



Effects of Child Care and Educational Intervention on Rural Mothers' Awareness and their Children's Growth Quotient

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ABSTRACT

A sample of randomly selected 64 anganwadi children (3 to 5 1/2 yrs) and their mothers from Singnapur village were included in this study. Out of 64 children, 32 belonged to the adopted anganwadi in which intervention on child care and education was implemented. This group is considered as experimental group and the remaining 32 children and their mothers were from another anganwadi in which child care and education intervention was not implemented. The experimental group (Group II) children were provided with various types of integrated sensory motor stimulatory activities by the Research Associates and one Anganwadi teacher in a child friendly way to enrich their learning experiences and they were also provided with different educational play materials developed by AICRP-CD component. After implementing the intervention of child care and education for a period of 9 months, all the sample anganwadi children's development in the control and experimental groups and their mothers' awareness on child care and education were reassessed for studying the impact of implemented intervention.

Intervention of child care and education found to be significantly useful in enhancing the awareness of rural mothers about proper child care and education and also in significantly increasing development quotient of rural children

INTRODUCTION

Mothers play a key role in shaping their children's future, especially in rural areas where resources are limited. Many rural mothers lack awareness about the importance of early child care and education, which are essential for a child's healthy growth and development. Providing them with proper knowledge not only improves

their children's well-being but also empowers mothers to bring positive change in their families and communities. This study highlights how educational interventions can enhance rural mothers' awareness and support their children's development.

Psychological health issues among children and adolescents are increasing globally. The global prevalence of ADHD in children is around 7.2%, with some regions reporting up to 15.5%. In Saudi Arabia, the average rate is 9.2%, with a higher rate of 52.5% among children in Makkah. ADHD is more common in boys than girls and often has a strong genetic link.

Over the past 30 years, global efforts have significantly improved child health and survival rates. While under-5 mortality has dropped from 1 in 11 children in the 1990s to 1 in 27 today, progress remains uneven. Sub-Saharan Africa and parts of Asia, including India, still account for 80% of global under-5 deaths. In 2020, India, Congo, Ethiopia, Pakistan, and Nigeria alone made up half of these deaths. India's NFHS-4 (2015–16) data showed that its under-5 mortality rate was twice as high as the 2030 SDG target. In West Bengal, NFHS-5 (2019–20) indicated improvement, with the rate declining from 31.8 to 25.4, but further efforts are needed to meet the SDG goal.

Objectives

1. To implement need based child care and educational intervention for the experimental group rural mothers and for their children
2. To study the impact of implement the rural mothers' awareness and on their children's development by comparing it with control group mothers and children

Methodology

A sample of randomly selected 64 anganwadi children (3 to 5 1/2 yrs) and their mothers from Singnapur village were included in this study. Out of 64 children, 32 belonged to the adopted anganwadi in which intervention on child care and education was implemented. This group is considered as experimental group and the remaining

32 children and their mothers were from another anganwadi in which child care and education intervention was not implemented. This group is considered as the control group. Prior to the initiation of the experiment both the groups children's development and their mothers' awareness on child care and education were assessed. The scales developed by AICRP-CD component were used to assess the socio economic status of rural families and the mothers' awareness about three aspects of child care and education. The selected rural GQ was assessed by taking their three anthropometric measurements and their basic concepts were assessed by administering Revised Bohem's test of Basic concepts prior to the initiation of child care and educational intervention for them. The experimental group (Group II) children were provided with various types of integrated sensory motor stimulatory activities by the Research Associates and one Anganwadi teacher in a child friendly way to enrich their learning experiences and they were also provided with different educational play materials developed by AICRP-CD component. The experimental group children were encouraged to consume the supplementary food cooked in the anganwadi itself by the anganwadi helper. The teacher and their mothers supervised it and helped in giving the nutrient supplements like calcium, Vit. A and micro nutrients to the children regularly as per the schedule. On the other hand, the control group anganwadi children and their mothers were not provided with above cited child care educational intervention except having their routine activities and child care practices. After implementing the intervention of child care and education for a period of 9 months, all the sample anganwadi children's development in the control and experimental groups and their mothers' awareness on child care and education were reassessed for studying the impact of implemented intervention. The collected data was pooled, analysed and discussed.

