

ORIGINAL RESEARCH

To Study The Effect Of Pre-Schooling On Development Of Children

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Received: 13 February, 2023

Accepted: 18 March, 2023

ABSTRACT

Introduction: Education is an instrument of child to become successful human for our society". In order to achieve this, training of a child in pre-school years is an important step ahead. The first five years of life are crucial for physical, social, adaptive, emotional, cognitive and language development of the child because during this period the foundation for all later development is laid. Normal school entry age is defined as 4 years, however in many schools across India children are admitted at 3 years in the lowest grade. However, either due to parental pressure, children are being increasingly admitted even earlier in the name of preschool or play way soon after achieving 2 years of age. There are no studies from India which look into the effect of the preschool/play way education on mental, social, and developmental skills of children or whether they are beneficial or detrimental to their development. Hence this study was conducted to check the attainment of overall skills in children exposed to play way method as against those who are not exposed. **Methods:** A case-control study was conducted at Ujjwal Bhavishya kinder garten and Department of Paediatrics of a medical college Delhi NCR with the approval of institutional ethical committee from May 2012 till April 2014. 10 Children between age group of 2.5-3.5 years enrolling in play way school enrolled by 1st July 2013 and 10 children of same age group, demography and sex from local area not enrolled in Preschool education were included in the study. Children less than 2.5 and more than 3.5 years, child with chronic illness and children with Mental retardation or H/o seizures were excluded. Children between 2.5-3.5 years of age who were attending play way voluntarily were taken as cases. Controls were age, sex and demographically Matched 10 children those were not attending play way. Data was analysed using the SPSS version 20 software. **Results:** Result showed that age wise development in all 4 domains was better in children who received preschool education as compared to those who did not. The cases who received preschool education had a better adaptive development as compared to controls. Net difference between cases and controls being 85.6 points and showed a better development in cases being early introduced to preschool education.

Keywords: pre-schooling, development Of children

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INTRODUCTION

"Education is an instrument of child to become successful human for our society". This is a true statement with far reaching and in depth meaning by Dr Sarvapalli Radhakrishnan. In order to achieve this, training of a child in pre-school years is an important step ahead. The first five years of life are crucial for physical, social, adaptive, emotional, cognitive and language development of the child because during this period the foundation for all later development is laid.¹

The increasing numbers of children between ages 2 are now being placed in non-parental care during the day, primarily due to increase in maternal employment. Between 1980 and 1988 the labor force participation rate of mothers with infants rose from 38 percent to 59 percent. In 1999, 44 percent of infants under 1 year of age, 53 percent of 1 year olds and 57

percent of 2 year olds were subjected to non-parental care on regular basis, i.e. in early childhood education and care program.^{2,3}

Normal school entry age is defined as 4 years, however in many schools across India children are admitted at 3 years in the lowest grade. However, either due to parental pressure, children are being increasingly admitted even earlier in the name of preschool or play way soon after achieving 2 years of age. Also mothers in educated society carry status feeling while sending their children to tiny tots/play way. The play-way/preschool gives an opportunity to interact with fellow children, offers a structured schedule and also an opportunity for better nutrition.^{4,5}

There are no studies from India which look into the effect of the preschool/play way education on mental, social, and developmental skills of children or

whether they are beneficial or detrimental to their development.

Hence this study was conducted to check the attainment of overall skills in children exposed to play way method as against those who are not exposed.

MATERIAL AND METHODS

A case-control study was conducted at Ujjwal Bhavishya kinder garten and Department of Paediatrics of a medical college Delhi NCR with the approval of institutional ethical committee from May 2012 till April 2014. The play way school was selected on desirable components mentioned in the recommendations of Ganguly committee for Pre-school education. Ujjwal Bhavishya kinder Garten satisfied all criteria and hence was selected. 10 Children between age group of 2.5-3.5 years enrolling in play way school enrolled by 1st July 2013 and 10 children of same age group, demography and sex from local area not enrolled in Preschool education were included in the study. Children less than 2.5 and more than 3.5 years, child with chronic illness and children

with Mental retardation or H/o seizures were excluded. Children between 2.5-3.5 years of age who were attending play way voluntarily were taken as cases. Controls were age, sex and demographically Matched 10 children those were not attending play way. Study was commenced after taking Consent from parents of cases and controls and Director of Institution. Data was collected using prestructured, validated questionnaire which comprised information regarding birth history, number of siblings, socio-economic status etc and the other part consisted of initial assessment of developmental milestones under 4 dimensions (Motor, adaptive behaviour, language development, personal –social behaviour) using “Gesell Children Developmental schedule”⁶. Data was analysed using the SPSS version 20 software. Descriptive statistics were reported as mean (SD) for continuous variables and frequency (percentage) for categorical variables. Pearson’s Chi-square test was used to find association between two categorical variables. A p value < 0.05 was considered as statistically significant.

