



## REVIEW ARTICLE

### A STUDY TO EVALUATE THE EFFECTIVENESS OF COMPUTER-BASED COGNITIVE REMEDIATION PROGRAM FOR BEHAVIOURAL PROBLEMS IN CHILDREN WITH INTELLECTUAL DISABILITY IN SELECTED SCHOOLS, PUDUCHERRY

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#### ABSTRACT

**Background:** Intellectual disability (ID) refers to deficit of cognitive abilities such as reasoning, problem solving, planning, abstract thinking, judging, academic learning and learning by experience. Intellectual disability (ID) once called mental retardation, is characterized by below-average intelligence or mental ability and a lack of skills necessary for day-to-day living. People with intellectual disabilities can and do learn new skills, but they learn them more slowly. **Aim:** The aim of the study is to evaluate the effectiveness of Computer-based cognitive remediation program for behavioral problems in children with intellectual disability at selected schools. **Research methodology:** The pre experimental one group pre test & post test research design was adopted for the present study "A study to evaluate the effectiveness of Computer-based cognitive remediation program for behavioral problems in children with intellectual disability at selected schools, Puducherry". A total 50 who met the inclusion criteria were selected from the Sathiya special school by using purposive sampling technique. The researcher first introduces herself to the children and developed a communication with them. After the selection of the samples, the data was collected with prepared tools.

##### Results of the study:

- The Pre-test and post- test level of behavioural problems in children with intellectual disability (Internalizing problems). In pre-test, Majority of the intellectual disability 27 (54%) had moderate level of behavioural problems and 23(46%) had severe level of behavioural problems, none of them mild level of behavioural problems. The mean and standard deviation of the level of behavioural problems in children with intellectual disability (Internalizing problems) is (41.2±9.026).
- In post-test, Majority of the intellectual disability 28 (56%) had moderate level of behavioural problems and 22(44%) had mild level of behavioural problems. None of them in severe level of behavioural problems the mean and deviation of the level of behavioural problems in children with intellectual disability (Internalizing problems) is (65.1±16.419).
- The Pre-test and post- test level of behavioural problems in children with intellectual disability (Externalizing problems). In pre-test, Majority of the intellectual disability 32 (64%) had severe level of behavioural problems and 18(36%) had moderate level of behavioural problems, none of them in mild level of behavioural problems. The mean and deviation of the level of behavioural problems in children with intellectual disability (Externalizing problems) is (39.9±9.748).
- In post-test, Majority of the intellectual disability 41 (82%) had mild level of behavioural problems and 9 (18%) had moderate level of behavioural problems, none of them in severe level of behavioural problems. The mean and deviation of the level of behavioural problems in children with intellectual disability (Externalizing problems) is (83.9±20.79).
- The mean score of effectiveness in the pre-test was 41.20 ± 9.026 and the mean score in the post- test was 65.10 ± 16.41 respectively. The calculated paired 't' test value of t = -7.228 shows statistically highly significant difference between Comparison of the Pre-test and post- test level of behavioural problems in children with intellectual disability (Internalizing problems) respectively.
- The mean score of effectiveness in the pre-test was 36.90± 9.748 and the mean score in the post- test was 83.90 ± 20.79 respectively. The calculated paired 't' test value of t = -10.994 shows statistically highly significant difference between Comparison of the Pre-test and post- test level of behavioural problems in children with intellectual disability (Externalizing problems) respectively.

**Conclusion:** The intervention helps in improving the level of behavioral problems in good range and find to be one of the helpful interventions in improving the level of behavioral problems in children's with intellectual disability.

## INTRODUCTION

Intellectual disability (ID) refers to deficit of cognitive abilities such as reasoning, problem solving, planning, abstract thinking, judging, academic learning and learning by experience. Intellectual disability (ID) once called mental retardation, is characterized by below-average intelligence or mental ability and a lack of skills necessary for day-to-day living. People with intellectual disabilities can and do learn new skills, but they learn them more slowly. There are varying degrees of intellectual disability, from mild to profound. It covers a range of everyday social and practical skills. This disability originates before the age of 18. There are four levels of intellectual disability are mild (50-70, educable), moderate (35-50, trainable), severe (20-35, dependent retarded) and profound (<20 life support).

