

Effect of Cognitive Behavioural Therapy on Social Skill of Primary School Pupil with Attention Deficit Hyperactivity Disorder in Jos Metropolis, Plateau State, Nigeria.

Ibuebue Sarah Namu, Professor Nanram. B. Longbap & Professor Grace. O. Momoh

Department of Educational Foundations,

Faculty of Education,

University of Jos, Plateau State, Nigeria

ibuebuenamu@gmail.com

DOI: [10.56201/jpaswr.v10.no5.2025.pg28.39](https://doi.org/10.56201/jpaswr.v10.no5.2025.pg28.39)

Abstract

The purpose of this study was to examine the effect of cognitive behavioural therapy (CBT) on social skill of primary school pupils with attention deficit hyperactivity disorder (ADHD) in Jos metropolis, Plateau state Nigeria. The population consists of 462 primary school pupils in Jos North LGA with evidence of ADHD out of which 20 respondents were selected with the aid of attention deficit hyperactive disorder social skill questionnaire (ADHDSSQ) as a sample for the study. The simple random sampling technique was used to select the 20 respondents that present evidences of ADHD, and were divided in two groups, one group for treatment and one group for control. The instrument (questionnaire) was validated and its reliability established using Cronbach's alpha method. The data was analyzed using ANOVA statistical method. Three research question and three null hypotheses were tested at 0.05 level of significance. A non-equivalent group pretest and post-test quasi- experimental design was adopted for the study. The result revealed that cognitive behavioural therapy has significant effect on social skill of primary school pupils with ADHD. The findings also revealed that cognitive behavioural therapy can help improve other social skills such as age-appropriate thinking problems, emotional regulation problems, inattentive problems and hyperactive/impulsive problems. Based on the finding the following recommendations were made; cognitive behavioural therapy training on how to work with attention deficit hyperactive disorder pupils should be made available to teachers. Secondly, pupils should be screen by counsellors to check for evidences of attention deficit hyperactive disorder before enrolment in schools.

Keywords: *Attention Deficit Hyperactive Disorder (ADHD), Cognitive Behavioural Therapy (CBT), social skill*

INTRODUCTION

ADHD is a neurodevelopmental disorder with high global prevalence of 5.29%. characterized by severe and impairing difficulties with sustained attention, resulting in over-activity and impulse control. The International Classification of Diseases, 10th edition (ICD – 10) and The Diagnostic and Statistics Manual of Mental Disorder 4th edition (DSM – IV recently dated to DSM-V) are widely used to diagnose children, adolescents, and adult with ADHD. Both manuals use criteria consisting of some 18 symptoms and identify two core domain reflecting inattentive and hyperactive, impulsive behaviour to be the characteristics.

The symptoms are persistent across development and have significant effect in adaptive functioning. The DSM criteria identify a broad range of individuals including those who present predominately inattentive symptoms and an older age of onset depending on the features that are most prominent, the clinical presentations of ADHD are described as predominately inattentive (ADHD – I), predominately hyperactive – impulsive (ADHD – H) or combined type (ADHD – C). These are the three subtypes of ADHD significantly notable in their characteristics.

Although inattentive, hyperactivity and impulsivity represent core symptoms of ADHD, the disorder is highly heterogeneous and is associated with a plethora of different impairments, including cognitive and behavioural deficits (Abbasi, Bolah, Modhaddam, Khadem, & Saeidi, 2020). Pupils with ADHD generally show poorer academic outcomes relative to their general cognitive abilities with greater grade repetition and increased school dropout rates. Due to the complex nature of ADHD, much remains to be understood about the processes underlying the observed educational difficulties.

Nevertheless, children diagnosed with ADHD are often educated in general classrooms together with children without ADHD. The above position is held by American Psychiatric Association's Diagnostic and Statistical Manual of Mental disorders 4th edition (APA). This is because ADHD does not affect a child's looks and his normal behaviours, it is not like autism and cerebral palsy, in fact it can be mistaken for a childhood misbehaviour. That is why if not properly educated, parent and teachers tag children with ADHD as badly behaved children or stubborn children.

Lola, Zenhu, and Leta (2019) believe that ADHD is one of the most common behavioural disorders in childhood with long term outcomes. Although ADHD is the most studied behavioural disorders of childhood in developed countries, very limited study has been done in Nigeria. ADHD is a severe developmental disorder characterized by pervasive and impairing symptoms of inattention, hyperactivity, and impulsivity that occurs before the age of seven. The behavioural disturbance of children with ADHD significantly impairs their social, academic or occupational functioning.