Findings

Table 1 indicates that significantly a higher percentage of the experimental group children belonged to the nuclear families as compared to their counter parts in control group and there were no significant differences in the SES of children in both the groups. Significantly a higher percentage of the experimental group children's mothers and fathers were high school educated as compared to the control group children's parents. No significant differences were recorded in the remaining parameters of children of the experimental and control groups.

Table 1 Background variables of experimental group and control group rural children

Parameters	Percentages of children		t values
	Experimental group n-32	Control group n -32	
SES of family			
Low	59.37	62.50	0.24 ^{NS}
Medium	40.62	37.50	0.24 ^{NS}
Family type			
Nuclear	81.25	68.75	5.84 ^{**}
Joint	18.75	31.25	0.92 ^{NS}
Family size			
Small	21.87	9.37	1.36 ^{NS}
Medium	71.87	71.87	--
Large	6.25	18.75	1.50 ^{NS}
Gender			
Boys	50.00	50.00	--
Girls	50.00	50.00	--
Chronological age (yrs)			
3- 4	56.25	59.37	0.24 ^{NS}
4 - 5 1/2	43.75	40.62	0.24 ^{NS}
Ordinal position			
First born	53.12	50.00	0.24 ^{NS}
Second born	18.75	28.12	2.05 [*]
Third born	18.75	15.62	0.32 ^{NS}
Fourth born	9.37	6.25	0.45 ^{NS}
Maternal education			
Non literates	21.87	25.00	0.38 ^{NS}
Primary education	25.00	40.62	1.23 ^{NS}
High School	46.87	34.37	3.36 ^{**}
Intermediate	6.25	---	--
Paternal education			
Non literates	21.87	15.62	0.62 ^{NS}
Primary school educated	28.12	46.87	1.28 ^{NS}
High School educated	34.37	28.12	2.55 [*]
Intermediate educated	15.62	9.37	0.74 ^{NS}

* – Significant at 0.05 level ** – Significant at 0.01 level NS – Non significant

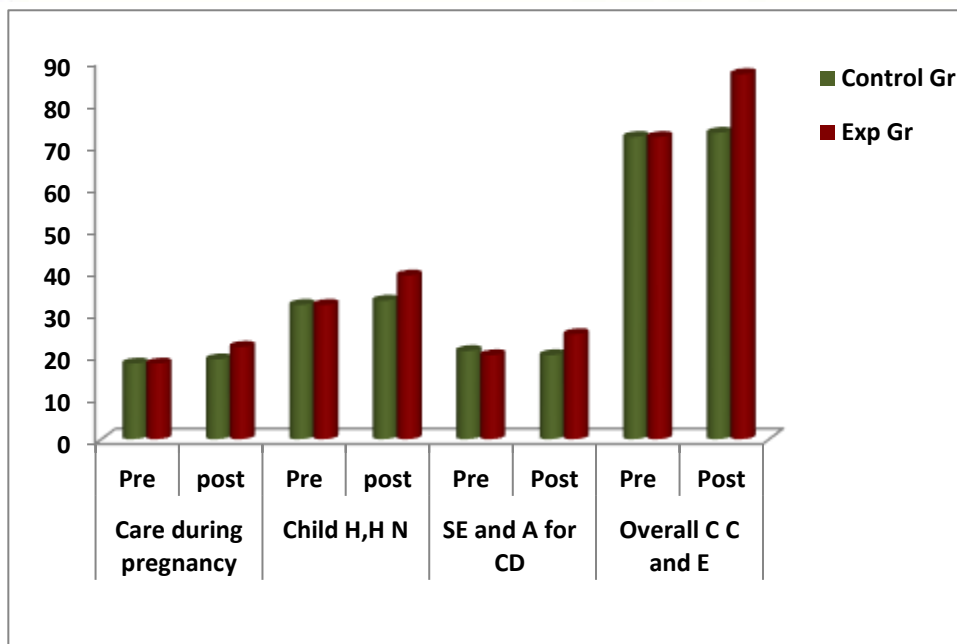


Fig 1 Comparison between mean scores of mothers' awareness about child care and education in control and experimental groups

