 (3.6)	8 (6.9)

*Chi-squared significance, $P_{I \text{ vs. II}} = <0.001$, $P_{I \text{ vs. cont}} = <0.001$, $P_{II \text{ vs. cont}} = <0.001$

Physical or verbal abuse to the children, the former lesser than the latter, is used by most of the adolescent respondents, though occasionally (Table 31). They related the adverse affect of this behaviour on physical development to a greater extent than mental growth. Traumatic impact on body or brain was mostly identified to be

the main factor behind this presumed relationship. There was some variation among study areas in this aspect.

Table 31: Distribution of adolescents according to selected variables on violence against children.

	Treatment area I	Treatment area II	Control area
Rebuking or beating children			
Yes*	576 (68.7)	615 (68.4)	192 (73.0)
No	262 (31.3)	284 (31.6)	71 (27.0)
Nature of violence			
Rebuking/scolding	418 (72.6)	466 (75.8)	145 (75.7)
Beating	245 (42.5)	257 (41.8)	99 (51.6)
Doing other things to get rid of anger	53 (9.2)	41 (6.7)	9 (4.7)
Others	29 (5.0)	16 (2.6)	3 (1.6)
Total valid cases	576	615	192
Rate of occurrence			
Quite frequently	15 (2.6)	25 (4.1)	5 (2.6)
Occasionally	518 (89.9)	547 (88.9)	159 (82.8)
Some days interval	37 (6.4)	36 (5.9)	27 (14.1)
Others	6 (1.0)	7 (1.1)	1 (0.5)
Total valid cases	576	615	192

*Chi-squared significance, $P = 0.345$

Table 32: Adolescents' knowledge on association between violence against child, and their physical and mental growth.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Association of violence against child			
Physical development*	455 (54.3)	545 (60.6)	133 (50.6)
Mental growth ^a	417 (49.8)	473 (52.6)	97 (36.9)
How violence against child affect physical development			
Organ may damage by physical assault	285 (62.6)	285 (52.3)	62 (46.6)
Body become thin through anorexia & lowering food intake	85 (18.7)	150 (27.5)	14 (10.5)
Don't know	86 (18.9)	110 (20.2)	56 (42.1)
Others	55 (12.1)	59 (10.8)	7 (5.3)
How violence against child affect mental growth			
Child become afraid & would not entertain others	99 (23.8)	76 (16.1)	33 (34.0)
Children remain with themselves, become naughty & would not follow/ obey older	54 (13.0)	37 (7.8)	3 (3.1)
Damage brain & lower intelligence	206 (49.5)	286 (60.5)	41 (42.3)
Don't know	86 (20.7)	75 (15.9)	25 (25.8)
Others	21 (5.0)	49 (10.4)	5 (5.22)

*Chi-squared significance, $P_{I \text{ vs. II}} = <0.01$, $P_{I \text{ vs. cont}} = 0.321$, $P_{II \text{ vs. cont}} = <0.01$

^aChi-squared significance, $P_{I \text{ vs. II}} = 0.249$, $P_{I \text{ vs. cont}} = <0.001$, $P_{II \text{ vs. cont}} = <0.001$

Table 33: Distribution of adolescents on what they did to make the children in their households social.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Allow children to interact with everyone			
Allow children to play with other children	357 (42.6)	398 (44.3)	70 (26.6)
Get children admit in the school	244 (29.1)	298 (33.1)	60 (22.8)
Did nothing	24 (2.9)	10 (1.1)	4 (1.5)
Don't know	354 (42.2)	390 (43.4)	143 (54.4)
Others	53 (6.3)	25 (2.8)	25 (9.5)
	39 (4.7)	23 (2.6)	0 (0.0)

Table 32: Adolescents knowledge on association between socialization of children, and their physical and mental growth.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Socialization of children influence			
Physical development*	379 (45.2)	380 (42.3)	89 (33.8)
Mental growth ^a	516 (61.6)	596 (66.3)	111 (42.2)
How socialization enhance physical development			
Socialization make children happy & happiness stimulate physical dev. through playing & eating	211 (55.7)	203 (53.4)	34 (38.2)
Don't know	98 (25.9)	73 (19.2)	22 (24.7)
Others	74 (19.5)	112 (29.5)	33 (37.1)
How socialization influence mental growth			
Learn to interact with others	226 (43.8)	247 (41.4)	49 (44.1)
Learn new & good things from others	207 (40.1)	318 (53.4)	22 (19.8)
Would enhance mental growth	232 (45.0)	253 (42.4)	57 (51.4)
Don't know	56 (10.9)	50 (8.4)	16 (14.4)
Others	32 (6.2)	23 (3.9)	1(0.9)

*Chi-squared significance, $P_{I \text{ vs. II}} = 0.226$, $P_{I \text{ vs. cont}} = <0.01$, $P_{II \text{ vs. cont}} = <0.05$

^aChi-squared significance, $P_{I \text{ vs. II}} = <0.05$, $P_{I \text{ vs. cont}} = <0.001$, $P_{II \text{ vs. cont}} = <0.001$