RESULTS

Table: 1 Total development quotient

Collective difference in case and controls

S.No	Cases			Controls		
	I st visit % points	II nd visit % points	Net difference % points	I st visit % points	II nd visit % points	Net difference % points
1	128	127.5	-0.5	112.05	114	+1.95
2	133	135.5	+2.5	116.6	119	+2.4
3	138	138	0	133	119	-14
4	133	128.2	-4.8	131	121.6	-9.4
5	120.7	121.5	+0.7	120	120	0
6	117	117	0	116.6	117	+0.4
7	127.8	134	+6.2	131	121	-10
8	120	124	+4	116.6	113	-3.6
9	120.5	125	+4.5	133	117	-16
10	131.5	128.8	-2.7	116.6	117	+0.4
			9.9			-47.85

The 10 cases and controls are compared on total developmental quotient i.e additive effect of all 4 quotients. The effect of preschool education was different in different paired cases and controls.

However a net difference of -57.5 points was noted. This table basically means that the age wise development in all 4 domains was better in children who received preschool education as compared to those who did not.

Table-2 Motor assessment

Collective difference between cases and controls

S.No	Cases			Controls		
	I st visit	II nd visit	Net difference	I st visit	II nd visit	Net difference
1	120	120	0	121.2	110	+1.95
2	133	146	+13	116.6	117	+2.4
3	138	146	+8	133	121	-14
4	133	131	-2	131	129.7	-9.4
5	105	111	+6	120	120	0
6	117	117	0	116.6	117	+0.4
7	123.5	138	+14.5	131	129	-10
8	120	133	+13	116.6	117	-3.6

9	126	125	-1	133	117	-16
10	131.5	139	+7.5	116.6	117	+0.4
			+59			-27.85

The cases who received preschool education had a better motor development (both gross and fine motor) as compared to controls who did not received preschool education.

Net difference between cases and controls being 86.85 points.

Table -3 Adaptive assessment

Collective difference between cases and controls

S.No	Cases			Controls		
	I st visit	II nd visit	Net difference	I st visit	II nd visit	Net difference
1	114	120	+6	109	110	+1
2	133	132	-1	116.6	121.9	+5.3
3	138	146	+8	133	121	-12
4	133	131	-2	131	129.7	-1.3
5	126	125	-1	120	120	0
6	117	117	0	116.6	117	+0.4
7	123.5	138	+14.5	131	129	-2
8	120	133	+13	116.6	117	+0.4
9	105	125	+20	133	117	-16
10	131.5	125.5	-5.5	116.6	117	+0.4
			+52			-23.8

The cases who received preschool education had a better adaptive development as compared to controls.

Net difference between cases and controls being -75.8 points.

Table-4 Language assessment

Collective difference between cases and controls

S.No	Cases			Controls		
	I st visit	II nd visit	Net difference	I st visit	II nd visit	Net difference
1	142	135	-7	109	126	+17
2	133	132	+1	116.6	121.9	+5.3
3	138	146	+8	133	117	-16
4	133	117	-16	131	113.5	-17.5
5	126	125	-1	120	120	0
6	117	117	0	116.6	117	+0.4
7	141	130	-11	131	113	-18
8	120	120	+0	116.6	102.4	-14.2
9	126	125	-1	133	117	-16
10	131.5	125.5	-6	116.6	117	+0.4
			27			-58.6

Net difference between cases and controls being 85.6 points and showed a better development in cases being early introduced to preschool education.