**Statement of the problem:** A study to evaluate the effectiveness of Computer-based cognitive remediation program for behavioral problems in children with intellectual disability at selected schools, Puducherry”.

### Objectives

- To assess the level of behavioural problems in children with intellectual disability.
- To evaluate the effectiveness of computer-based cognitive remediation program for behavioural problems in children with intellectual disability.
- To associate the pre and post- test of Computer-based cognitive remediation program for behavioural problems in children with intellectual disability with their selected demographic variables.

## METHODOLOGY

The pre experimental one group pre test & post test research design was adopted for the present study “A study to evaluate the effectiveness of Computer-based cognitive remediation program for behavioral problems in children with intellectual disability at selected schools, Puducherry”. A total 50 who met the inclusion criteria were selected from the Sathiya special school by using purposive sampling technique. The researcher first introduces herself to the children and developed a communication with them. After the selection of the samples, the data was collected with prepared tools.

### Major study findings

Table 1 Frequency and percentage wise distribution of Pre-test and post- test level of behavioral problems in children with intellectual disability (Internalizing problems).In pre-test, Majority of the intellectual disability 27 (54%) had moderate level of behavioral problems and 23(46%) had severe level of behavioral problems, none of them mild level of behavioral problems. The mean and standard deviation of the level of behavioral problems in children with intellectual disability (Internalizing problems) is (41.2±9.026). In post-test, Majority of the intellectual disability 28 (56%) had moderate level of behavioural problems and 22(44%) had mild level of behavioural problems. None of them in severe level of behavioural problems.

The mean and deviation of the level of behavioural problems in children with intellectual disability (Internalizing problems) is (65.1±16.419). Table 2 Frequency and percentage wise distribution of Pre-test and post- test level of behavioral problems in children with intellectual disability (Externalizing problems).In pre-test, Majority of the intellectual disability 32 (64%) had severe level of behavioral problems and 18(36%) had moderate level of behavioral problems, none of them in mild level of behavioral problems. The mean and deviation of the level of behavioral problems in children with intellectual disability (Externalizing problems) is (39.9±9.748). In post-test, Majority of the intellectual disability 41 (82%) had mild level of behavioral problems and 9 (18%) had moderate level of behavioral problems, none of them in severe level of behavioral problems. The mean and deviation of the level of behavioral problems in children with intellectual disability (Externalizing problems) is (83.9±20.79).

Table 3 shows that, the mean score of effectiveness in the pre-test was 41.20 ± 9.026 and the mean score in the post- test was 65.10 ± 16.41 respectively. The calculated paired ‘t’ test value of  $t = -7.228$  shows statistically highly significant difference between Comparison of the Pre-test and post- test level of behavioral problems in children with intellectual disability (Internalizing problems) respectively. Table 4 shows that, the mean score of effectiveness in the pre-test was 36.90± 9.748 and the mean score in the post- test was 83.90 ± 20.79 respectively. The calculated paired ‘t’ test value of  $t = -10.994$  shows statistically highly significant difference between Comparison of the Pre-test and post- test level of behavioral problems in children with intellectual disability (Externalizing problems) respectively.

## RESULTS

The Pre-test and post- test level of behavioural problems in children with intellectual disability (Internalizing problems).In pre-test, Majority of the intellectual disability 27 (54%) had moderate level of behavioural problems and 23(46%) had severe level of behavioural problems, none of them mild level of behavioural problems. The mean and standard deviation of the level of behavioural problems in children with intellectual disability (Internalizing problems) is (41.2±9.026). In post-test, Majority of the intellectual disability 28 (56%) had moderate level of behavioural problems and 22(44%) had mild level of behavioural problems. None of them in severe level of behavioural problems the mean and deviation of the level of behavioural problems in children with intellectual disability (Internalizing problems) is (65.1±16.419). The Pre-test and post- test level of behavioural problems in children with intellectual disability (Externalizing problems).In pre-test, Majority of the intellectual disability 32 (64%) had severe level of behavioural problems and 18(36%) had moderate level of behavioural problems, none of them in mild level of behavioural problems. The mean and deviation of the level of behavioural problems in children with intellectual disability (Externalizing problems) is (39.9±9.748). In post-test, Majority of the intellectual disability 41 (82%) had mild level of behavioural problems and 9 (18%) had moderate level of behavioural problems, none of them in severe level of behavioural problems. The mean and deviation of the level of behavioural problems in children with intellectual disability (Externalizing problems) is (83.9±20.79).

