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## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/17900

DOI URL: <http://dx.doi.org/10.21474/IJAR01/17900>



### RESEARCH ARTICLE

#### EFFECTIVENESS OF PARENTING SKILL PROGRAM ON CHILD'S ADAPTIVE BEHAVIOR AMONG PARENTS OF CHILDREN WITH INTELLECTUAL DEVELOPMENTAL DISABILITY

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#### Manuscript Info

##### Manuscript History

Received: 16 September 2023

Final Accepted: 19 October 2023

Published: November 2023

##### Key words: -

Intellectual Developmental Disability,  
Parenting Skill Program, Child's  
Adaptive Behavior

#### Abstract

**Background:** A child brings happiness, love and joy in the family and society and if a child born with Intellectual Developmental Disability (IDD), then parenting of IDD children requires a huge amount of liability, accountability, commitment and dedication. Children with intellectual disability are having debilitate physical and mental health conditions, lower longevity<sup>1</sup>. As parents are the primary caregivers, but lives of parents of children with IDD are much more complicated and stressful as compared to the lives of non-disabled children's parents.

**Methodology:** Quasi-experimental Time Series Research Design was used to assess the effectiveness of Parenting Skill Program on child's adaptive behavior among parents of children with Intellectual developmental disability in selected Special Schools of Delhi NCR. The tools used for data collection included a socio-demographic proforma and the Vineland Social Maturity Scale (VSMS). Structured interviews and pre-assessment tools, such as socio-demographic proforma and the Vineland Social Maturity Scale (VSMS), were administered to both experimental and control groups in the first month. Subsequently, the parenting skills program, consisting of 12 sessions, was implemented over a three-month period, with one session per week for parents in the experimental group. At the 6th, 9th, and 12th months, structured interviews using post-assessment tools were conducted with parents from both groups.

**Results:** The findings of the study revealed that there was an improvement in the mean posttest score of child's adaptive behavior over the time. Specifically, at 6<sup>th</sup> month, it increased to (53.425±8.95), followed by (52.850±9.77) at 9<sup>th</sup> month and (55.288±8.87) at 12<sup>th</sup> month when compared to baseline score (46.362±8.09). This increase was found to be statistically significant within the group ( $F=163.040$ ,  $p=0.001$ ). However, the control group, showed no significant change in the mean score of child's adaptive behavior and it remained same in 6<sup>th</sup> month, 9<sup>th</sup> month and 12<sup>th</sup> month as baseline, and no significant difference was observed within the group ( $F=6.00$ ,  $p=0.112$ ). Hence, it

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could be interpreted that parenting skill program was effective in improving the child's adaptive behavior score of children with IDD in experimental group than in control group.

**Conclusion:** It was concluded that parenting skill program was effective in improving the child's adaptive behavior of children with IDD.

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## Introduction:-

Intellectual Developmental Disability (IDD) is a neurodevelopmental disorder and chronic condition in which there is disturbance in intellectual and adaptive skills that affects the activity of daily living (According to American Psychiatric Association on Intellectual and Developmental Disabilities)<sup>5</sup>.

In a recent investigation led by Russell PS and colleagues in 2022, it was indicated that India faces a significant challenge due to its nearly 2% prevalence rate of intellectual disabilities, this will place an additional burden on both the nation and the global community. Therefore, it is essential to formulate the certain policies, strategies and national programs to address the need of the intellectual disabled population at both the National and State levels.<sup>4</sup>

Clement J (2018) and UNICEF recommended a parenting skill intervention module for the parents and teachers of the disabled person, and this psychosocial intervention, can amend the child's life.<sup>8,9,10</sup> Practice of these Parenting Skill Programs (behavioral skills), changes the parent's perspectives about their children disability and also refines the personal and parental self-efficacy which further helps to reinforce the family functioning.<sup>11,12,13</sup> So, parenting skill training improves the quality of parenting skill and also helps the parents to alter their children's inappropriate behavior through learning of behavioral theory.<sup>14,15,16,17,18,19</sup>

## Research Methodology:-

A quasi-experimental time series research design was employed to evaluate the effectiveness of the Parenting Skill Program on the adaptive behavior of children among parents of children with Intellectual Developmental Disability (IDD) in selected special schools of Delhi NCR. The sample in the present study consisted of parents of children with IDD (mild or moderate) in selected special schools in Delhi, NCR.

