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RESEARCH ARTICLE

A STUDY TO ASSESS THE EFFECTIVENESS OF STROOP TASK PERFORMANCE TO IMPROVE VISUAL PERCEPTUAL DISCRIMINATION AMONG VARIOUS CHILDHOOD DISORDERS AT SELECTED HOME, PUDUCHERRY

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Abstract

Background: The Stroop effect is a simple phenomenon that reveals a lot about the brain processes information. The Stroop effect is our tendency to experience difficulty naming a physical color when it is used to spell the name of a different color. It is a neuropsychological test extensively used to assess the ability to inhibit cognitive interference that occurs when the processing of a specific stimulus feature impedes the simultaneous processing of a second stimulus attribute, well-known as the Stroop Effect. The childhood disorder is an any illness, impairment, or abnormal condition that affects primarily infants and children. Some of the childhood disorders like Mild Mental Retardation, Learning Disorders, Motor Skills Disorders, Pervasive Developmental Disorders, Attention Deficit Hyperactive Disorders, Eating disorders of infancy or early childhood, Tic disorders. Visual perceptual discrimination is the brain's ability to accurately perceive information in a complex, fluid and confusing situation and, even more importantly, to accurately differentiate amongst confusable types of information and ability to identify detail seeing Items like differences in shape, color and orientation.

Objectives: The main purpose of this study is to assess the level of visual perceptual discrimination among various childhood disorders. To evaluate the level of visual perceptual discrimination before and after administration of Stroop task performance among various childhood disorders. To associate the level of visual perceptual discrimination among various childhood disorders with their selected demographic variables.

Materials and Methods: The research approach used in the study was Quantitative in nature. Pre – Experimental One group Pre- test Post test design was used. Purposive Sampling technique was used to select the samples. A total of 30 Children's with various childhood disorders were selected for this study. Visual Perceptual Discrimination checklist was used to assess the Visual Perceptual Discrimination Problems among children with childhood disorder and administering stroop task performance using Flashcard was used for intervention and Post test was conducted by using same tool in same manner.

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Results and Conclusion: The result showed that majority of the childhood disorders at selected home 26(86.7%) had low and 4(13.3%) had moderate level of visual perceptual discrimination during Pre test. The Calculated paired 't' value was $t = -8.55$ and was found to be statistically significant at $-P < 0.001$ level. After Intervention majority of childhood disorders at selected home 16(53.3%) had low and 14(46.7%) had moderate level of visual perceptual discrimination. There was area of residence and type of childhood disorders had shown statistically significant association between post test level of visual perceptual discrimination among various childhood disorders with their selected demographic variables. The other demographic variable had not shown statistically significant association between the post-test level of visual Perceptual discrimination among various childhood disorders with their selected demographic variables. The researcher concluded that by administering Stroop task performance shows that the intervention helps in improving the level of visual perceptual discrimination in good range and found to be one of the helpful interventions in improving the level of visual perceptual discrimination among children with various childhood disorders. The study had proved that Effectiveness and excellent changes in improvement of visual perceptual discrimination among Children's with various childhood disorders.

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Introduction:-

The term childhood disease refers to disease that is contracted or becomes symptomatic before the age of 18 or 21 years old. Many of these diseases can be contracted by adults as well. Childhood disorders, also known as developmental disorders or learning disorders are most common and are diagnosed when a child reaches school age. Although some adults may relate to some of the symptoms of these disorders, the symptoms of the disorder must have first appeared in the person's childhood. It is not unusual for a child to have more than one disorder. According to the Surgeon General of the United States, approximately 20% of American children suffer from a diagnosable mental illness in any given year. In addition, nearly 5 million American children and adolescents have a serious mental illness (one that significantly interferes with their day-to-day life).

