



A Study to Assess the Effectiveness of Selected Interventions to Improve Cognitive Function among Mild Mentally Challenged Children

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ABSTRACT

Globally every year 52.9% million children younger than 5 years (54%males) had cognitive impairment. In India 2019, 71.3% of children are affected with mental retardation. There are many alternative and supportive therapy are involving in treating the cognitive impairment. This study aimed to assess the effectiveness of selected interventions to improve cognitive function among mild mentally children in selected special school at Puducherry. By using convenient sampling technique 60 samples meeting the inclusion criteria were selected. A research was conducted in Anbagam and Immaculate special school. Informed consent was obtained from each parents and teachers. Pre assessment of cognitive function by using Montreal cognitive assessment scale then the group were instructed to practise selected interventions (photoflow, cross words word matching, card setting, drawing and colour) for 14 days. Post test assessment was done at the end of 15th day. The findings of the study shows that there was significant difference observed between pre and post test. The pre-test mean score of cognitive function was (23.42) after the interventions the post mean score was (26.47). Statistically significant difference was noted (8.667) at $p < 0.001$. The study conclude that selected interventions was effective in improving the cognitive function among mild mentally challenged children. This is the easy procedure, cost effective, non invasive, non pharmacologist, complementary and alternative therapy to improve cognitive function.

Key words: Selected interventions, cognitive function

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INTRODUCTION

According to the World health organization (WHO), Mental retardation means a significantly reduced ability to understand new or complex information and to learn and apply new skills (impaired intelligence) [1]. This results in a reduced ability to cope independently (impaired social functioning), and begins before adulthood, with a lasting effect on development. The use of the term Mental retardation in the context of the WHO initiative "Better Health, Better Lives" includes children with autism who have intellectual impairments [2]. It also encompasses children who have been placed in institutions because of perceived disabilities or family rejection and who consequently acquire developmental delays and psychological problems [3].

Cognitive function includes a variety of mental process such as attention, concentration, memory, decision making, and language comprehension. Cognitive function serves a critical role in everyday behaviour and social behaviour.

MATERIALS AND METHODS

The research was quantitative in approach with pre experimental research design one group pre test/post test design, was selected. In this study selected interventions was independent variables, and dependent variables were level of cognitive function. The study was conducted in immaculate and anbagam special school, Puducherry. Target population mild mentally challenged children who were all diagnosed with mild cognitive impairment. The sample size consisted of sixty. Convenient sampling was used to select the mild mentally challenged children. Inclusion criteriamentally challenged children inboth male and female children who are between the age group of 6 to 18 years. Mild mentally challenged children who are present during the time of data Collection. Exclusion criteriamentally

challenged children, who are not willing to participate, who have any co morbid medical condition, who have any other physical or mental illness and who cannot understand Tamil/English.

DATA COLLECTION PROCEDURE:

Prior to data collection a formal written permission was obtained from the concerned authorities of the selected special school at Puducherry. A written informed consent was obtained from the parents or guardian and teachers of the sample with assurance of confidentiality. Then the researcher assess the demographic variables and find out the cognitive assessment by using the Montreal cognitive assessment scale. The researcher provide intervention to the sample for 14 days. The intervention is (like photoflow, card matching, word setting, crosswords, drawing, etc) given to selected mild mentally challenged children. The researcher will assess the post test results after 14 days of the intervention.

RESULTS

The findings reveal that the demographic profile in group majority of the children 48.33% are belongs to the age between 15-18 years respectively, 61.66% are male, 63.33% children are studying primary level of education, 83.33% are Hindu religion, 53.33% are residing at rural area, ,61.66% are belong to nuclear family, 60.00% are first born child in the family, 45.00% children parents are private employee, 60.00% family income is 5000- 1000Rs/month, 53.33% of parents had late marriage, 50.00% family are having the past history of medical or mental illness, 51.66% parents are not aware about the disease condition.

Table 1: The Demographic Profile (N=60)

Cognitive Function	Mean	S.D	Mean improvement score & %	Paired 't'test value
Pre test	19.17	1.169	8.667	t =7.769
Post test	27.83	1.835		p =0.001

***0<0.001, S_ Significant

This study shows that the pre test mean score of cognitive function was 19.17 ± 1.169 and the post test mean score was 27.83 ± 1.835 the mean difference score was 8.667. The calculated paired 't' test value of $t = 7.769$ was found to be statistically highly significant at $p < 0.001$ level. The study shows the association between the level of cognitive function among Mild mentally challenged children with their Demographic variables, which shows all the demographic variables are non significant except the type of marriage with the P value < 0.0001 .

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DISCUSION

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In pre test Montreal cognitive assessment scale was used to assess the cognitive function among mild mentally challenged children in selected special school, Puducherry. In the pre test, 51 (85%) had mild cognitive impairment. This study revealed that most of the mentally challenged children from special school were cognitive impairment. In the pre test 51 (85%) had mild cognitive impairment. In post test after interventions – majority of the students 54 (90%) had no cognitive impairment [5].

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CONCLUSION

It is statistically evidenced that selected interventions was effective in improving the cognitive function among mild mentally challenged children. This is the easy procedure, cost effective, non invasive, non pharmacologist, complementary, and alternative therapy to improve cognitive function.

CONFLICT OF INTEREST:

The authors declare that they have no conflict of interest.

REFERENCES

1. Amal Dandashi.(2014) Enhancing the cognitive abilities and learning skills of children's with intellectual disability through physical activity and edutainment games. *International journalof distributed sensor networks*, pg no:5-6.
2. Bourke, Jenny, De Klerk, Nick, Smith, Timothy, Leonard, Helen.(2016) Population-Based Prevalence of Intellectual Disability and Autism Spectrum Disorders in Western Australia. *Medicine*. 95(21): e3737.
3. Brain Hoare, Micheal D., Megrn, T., Margret, w., et al.(2018)Cognition and Bimanual performance in children with unilateral cerebral palsy. *Journal of BMC Neurology*, Vol 1, Issue 1.
4. Cathy Williams, Iain D., Gilchrist, Suee Frase, et al.(2014)Normative data for 3 tests of visuo cognitive functions in primary school children. *Journal of clinical science*, pg no:752-756.
5. Emile Faure Eodie, P., Marie, N., Alice, P., et al.(2018)Computer Based Cognitive Remediation Program for the treatment of Behavioral problems in children with Intellectual Disability. *Journal of BMC Psychiatry*, Pg no: 235-239.

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