## Sampling Technique –

There are total of four special schools for children with intellectual developmental disability in Division III, Noida. Out of these Margshree Special School and Well-being Special School (MSSN) were randomly selected through simple random sampling method i.e., lottery technique and randomly assigned to experimental and control group. There were total 120 children with mild or moderate level of intellectual developmental disability in the MSSN. Out of 120 children, parents of 80 children with Intellectual Developmental Disability were randomly selected by using a computer-generated random table method and assigned to experimental group. Similarly, in Well Being Special School, Noida, there were 105 children with mild or moderate level of intellectual developmental disability. Out of 105 children, parents of 80 children with Intellectual Developmental Disability were randomly selected by using a computer-generated random table method and assigned to control group.

## Sample Size-

The sample size for the present study was 160 parents of children with Intellectual Developmental Disability

## Tools for data collection –

The tools used in the present study were socio demographic proforma and Vineland Social Maturity Scale (VSMS) to assess the child's adaptive behavior.

## Ethical Consideration-

Ethical permission was obtained from Ethical committee of Swami Rama Himalayan University. Administrative permission was taken from the principal of selected special schools, Delhi NCR. Written informed consent was taken from each sample. Participants were assured of no harm and were permitted to leave the study at any time they wished. Anonymity and confidentiality of study samples were maintained throughout the study.

### Procedure for Data Collection Process

The research was conducted in selected special schools in Noida, Uttar Pradesh, MargshreeSpecialSchool and Well-being Special School. These schools were randomly selected using the simple random sampling method, i.e., the lottery method. The schools were then assigned to experimental and control groups through the lottery method. Prior to data collection, formal permission from the Special School's administrative authority was obtained. Children with mild or moderate levels of intellectual disability were identified from school records. The parents were then contacted via telephone by a special educator and researcher. Researcher introduced herself to parents and explained the purpose of conducting research. After that when parents came to school, researcher build rapport with them and explained the process of research and took written consent from each parent. Next day, researcher has conducted the structured interview with parents and collected the data regarding sociographic variables and administrated Vineland Social Maturity Scale to assess the child's adaptive behavior at the baseline from the parents of control and experimental group. After that, parenting skill program consisting of activities related to behavioral techniques such as reinforcement, chaining, prompting, modelling, imitation, fading, modelling, imitation was demonstrated and explained to the parents of experimental group. One session of 45 minutes, duration was administered once in a week. Altogether, 12 sessions were given in 3 months. Parents were encouraged to practice these behavioral techniques with their children at home. Telephonic reinforcement was provided to parents weekly. Structured interviews were conducted at 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> month and data regarding child's adaptive behavior was collected from parents of experimental and control group.

### Results:-

**Table No. 1.1:-** Socio-demographic characteristics of children with IDD & comparison for homogeneity between experimental group and control group. n=160.

Socio demographic Characteristics of children with IDD		Experimental Group n=80		Control Group n=80		X <sup>2</sup>	p value
		Frequency	Percentage	Frequency	Percentage		
Age (Years)	5 to 8	40	50.0	49	61.2	2.051	0.15
	9 to 12	40	50.0	31	38.7		
Gender	Male	51	63.7	53	66.2	0.110	0.740
	Female	29	36.2	27	33.8		
Level of Intellectual Disability	Mild	46	57.5	46	57.5	0.000	1.00
	Moderate	34	42.5	34	42.5		
Duration of Attending special school	1 to 3 Years	43	53.8	37	46.2	0.900	0.34
	4 to 6 Years	37	46.3	43	53.7		

\*Chi square/ Fisher's exact, p<0.05

Table No. 1.1 illustrate that majority of children with IDD in the experimental group 40 (50%) and in the control group 49 (61.2%) were between the age of 5 to 8 years. The majority of children with IDD in the experimental group 51 (63.7%) and in control group 53 (66.2%) were males, majority in both groups 46 (57.5%) had mild level of Intellectual disability, majority attended the special schools since 1 to 3 years 43 (53.8%) in experimental group whereas 43 (53.7 %) in control group attended the special schools since 3 to 6 years. Both groups were compared for homogeneity with regard to socio-demographic variables. Chi-square/ fisher's exact tests was applied. The results showed that no significant difference was found between experimental and control group in terms of all socio-demographic variables of children with IDD except father's education (p=0.043). Hence, it could be interpreted that both the groups were homogenous with regard to socio-demographic variables of children with IDD.