Table 33: Distribution of adolescents according to selected variables on stimulating mental growth.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Whether adolescent did anything to stimulate child's mental growth			
Yes	375 (44.7)	433 (48.2)	67 (25.5)
What did adolescents do			
Try to make the child more curious to different matters	75 (20.0)	65 (15.0)	10 (14.9)
Talking frequently to the child	144 (38.4)	158 (36.5)	24 (35.8)
Try to making the child social	55 (14.7)	60 (13.9)	10 (14.9)
Encourage child to study	102 (27.2)	177 (40.9)	13 (19.4)
Teaching child etiquette, avoiding rebuking or beating & behaving nicely	37 (9.9)	44 (10.2)	7 (10.4)
Providing nutritious diet, immunization and clean environment	46 (12.3)	42 (9.7)	1 (1.5)
Singing songs, telling stories & reading books	13 (3.5)	21 (4.8)	14 (20.9)
Don't know	3 (0.8)	0 (0.0)	0 (0.0)
Total valid cases	375	433	67

*Chi-squared significance, $P_{I \text{ vs. II}} = 0.163$, $P_{I \text{ vs. cont}} = <0.001$, $P_{II \text{ vs. cont}} = <0.001$

Table 34: Distribution of adolescents on what they did to teach children about discipline.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Do nothing	408 (48.7)	419 (46.6)	191 (72.6)
Not to be rude, quarrel or fight to others	115 (13.7)	159 (17.7)	16 (6.5)
To obey older	179 (21.4)	243 (27.0)	17 (6.5)
Ask children to study	67 (8.0)	60 (6.7)	12 (4.6)
Teaching to keep themselves clean	91 (10.9)	58 (6.5)	22 (8.4)
Doing daily life activities in time	122 (14.6)	67 (7.5)	23 (8.7)
Doing works correctly	33 (3.9)	20 (2.2)	0 (0.0)
Avoid harmful activities to save lives	8 (1.0)	10 (1.1)	0 (0.0)
Others	30 (3.6)	14 (1.6)	0 (0.0)

Promoting social interaction with other children is actively done by greater proportion of the adolescents (Table 32) and its greater importance for mental growth compared to physical development, and the underlying processes, was recognised by them (Table 33). 'Talking frequently to the child', 'encouraging child to study', 'make the child curious to different matters' are some of the reported activities usually done by the adolescents for stimulating children's mental development.

Majority of the adolescents did 'nothing' to either teach discipline to the children or to make them self-reliant (Tables 34).

Table 34: Distribution of adolescents on what they did to make children self-confident.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Do nothing	700 (83.5)	793 (88.2)	240 (91.3)
Encourage children to do good work	30 (3.6)	12 (1.3)	7 (2.7)
Help children to do their works by themselves	65 (7.8)	55 (6.1)	13 (4.9)
Ask children to study	30 (3.6)	29 (3.2)	4 (1.5)
Others	24 (2.9)	19 (2.1)	0 (0.0)

Lastly, in response to the question about what can be done for good physical development of a child, majority said that they would ask mothers to provide nutritious diet to their children (Table 35).

Table 35: Distribution of adolescents according to their opinion on what an adolescent should do for the good physical development of a child.

	Treatment area I (n=838)	Treatment area II (n=899)	Control area (n=263)
Ask mothers to provide nutritious diet to children	499 (53.6)	544 (60.6)	127 (48.3)
Advise mothers for keeping children & home clean	278 (33.2)	228 (25.4)	55 (20.9)
Say mothers for keeping away children from harmful objects/activities	15 (1.8)	8 (0.9)	0 (0.0)
Ask mothers to protect children's health through immunization, diarrhoea prevention & seeking medical treatment	117 (14.0)	103 (11.5)	14 (5.3)
Can say nothing	249 (29.7)	262 (29.1)	130 (49.4)
Others	47 (5.6)	40 (4.5)	14 (5.3)

Discussion

This report presents benchmark information on the knowledge and practice of the targeted adolescents (involved in the Child-to-child approach of the ECD project) regarding Early Childhood Development, and the conceptual linkages of this with the growth and development of children. Findings reveal that the great majority of adolescents possess general level of awareness about early childhood development and also some superficial knowledge on the importance of adequate nutrition, birth-weight of children, immunization, close supervision for preventing accidents etc. In practice, they spend time with the children by playing, singing rhymes and storytelling etc. Though during interaction with children they display loving care, they also use verbal and physical abuse to discipline them. For socialization, they use to encourage children to actively engage with their peers while playing etc. They reported several activities for stimulating children's mental development such as 'talking frequently to the child', 'encouraging child to study', 'make the child curious to different matters' etc.

Some variation was noted among the study areas with respect to level of awareness, knowledge and practice. Overall, adolescents from treatment areas possessed better knowledge and practice compared to the control area. This has to be taken into account while comparing post-intervention impact.

Programme implications

Based on the findings from the survey, following recommendations can be made:

- Efforts to enhance in-depth knowledge on different components of ECD is needed
- Promotion of favourable practices, neutral attitude to harmless practices and motivation to discourage harmful practices like physical and verbal abuse is needed
- Skill-development training for quality interaction with the children at the time of playing, story-telling etc. will help quality time spending
- Making the above inter-actions rational and scientific (for example discouraging ghost stories etc.)
- Innovative activities to develop new games, low cost toys etc. which will stimulate cognitive development
- Wider dissemination of ECD interventions in the community