Children's Hospice International Health provides patient-centered and family-centered care. They never lose sight of the fact that your child is, first and foremost, an individual, not just a patient, and they include your family in all stages of treatment. Changes in academic performance, such as poor grades despite good effort, are symptoms of childhood disorders. Drug and/or alcohol abuse, inability to cope with daily problems and activities, sleeping and eating habits that have changed, excessive physical ailment complaints, ignoring authority, skipping school, stealing, or causing property damage, frequent rage outbursts, loss of interest in friends and activities that they previously enjoyed, significant increase in alone time, excessive concern or anxiety, hyperactivity, persistent nightmares or night terrors, chronic disobedience or aggressive behaviour, temper tantrums on a regular basis, hearing voices or seeing things that aren't really there (hallucinations).

Childhood anxiety disorders, attention deficit hyperactivity disorder (ADHD), conduct disorder, autism, and intellectual disability are the five major types of childhood disorders (intellectual developmental disorder). Treatment for Childhood Disorders is similar to treatment for mental illnesses in adults; however, treatment for childhood disorders usually entails a combination of medication and supportive psychological therapies, either in the hospital or on an outpatient basis. Of course, they advise seeing a mental health professional for an accurate diagnosis and discussion of treatment options. When you meet with a professional, make sure to collaborate in order to establish clear treatment goals for your child and to track progress toward those goals.

The Stroop test performance is a neuropsychological test that is widely used to assess the ability to inhibit cognitive interference, which occurs when the processing of one stimulus feature interferes with the simultaneous processing of

another, known as the Stroop Effect. Purposes for childhood disorders like Differentiate between non-brain-damaged psychiatric and brain-damaged patients Admin: Individual Admin Time: 5 minutes (timed) Stroop results can be used in the diagnosis of brain dysfunction and in the evaluation of stress, personality, cognition, ADHD, and psychopathology. Because it is brief, requires very little education, and is not culturally biased, this unique test is an ideal way to screen for neuropsychological deficits.

Measures such as the Stroop Colour Word Interference Test were not originally designed to be used as clinical measures. These instruments later found their way into the clinical realm and have been used to help predict difficulties with everyday functioning primarily based on the assumption that they assess functions/constructs that are important to carrying out real-world activities. The Stroop effect is a straightforward phenomenon that reveals a great deal about how the brain processes information. The Stroop effect, first described by psychologist John Ridley Stroop in the 1930s, is our tendency to have difficulty naming a physical colour when it is used to spell the name of another colour. This simple discovery has a significant impact on psychological research and clinical psychology.

Stroop found that subjects took longer to complete the task of naming the ink colours of words in experiment two than they took to identify the colour of the squares. Subjects also took significantly longer in experiment two to identify ink colours than they did in experiment one to simply read the printed word. This effect was identified as interference, which causes a delay in identifying a colour when it is incongruent with the word printed. The Stroop Test was created as a result of the discovery of the Stroop effect. The Stroop test is used in both experimental and clinical psychology to "assess the ability to inhibit cognitive interference that occurs when processing of a specific stimulus feature impedes the simultaneous processing of a second stimulus attribute," according to an article in *Frontiers in Psychology*.

The Stroop effect, which is characterized by slowed response time interference when naming the colour of a to-be-ignored word, can be used as an indirect measure of word processing. The color-word task and its variant (name the picture, ignore the word) have been widely used to gain an insight into language processing. The results show interference at a variety of linguistic levels, from sound to meaning, highlighting the utility of this tool for understanding linguistic processing and the roles of learning, attention, and memory in that processing. Stroop interference theories are increasingly derived from linguistic theory.

Visual perceptual discrimination is the ability to detect differences and similarities in size, shape, color and pattern. Children should begin to have the ability to recognize details in visual images. Visual discrimination involves being able to see subtle differences in objects, including letters and numbers, to distinguish them from others. For example, when sorting coins one notices that nickels and dimes are the same color, but dimes are always smaller.