The results clearly indicate from table 2 that the mean scores of mothers' awareness about care during pregnancy in both the experimental groups ranged between 18.65 ± 1.23 and 18.81 ± 1.28 prior to initiation of intervention. After receiving intervention for a period of 9 months, the mothers' awareness in the experimental group (Gr II) was raised to 22.78 ± 2.68 , while in the control group (Gr I) it was only 19.18 ± 1.20 . There was significant increase in the mothers' awareness about care during pregnancy after receiving the intervention package. With regard to the child health, hygiene and nutrition, the mothers' awareness mean scores prior to the initiation of the intervention ranged between 32.84 ± 1.41 and 32.90 ± 1.02 in both the experimental groups (Gr I & Gr II). However, after the completion of the intervention, the mean scores of the experimental group's (Gr II) mothers' awareness increased to 39.21 ± 3.96 , while it was only 33.28 ± 1.14 in the control group. There was significant increase in the awareness of mothers' about child health, hygiene and nutrition. After giving intervention with regard to stimulatory environment and activities for child development, the sample mothers' awareness scores ranged between 20.71 ± 0.52 and 21.12 ± 0.33 prior to the initiation of intervention. After the completion of the intervention, it increased to 25.93

± 2.18 in the experimental group (Gr II) and there was almost no increase in the awareness of mothers of the control group.

Overall about child care and education, it was recorded that the mean scores of mothers' awareness ranged between 72.38 ± 2.04 and 72.56 ± 1.81 prior to the implementation of intervention. After the completion of 9 months duration intervention on child care and education, their mean scores of awareness in the experimental group (Gr II) raised to 87.93 ± 8.00 , while it was almost the same (73.43 ± 1.94) in the control group. The findings indicate that long duration intervention on child care and education helps in significantly enhancing the awareness of the rural mothers about it.

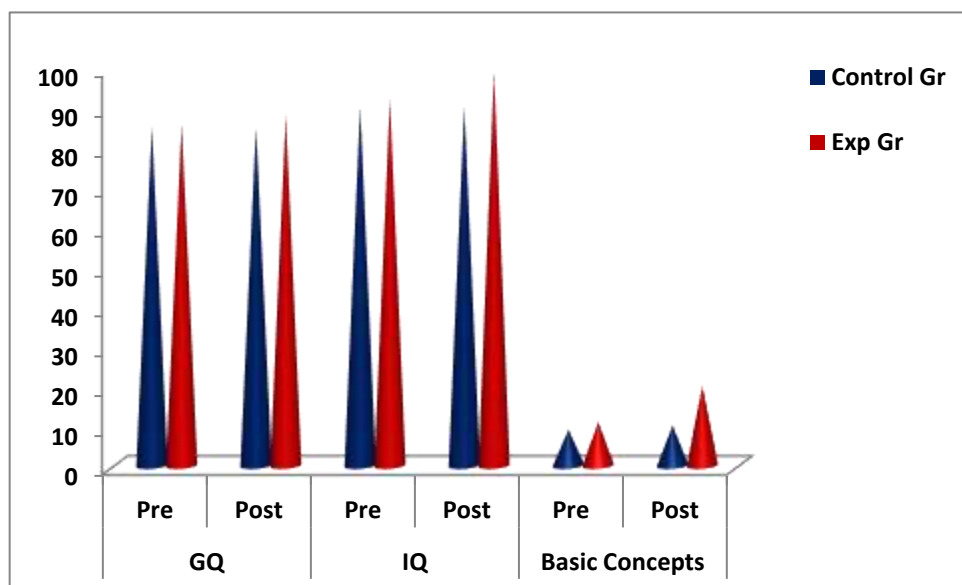


Fig 2 Comparison between mean growth quotients , intelligence quotients and basic concept scores of children in the control and experimental groups