**Table No. 1.2:-** Socio-demographic characteristics of parents & comparison for homogeneity between experimental group and control group.

Socio demographic Characteristics of parents		Experimental Group n=80		Control Group n=80		X <sup>2</sup>	p value
		Frequency	Percentage	Frequency	Percentage		
Relationship of parents with child	Father	12	15.0	16	20.0	0.693	0.405
	Mother	68	85.0	64	80.0		

<b>Age of Father (Years)</b>	<b>25-35</b>	58	72.5	64	80.0	1.242	0.26
	<b>36-45</b>	22	27.5	16	20.0		
<b>Age of Mother (Years)</b>	<b>25-29</b>	20	25.0	23	28.8	0.947	0.62
	<b>30-34</b>	47	58.0	48	60.0		
	<b>35-39</b>	13	16.3	9	11.3		
<b>Religion</b>	<b>Hindu</b>	69	86.2	73	91.2	4.36	0.113
	<b>Muslim</b>	11	13.8	05	06.2		
	<b>Sikh</b>	00	00.0	02	02.5		
<b>Place of residence</b>	<b>Urban Area</b>	76	95.0	73	91.2	0.87	0.349
	<b>Rural Area</b>	04	05.0	07	08.8		
<b>Type of family</b>	<b>Joint Family</b>	19	23.8	15	18.8	0.59	0.440
	<b>Nuclear Family</b>	61	76.2	65	81.2		
<b>Monthly Income (in Rupees)</b>	<b>20,000-40,000</b>	61	76.3	59	73.7	0.133	0.71
	<b>41,000-60,000</b>	19	23.8	21	26.2		
<b>Mother's education</b>	<b>Primary education</b>	14	50.0	14	50.0	0.273	0.872
	<b>High school education</b>	31	47.7	34	52.3		
	<b>Graduation or above</b>	35	52.2	32	47.8		
<b>Mother's employment status</b>	<b>Unemployed</b>	69	86.3	68	85.0	0.51	0.822
	<b>Private</b>	11	13.7	12	15.0		
<b>Father's education</b>	<b>Graduation</b>	45	59.0	40	50.0	6.309	0.043*
	<b>High school education</b>	35	56.3	34	42.5		
	<b>Primary education</b>	00	00.0	06	07.5		
<b>Father's employment status</b>	<b>Govt.</b>	18	48.6	13	16.25	1.00	0.317
	<b>Private</b>	62	50.4	67	83.75		

\*Chi square/ Fisher's exact,  $p < 0.05$

Data presented in table no. 1.2 depict that in both experimental and control group majority of parents 68 (85%) & in control group 64 (80%) were mothers, majority of fathers in the experimental group 58 (72.5%) and in the control group 64 (80%) were between the age group 25 to 35 years, majority of mothers in experimental group 47 (58%) and in control group 48 (60%) were between the age group 30 to 34 years, majority of parents in experimental group 69 (86.2%) and in control group 73 (91.2%) belonged to Hindu religion, majority of them in experimental group 76 (95%) and in control group 73 (91.2%) resided in urban area, majority of parents in experimental group 61 (76.2%) and in control group 65 (81.2%) were living in nuclear family, majority of mothers in experimental group 69 (86.3%) and in control group 68 (85%) were unemployed and majority of fathers in experimental group 62 (50.4%) and in control group 67 (83.75%) were employed in private job. Both groups were compared for homogeneity with regard to socio-demographic variables. Chi-square/ fisher's exact tests was applied. The results showed that no significant difference was found between experimental and control groups in terms of all socio-demographic variables except father's education ( $p = 0.043$ ). Hence, it could be interpreted that both the groups were homogenous with regard to socio-demographic variables.