Materials And Methods:-

The official permission was obtained from the baby Sarah's home, Ariyankuppam, Puducherry. The investigator obtained formal permission from Hospital authority and Institutional Ethical Committee of Sri Manakula Vinayagar Medical College and Hospital. The study was conducted at Baby Sarah's home, Puducherry. The period of data collection was six weeks. The research approach used in the study was Quantitative in nature. Pre-Experimental One group Pre- test Post test design was used. Totally 30 Children's with various childhood disorders selected by using purposive sampling technique. The purpose and benefits of the study were explained to the superintendent of Baby Sarah's home. After obtaining oral consent primarily the demographic data was obtained from the samples. Investigator assessing the visual perceptual discrimination among the Children's with various childhood disorders. The tool used in the study was Visual Perceptual Discrimination checklist was used to assess the Visual Perceptual Discrimination Problems among children with childhood disorder and administering stroop task performance using Flashcard was used for intervention. The research study consists of 10 samples. Pre test for 10 samples by using visual Perceptual Discrimination checklist. Per day 2 1/2 hours for give stroop task performance for 30 samples. Word stroop test for 1/2 hours Shape stroop test for 1/2 hours Emotional stroop test for 1/2 hours, color stroop test for 1/2 hours Picture stroop test for 1/2 hours. After completion of 4 weeks. Post test was conducted by using same tool in same manner. It includes 2 sections, section A consists of Demographic data and section B consists of Assessment of tool. It consists of visual perceptual discrimination checklist. Tool to assess the visual perceptual discrimination problems among children with childhood disorder. Following are the questions regarding the visual perception. Respond whether you having or not. Please tick () in place given in front of the question. Tool to assess the visual perception discrimination among children with childhood disorder. It consists of 37 statements and 2 columns such as YES and NO. Data analysis was done using descriptive and statistical analysis.

Result And Discussion:-

The result showed that The frequency and percentage wise distribution of pretest and post -test of thelevel of visual perceptualdiscrimination among various childhood disorders, majority of the childhood disorders at selected home 26(86.7%) had lowand4(13.3%) hadmoderate levelof visualperceptualdiscrimination during Pre test. The Calculated paired't' value was $t = -8.55$ and was found to be statistically significant at $-P < 0.001$ level. After Intervention majority of childhood disorders at selected home 16(53.3%) had lowand 14(46.7%) hadmoderate levelof visual perceptualdiscrimination. There was area of residence and type of childhood disorders had shown statistically significant association between post testlevel of visual perceptual discrimination among various childhood disorders with their selected demographic variables. The other demographic variable had not shown statistically significant association between the post-test level of visual Perceptual discrimination among various childhood disorders with their selected demographic variables.