Table 2 Comparison between mean scores of mothers' awareness about child care and education in control and experimental groups

Experimental Groups	Care during pregnancy			Child health, hygiene and nutrition			Stimulatory environment and activities for child development			Overall child care and education		
	Pre test Mean± SD	Post test Mean± SD	t values	Pre test Mean± SD	Post test Mean± SD	t values	Pre test Mean± SD	Post test Mean± SD	t values	Pre test Mean± SD	Post test Mean± SD	t values
Control Group (G I)	18.81±1.28	19.18±1.20	1.23 ^{NS}	32.84 ±1.41	33.28 ±1.14	1.37 ^{NS}	20.71 ±0.52	20.96 ±0.30	2.5*	72.38 ±2.04	73.43±1.95	2.14*
Experimental Group (G II)	18.65±1.23	22.78±2.68	7.94**	32.90±1.02	39.21 ±3.96	8.76**	21.12 ±0.33	25.93 ±2.18	12.65**	72.56 ±1.81	87.93 ±8.00	10.67**
t values	0.51 ^{NS}	7.05**	---	0.2 ^{NS}	8.2**	---	4.1**	13.07**	---	0.37 ^{NS}	10.00**	--

* ** – Significant at 0.01 level N

Significant at 0.05 level

** – Significant at 0.01 level N

The table 3 indicates the mean growth quotient of the sample children in both the experimental groups ranged between 85.03 ± 3.34 and 86.34 ± 3.5 prior to the initiation of intervention. After implementing the intervention of child care and education for a period of 9 months, in the experimental group (Gr II) it raised to 88.01 ± 3.58 , while it was almost the same (85.32 ± 3.38) in the control group

(Gr I). The mean growth quotients of the sample children in both the experimental and control groups ranged between 90.43 ± 11.05 and 92.75 ± 8.51 prior to the initiation of intervention. After implementing the intervention of child care and education for a period of 9 months, in the experimental group it raised to 99.5 ± 10.86 while it was almost the same (90.78 ± 11.26) in the control group. The mean scores of basic concepts of the children in both the experimental groups (Gr I & Gr II) ranged between 11.93 ± 1.07 and 9.96 ± 4.49 prior to initiation of the intervention. The mean scores of basic concepts of experimental group's children increased to 20.88 ± 2.82 , while there was a meagre increase (i.e. 10.8 ± 4.57) in the mean scores of basic concepts of the control group children. The results clearly indicate that the executed intervention brought significant improvement in the IQ, GQ and basic concepts of the experimental group children.



Table 3 Comparison between mean growth quotients , intelligence quotients and basic concept scores of children in the control and experimental groups

Experimental Groups	Growth Quotient (GQ)			Intelligence Quotient IQ			Basic Concepts		
	Pre test Mean± SD	Post test Mean± SD	t values	Pre test Mean± SD	Post test Mean± SD	t values	Pre test Mean± SD	Post test Mean± SD	t values
Control Group (G I)	85.03 ±3.34	85.32 ±3.38	1.07 ^{NS}	90.43 ±11.05	90.78 ±11.26	0.12 ^{NS}	9.96 ±4.49	10.8 ±4.57	0.74 ^{NS}
Experimental Group (G II)	86.34 ±3.5	88.01 ±3.58	1.89 ^{NS}	92.75 ±8.51	99.5 ±10.86	2.77**	11.93 ±1.07	20.88 ±2.82	16.88**
t values	1.50 ^{NS}	3.10**	---	0.94 ^{NS}	3.15**	---	2.43*	10.72**	---

* – Significant at 0.05 level

** – Significant at 0.01 level



1 level NS – Non significant

Conclusion

Intervention of child care and education found to be significantly useful in enhancing the awareness of rural mothers about proper child care and education and also in significantly increasing growth quotient of rural children.

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