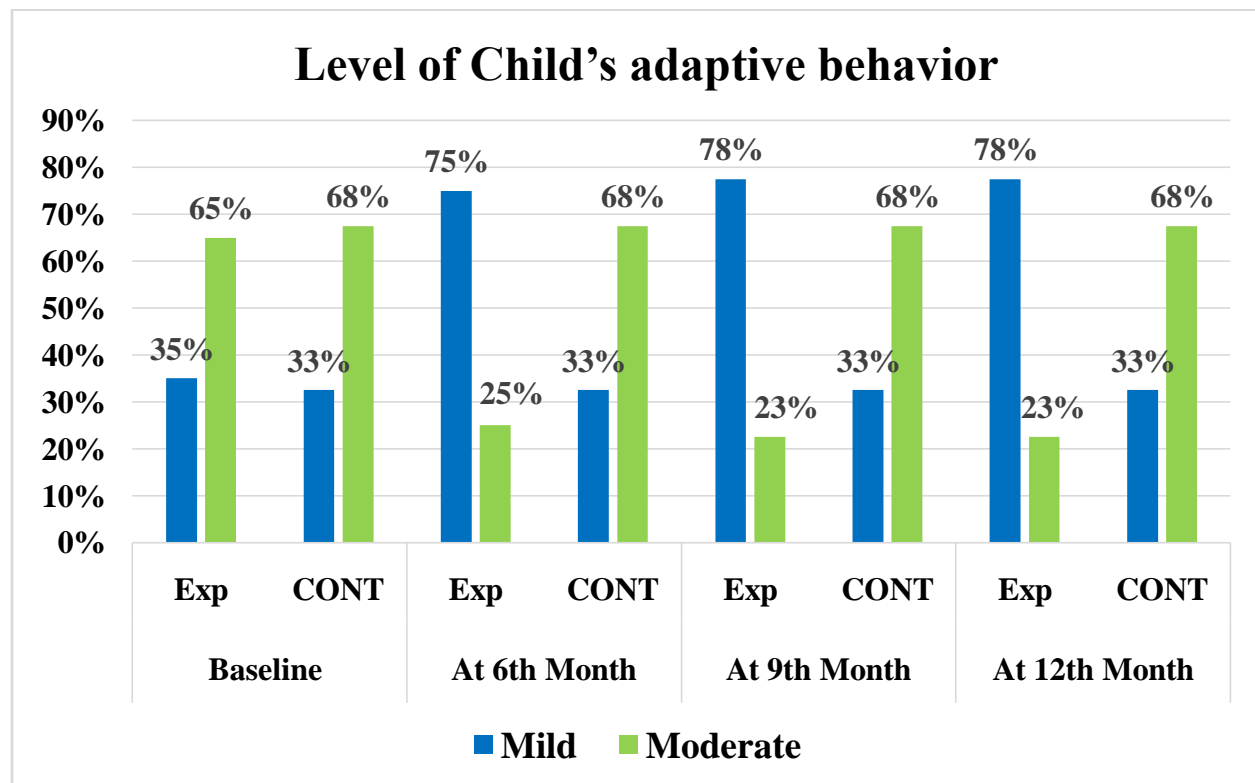
**Table No. 2.1:-** Comparison of child's adaptive behavior score for homogeneity between experimental and control group at baseline.

<b>Variable (Child's Behavior)</b>	<b>Adaptive Score Range</b>	<b>Experimental Group (n=80)</b>		<b>Control Group (n=80)</b>		<b>X<sup>2</sup></b>	<b>p value</b>
		<b>N</b>	<b>Percentage</b>	<b>N</b>	<b>Percentage</b>		
<b>Mild Level</b>	50-70	28	(35%)	26	(32.5%)	0.112	0.738
<b>Moderate Level</b>	35-49	52	(65%)	54	(67.5%)		

Note: Chi Square test,  $p < 0.05$

The data in table 2.1 depict that majority of children with IDD in both experimental 52 (65%) and control group 54 (67.5%) were having moderate level of intellectual disability. Both groups were compared for homogeneity with regard to child's adaptive behavior. Chi-square/ fisher's exact tests was applied. The results showed that no significant difference was found between experimental and control groups in terms of child's adaptive behavior ( $p=0.738$ ). Hence, it could be interpreted that both the groups were homogenous with regard to child's adaptive behavior.

**Table No. 2.2:-** Comparison of the level of child's adaptive behavior between experimental and control group in terms of frequency and percentage distribution.



**Figure No. 1:-** Bar graph representation of comparison of the level of child's adaptive behavior between experimental and control group.

The data showed in table No. 2.2, figure No. 1 reveal that in experimental group at the baseline 28 (35%) children had mild adaptive behavior which increased to 60 (75%) at 6<sup>th</sup> month and further increased to 62 (77.5%) at 9<sup>th</sup> and 12<sup>th</sup> month. Similarly, in experimental group at the baseline 52 (65%) children had moderate adaptive behavior which decreased to 20 (25%) at 6<sup>th</sup> month and 18 (22.5%) at 9<sup>th</sup> and 12<sup>th</sup> month. This denotes that there was a shift of number of children from moderate category to mild category after intervention revealing that parenting skill program was effective in improving the child's adaptive behavior in experimental group compared to control group.