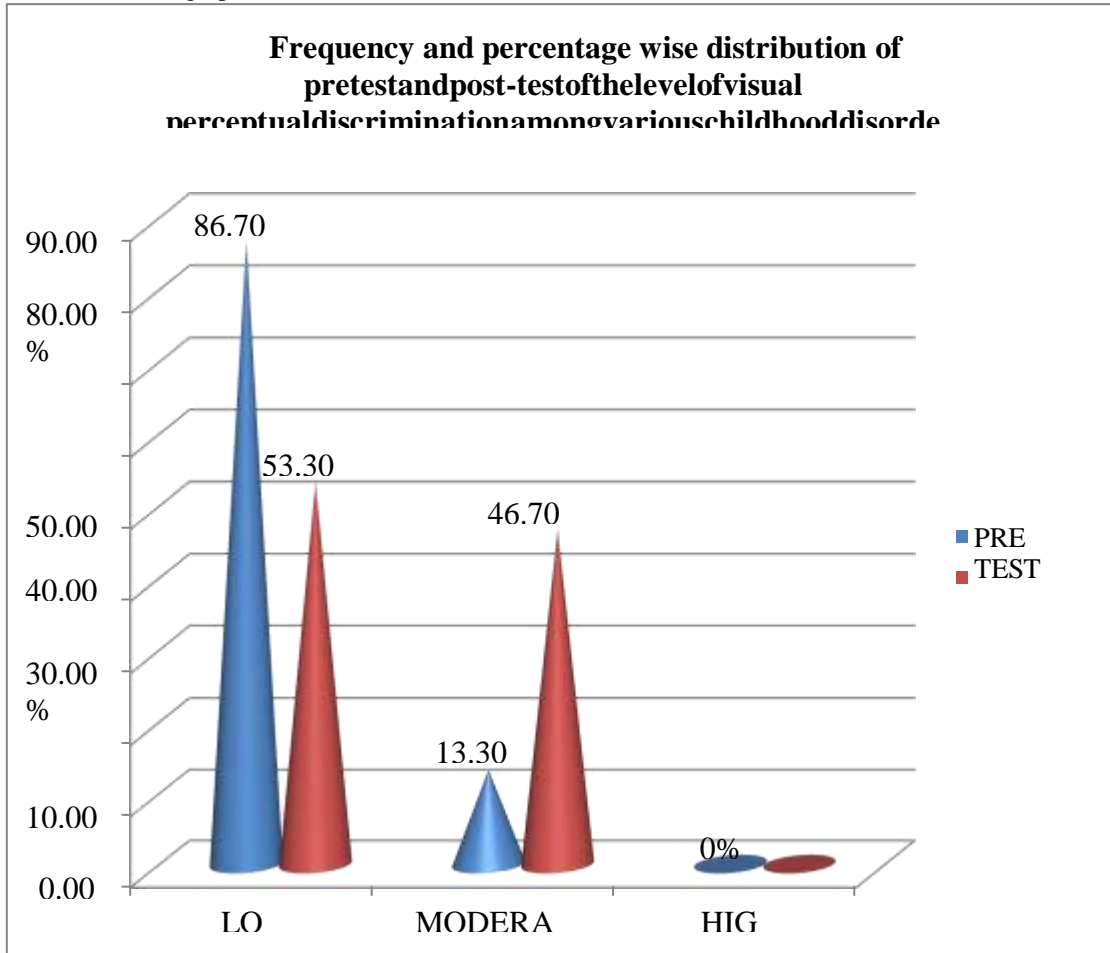


Table3:- Effectiveness of the level of visual perceptual discrimination before and after administration of Stroop task performance among various childhood disorders.

GROUP	TEST	MEAN	STANDARD DEVIATION	MEAN DIFFERENCE	't' VALUE Paired-t test	df	'p' VALUE
LEVEL OF VISUAL PERCEPTUAL	Pre test	9.87	2.330	-5.70	-8.55	29	0.000* *HS

	t						
	Posttest	15.57	4.883				
DISCRIMINATION							

**-p<0.001highly significant,NS-NonSignificant.

Table-3showsthat,Effectivenessofthelevelofvisualperceptualdiscriminationbeforeandafteradministration of Strooptask performanceamong various childhood disorders. ThemeanscoreofEffectivenessofthelevelofvisualperceptualdiscriminationbeforeandafteradministrationofStrooptaskperformanceamongvariouschildhooddisordersinthepre-testwas 9.87 ± 2.330 and the mean score in the post- test was 15.57 ± 4.883 . The calculated paired „t“ testvalue of $t = -8.55$ shows statistically highly significant difference of effectiveness of the level ofvisual perceptual discrimination before and after administration of Stroop task performance amongvarious childhood disorders.

Conclusion:-

The study concluded that the 30 children with various childhood disorders by administeringstrooptaskperformanceshowsthatthe interventionhelpsinimproving the levelof visualperceptualdiscriminationinlow leveltomoderate levelandfindtobe one of the helpfulinterventions in improving the level of visual perceptual discrimination among children withvarious childhood disorders. ThestudyhadprovedthatEffectiveness and excellent changes in improvement of visual perceptual discrimination amongChildren's with variouschildhood disorder.

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