**Table 1. Frequency and percentage wise distribution of Pre-test and post- test level of behavioral problems in children with intellectual disability (Internalizing problems).**

Level of Behavioral problems	PRE TEST			POST TEST		
	n	%	Mean & SD	n	%	Mean & SD
Severe level of behavioural problems	23	46	41.2±9.02	0	0	65.1±16.41
Moderate level of behavioural problems	27	54		28	56	
Mild level of behavioural problems	0	0		22	44	
Total	50	100		50	100	

**Table 2. Frequency and percentage wise distribution of Pre-test and post- test level of behavioral problems in children with intellectual disability (Externalizing problems).**

Level of behavioral problems	Pre Test			Post test		
	n	%	Mean & SD	n	%	Mean & SD
Severe level of behavioural problems	32	64	39.9±9.74	0	0	83.9±20.79
Moderate level of behavioural problems	18	36		9	18	
Mild level of behavioural problems	0	0		41	82	
Total	50	100		50	100	

**Table 3. Comparison of the Pre-test and post- test level of behavioral problems in children with intellectual disability (Internalizing problems)**

Internalizing Problems						
Comparison of level of behavioral problems			Mean	Sd	't' Value	'p' Value
Pre-test			41.20	9.026	-7.22	0.001**
Post-test			65.10	16.41		

\*\*-p < 0.001 highly significant

**Table 4. Comparison of the Pre-test and post- test level of behavioral problems in children with intellectual disability (Externalizing problems)**

Externalizing problems					
Comparison of level of behavioral problems		MEAN	SD	't' VALUE	'p' VALUE
Pre-test		36.90	9.748	-10.99	0.001**
Post-test		83.90	20.79		

\*\*-p < 0.001 highly significant

The mean score of effectiveness in the pre-test was 41.20 ± 9.026 and the mean score in the post- test was 65.10 ± 16.41 respectively. The calculated paired 't' test value of t = -7.228 shows statistically highly significant difference between Comparison of the Pre-test and post- test level of behavioural problems in children with intellectual disability (Internalizing problems) respectively. The mean score of effectiveness in the pre-test was 36.90± 9.748 and the mean score in the post- test was 83.90 ± 20.79 respectively. The calculated paired 't' test value of t = -10.994 shows statistically highly significant difference between Comparison of the Pre-test and post- test level of behavioural problems in children with intellectual disability (Externalizing problems) respectively.

### Implications

The study had implications for nursing practice, nursing education, nursing administration and nursing research.

### CONCLUSION

A study to evaluate the effectiveness of Computer-based cognitive remediation program for behavioral problems in children with intellectual disability at selected schools, Puducherry. The findings of the study revealed that out of 50 special school children's, out of 50 intellectual disability childrens 28 (56%) had average level of behavioral problems in

Internalizing problems post -test and 41 (82%) had good level of behavioral problems in externalizing problems post- test. The Intervention computer based cognitive remediation program, the researcher in order to reduce the level of behavioral problems in children with intellectual disability. The study conducted among the 50 intellectual disability children with behavioral problems by Administering Computer-based cognitive remediation program shows that the intervention helps in improving the level of behavioral problems in good range and find to be one of the helpful interventions in improving the level of behavioral problems in children's with intellectual disability.

**Conflict of interest:** Nil

**Source of funding:** No funding was received for the study.

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**Ethical clearance:** Ethical clearance has been obtained from institutional ethical committee before conducting the study.

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