**Table No.2.3:-** Comparison of means of child's adaptive behavior score between experimental and control group.

Variable	Assessment	Experimental Group (n=80)	Control Group (n=80)	Mean Difference	p value (Mann Whitney Test)
		Mean $\pm$ SD	Mean $\pm$ SD		
	Pre-Test (Baseline)	46.362 $\pm$ 8.09	45.60 $\pm$ 7.78	0.76	0.543

<b>Child Adaptive Behavior</b>	Assessment)				
	Post Test 1 (6 <sup>th</sup> month)	53.425±8.95	45.60±7.78	7.82	0.001*
	Post Test 2 (9 <sup>th</sup> month)	52.850±9.77	46.15±7.96	6.70	0.001*
	Post Test 3 (12 <sup>th</sup> Month)	55.288±8.87	45.63±7.76	9.65	0.001*
	Friedman Value	163.040	6.000		
	p value	0.001*	0.112		

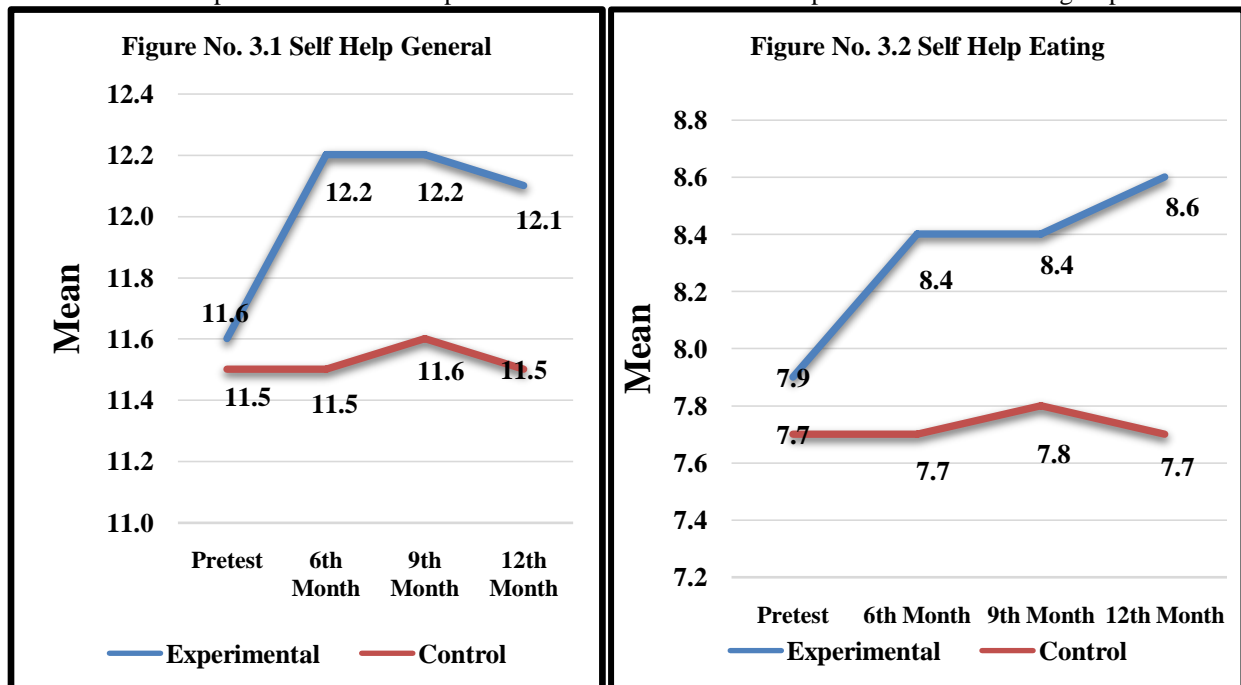
Friedman test, Mann Whitney Test df=3 p<0.05