Table-5 Personal-social assessment

Collective difference between cases and controls

S.No	Cases			Controls		
	I st visit	II nd visit	Net difference	I st visit	II nd visit	Net difference
1	137	135	-2	109	110	+1
2	133	132	-1	116.6	117	+0.4
3	138	146	+8	133	117	-16
4	133	131	-2	131	113.5	-17.5
5	126	125	-1	120	120	0
6	117	117	0	116.6	117	+0.4

7	127.8	130	+2.2	131	113	-18
8	120	111	-9	116.6	117	-0.4
9	126	125	-1	133	117	-16
10	131.5	125.5	-6	116.6	117	+0.4
			-11.8			-65.7

Though the difference is not quite high still it was better in cases as compared to controls as a positive effect of early intervention of preschool education.

Net difference being -53.2 points.

DISCUSSION

Pre-school education in India has been so far an entity has not been studied at all. Though, it is an established fact that, the first five years are crucial to the development of children. Also it is well known that though genetic factors play an important role in shaping the development of children, environmental factors are equally important.

An extensive review of effect of Preschool education is available to us from the west. Several studies, two of which are long term studies extending upto 40 years of age. They all have reinforced positive effect of Preschool education in several aspects, including long term economic productivity and decline in delinquent and criminal behavior. The effect has been found to be most marked in language and socio-adaptive behavior.

In India however no comparative studies have been done so far to prove the positive effect of preschool education in Indian children. Preschool have been observed to be more of a necessity for a child care facility from the point of view of parents rather than a system to upgrade and augment development skills in children.

This study of effect of Preschool children on development of children was hence planned as a pilot study in the department of Pediatrics of a medical college in Delhi NCR. 10 children between 2.5-3.5 years of age who were enrolled in Ujjwal Bhavishya kinder garten were enrolled as cases and 10 matched children from the same locality were enrolled as controls who did not enroll for Preschool education.

The cases and controls were matched one to one for age, sex, socioeconomic status, facilities in family and education of parents.

A pre enrollment developmental quotient was done using Gessels children developmental schedule and cases and controls were matched for developmental quotient as well and were also calculated for individual developmental domains. After a period receiving of 6 months of preschool education the cases and controls were reassessed for development quotient in all four domains.

The DQ was expressed as percentage of developmental age/chronological age in all four domains as well as global DQ was also calculated for all cases and controls.

In this study the comparison has been done on one to one basis, hence no mean values for ages and DQ were calculated.

In table -1 Total developmental quotient (mean of DQ of all 4 domains) before and after 6 months of preschool education has been listed for both cases and controls. Our second developmental assessment was done after 6 months during which time a child would naturally advance in his/her development and since DQ is a percentage of developmental age to chronological age, the post value (i.e after 6 months) may be less than their pre value. Hence in this table we see both negative and positive deflections. This table given a summated impression of both cases and controls and it is evident that there is a net positive gain in DQ scores in cases and controls meaning that gain indevelopment or acquisition of developmental milestones in controls was slower as compared to cases. This difference has not been statistically correlated. The trends suggest that there is a positive stimulating impact of preschool in augmenting the development scores.

A similar comparison has been done for individual domains, motor including gross and fine motor, adaptive behavior language and personal and social development. The net difference was maximally visible in motor development, adaptive behavior and language and a little less pronounced in personal and social behavior. These observations are consistent with the studies from the west which have been elaborately quoted in review of literature. The gain in motor development could be better explained by acquisition of fine motor skills learnt in school.

We would like to highlight the fact that this study could only be done for 6 month period which is a very short time span to judge the exact implementation of preschool education. Ideally the study should be extended for a period of at least 2 years follow-up to know whether there positive effects are consistent or not.

We in our study have used Gessel's children developmental schedule to assess development which is an accepted methodology for this age. However in different studies from the west, the methodologies of assessment have been different, so the results can't be compared on one to one basis comprehensively but their just as trials have proved a positive impact. We in our study have also demonstrated a positive impact of preschool education.

The play way school selected in this study fulfilled the criteria laid down by Ganguly committee in their recommendations for Preschool education 2007. Hence it is also important to highlight that untrained

or insensitive trainers or unstimulating environment in the school may not show a positive impact of preschool education. Therefore when a

recommendation is made in favour of Preschool education, it must simultaneously be emphasized to maintain quality of teachers and curriculum.

Standing on one leg



Reciting poem



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