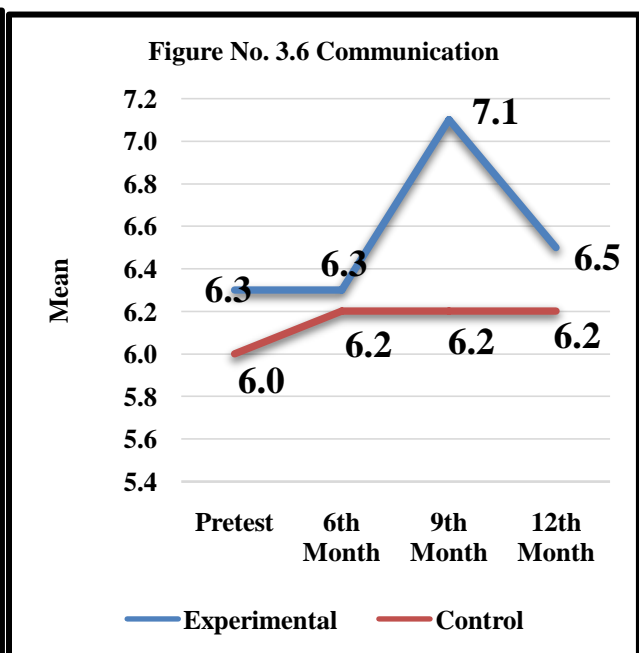
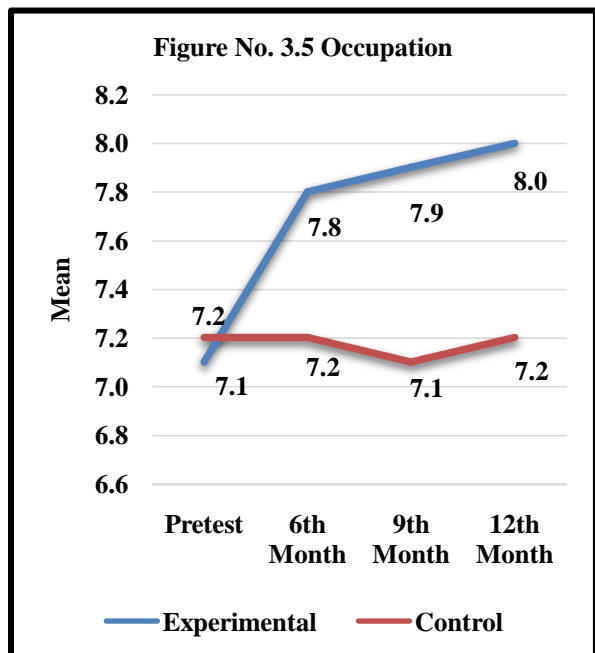
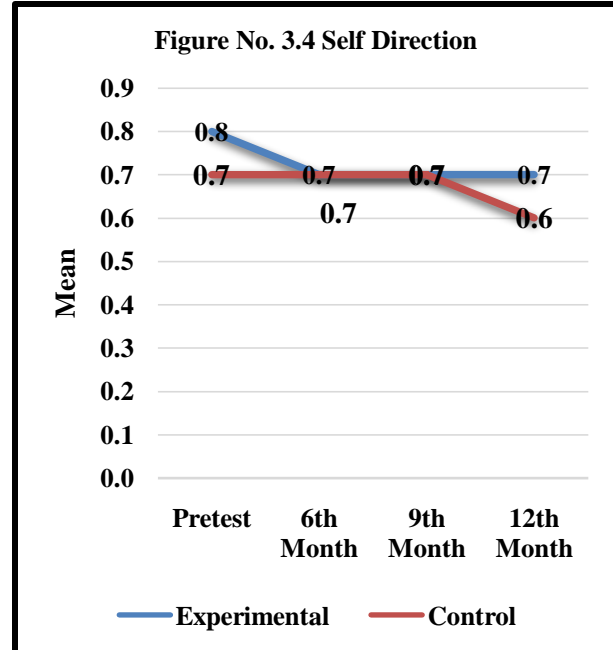
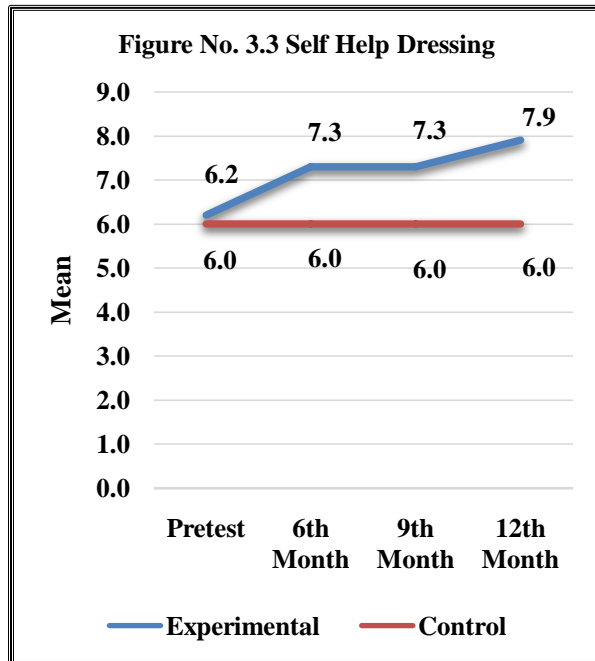
The data presented in table no. 2.3 shows that mean score of child's adaptive behavior in both the groups was similar at the baseline. After implementing parenting skill program, significant difference in mean posttest score of child's adaptive behavior was observed at 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> month (p 0.001) between the experimental group and control group.

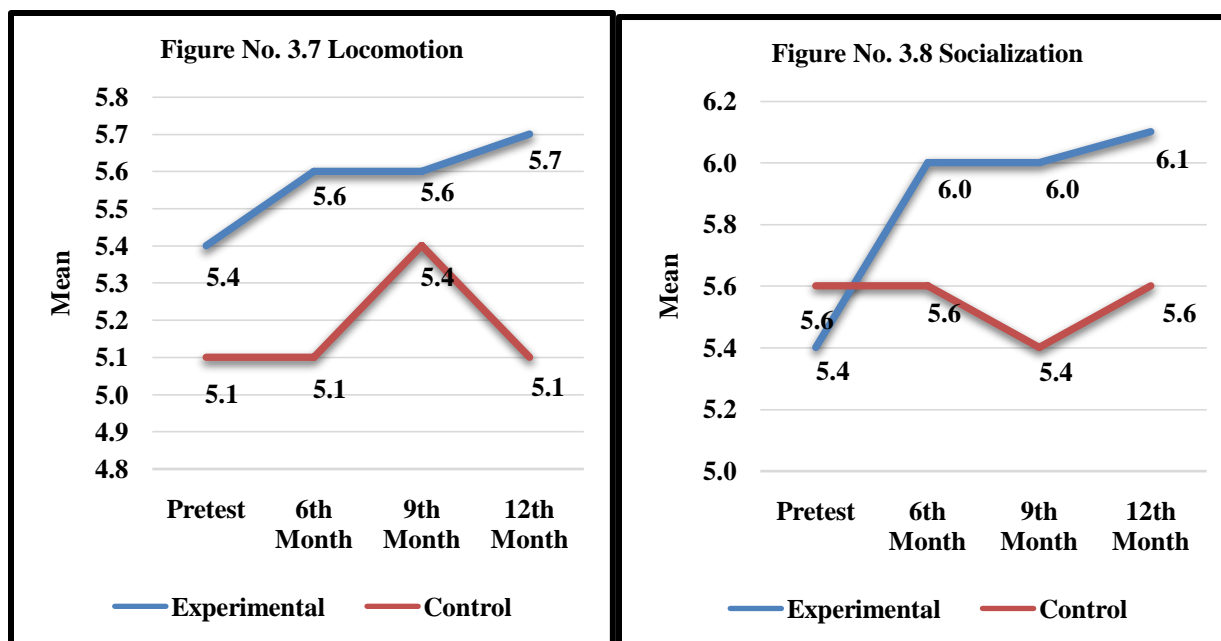
In experimental group, there was an improvement in the mean posttest score of child's adaptive behavior, specifically, at 6<sup>th</sup> month (53.425±8.95), at 9<sup>th</sup> month (52.850±9.77) and at 12<sup>th</sup> month (55.288±8.87) when compared to baseline score (46.362±8.09) group. This increase was found to be statistically significant within the group (F= 163.040, p 0.001). However, the control group, showed no significant change in the mean score of child's adaptive behavior at 6<sup>th</sup> month, 9<sup>th</sup> month and 12<sup>th</sup> month (F= 6.00, p 0.112). Hence, it could be interpreted that parenting skill program was effective in improving the child's adaptive behavior score in experimental group than in control group at 6<sup>th</sup> month, 9<sup>th</sup> month and 12<sup>th</sup> month.

Thus, researcher accepted the research hypothesis and rejected the null hypothesis.

**Table No. 3:-** Comparison of child's adaptive behavior domain between experimental and control group







The data presented in Figure no. 3.1 to 3.8 shows that in experimental group, there was an improvement in the mean posttest score of child's adaptive behavior in the domains of - Self-Help General, Self-help Eating, Self-help Dressing, Occupation, Communication, Locomotion, and Socialization over the time, specifically, at 6<sup>th</sup> month, 9<sup>th</sup> month and at 12<sup>th</sup> month compared to the mean score of child's adaptive of control group.

Hence, it could be interpreted that parenting skill program was effective in improving the child's adaptive behavior in the domains-Self-Help General, Self-help Eating, Self-help Dressing, Occupation, Communication, Locomotion, and Socialization score of children with IDD in experimental group than in control group at 6<sup>th</sup> month, 9<sup>th</sup> month and 12<sup>th</sup> month.

### Discussion:-

In the present study, results revealed that in experimental group, there was an improvement in the mean posttest score of child's adaptive behavior over the time. Specifically, at 6th month, it increased to (53.425±8.95), followed by (52.850±9.77) at 9th month and (55.288±8.87) at 12th month when compared to baseline score (46.362±8.09) group. This increase was found to be statistically significant within the group ( $F=163.040$ ,  $p=0.001$ ). However, the control group, showed no significant change in the mean score of child's adaptive behavior and it remained same in 6th month, 9th month and 12th month as baseline, and found no significant difference was observed within the group ( $F=6.00$ ,  $p=0.112$ ). Therefore, significant difference in mean posttest score of child's adaptive behavior was observed between the experimental group and control group at 6<sup>th</sup>, 9<sup>th</sup> and 12<sup>th</sup> month ( $p=0.001$ ), after implementing parenting skill program.

Result of the study were similar to the research study conducted by Fellows EK et al (2009) indicated that when comparing the assessments of the children before, during, and after the intervention, significant improvements were observed in most areas of adaptive behaviors among the children in the intervention group ( $F=3.4$ ,  $P<0.05$ ). In contrast, the control group did not show such improvements. Furthermore, the researcher reported significant enhancements in the adaptive domains of daily living ( $F=2.7$ ,  $P<0.05$ ), personal skills ( $F=2.7$ ,  $P<0.05$ ), and social skills (intervention,  $F=5.8$ ,  $P<0.05$ ; control,  $F=8.3$ ,  $P<0.01$ ).

In another study conducted by Kilincaslan A et al (2019) compared the adaptive behavior of children with IDD and autistic disorder. The result showed that the Children diagnosed with autistic disorder exhibited lower scores than those in the ID group in terms of personal hygiene, dressing abilities, safety skills, and interpersonal skills. However, their performance in mealtime skills and household chores was comparable. ( $F(1, 99)=7.03$ ,  $p=0.003$ ).



A study by Hofmann V et al (2021) among 1125 children with IDD aged 4 to 19 years revealed that increased social interactions among students attending special schools can promote the development of language skills thereby improving the communication of children with IDD

Additionally, the present findings were consistent with a randomized intervention study conducted by Schaub S et al (2019) reported that treatment program was given for 3 years among 132 families, proved to be effective in improving the child's adaptive behavior, speech skills of children with intellectual and developmental disabilities.

As per the findings of a study conducted by Fujiwara T et al (2011) revealed that the post-test score was significantly lower scores in terms of the intensity and frequency of behavioral problems in the experimental group compared to the control group. It was suggested that the parenting training approach have the potential to decrease children's behavioral issues, lessen conflicts between parents and their children, and enhance communication between parents and their offspring.

### **Conclusion:-**

The results of this study revealed that parenting skill program was effective in making the significant improvement in overall child's adaptive behavior scores and specific subdomains, including Self-Help General, Self-Help Eating, Self-Help Dressing, Occupation, Communication, Locomotion, and Socialization among children with Intellectual and Developmental Disabilities (IDD) in the experimental group. The researcher further recommends that a qualitative study be conducted among parents to explore various issues related to the maladaptive behavior of their children with intellectual disabilities.

### **Acknowledgement:-**

#### **Financial support and Sponsorship-**

Nil

### **Conflicts of interest-**

There are no conflicts of interest.

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