The worldwide pooled prevalence of ADHD for children age 8 years and below was 7.2% from systematic review and meta – analysis of 175 studies worldwide. In Africa, the prevalence of ADHD ranges between 5.4% and 8.7% among school children and 1.5% in the general population. However, it ranges from 48.5% to 100% among a special population of children with possible organic brain injury; the prevalence was reported to be 3.2% to 23.15% in Nigeria. This result could be supported by diagnostic and statistical Manual of Mental disorder 4th edition (DSM IV) and the 10th revision of international statistical classification of diseases and related health problem (ICD – 10).

According to Tosto, Moni, Malik and Asherson (2015), ADHD is a result of complex dealing between genetic, environmental and developmental traits with genetic factors credited for determining about 80% of the cases. Other demographic variables opined by Tosto, Moni, Malik, and Asherson are; low educational level of parents, mother's occupation and low socioeconomic status, gender, child rank (birth order), mother's smoking and drinking, non-vaginal delivery, late starting of school, watching of too much television/playing video games, not participating in sports, single parent family structure separated family structure, parent psychiatric disorders, previous abortion, unwanted pregnancy, history of trauma, substance use during pregnancy, head trauma and epilepsy.

Wolraich, (2015) points out that ADHD is usually present during early childhood but its diagnosis is most often made in school age children. Many children continue to experience

symptoms until adolescence (60 – 85%) and adult life (40%). ADHD is the most common neurodevelopment disorder diagnosed in childhood, it is characterized by chronic symptoms of inattention, impulsively and/or hyperactivity that led to functional impairment experience in multiple settings (America psychiatric Association 2013).

Children and adolescent with ADHD are more likely to experience a variety of negative outcomes compared to their peers without the disorder, including lower academic attainment, impaired social functioning, increased risk of hospital admission and injuries, increased substance use and risk of substance use disorder, and reduced income and participation in labour market as adult. Furthermore, children with ADHD are at risk of dropping out of school, becoming pregnant as a teenager and committing criminal behaviour.

Untreated ADHD increases the risk for future complications such as poor academic performance and learning delay, low self-esteem, poor social skills and increased susceptibility to physical injury in childhood. In summation, ADHD is a mental disorder that is common with children and young adult, can gives rise to learning disability and affects them in various ways. It has no known cause or cure, can be triggered by a number of risk factors from heredity to environment (nature or nurture) but it can be identified through diagnosis and managed with therapy or medication with the help of a therapist or doctor respectively. Therefore, it should be taken seriously.

Cognitive Behavioural Therapy (CBT) was formulated by a psychiatrist, Aaron Beck in the 1960s. The theory is hinged on the belief that how one thinks (cognition), feels (emotions) and acts (behaviour) affects one's reaction to anything in life. CBT helps client with basic principles that can be used whenever there is need to change belief and behaviour (Aderson, 2023). The main goals of CBT are to change human's pattern of thinking and behaving. CBT posits that the different irrational way of human behaviour is from a faulty cognition as people react to situations based on how they think or feel about them. Once the thinking is faulty, the person tends to behave irrationally. Therefore, a change in maladaptive thinking leads to a change in maladaptive behaviour. CBT values and empowers the individual to take control of his/her life through psycho-education with a vast array of techniques specific to individual diagnosis (Alkhateeb & Alhadidi, 2019).

CBT assumes that both the individual and the environment are of fundamental importance and that therapy outside of a home should help a client. Fixing cognitive dysfunction is not possible without the involvement of behaviour and fixing behavioural dysfunction is not possible without the involvement of cognition (Beck, 2021). According to Fenn and Byrne, (2013), Cognitive Behavioural Therapy, employs the links between thoughts, emotions and behaviour. It is a directive, time limited structured approach used to treat a variety of mental health disorders. It claims to alleviate distress by helping clients develop more adaptive cognitions and behaviours. It is the most widely researched and empirically supported psychotherapeutic method for counselling interventions.

CBT aims to teach clients to be their own therapists by helping them to understand their current ways of thinking and behaviour and equipping them with the tools to change their maladaptive, cognitive and behavioural patterns, which is what this study is hoping to achieve, to help the ADHD pupils change their thinking and by extension change their behaviour. This could also be called cognitive restructuring. The focus of CBT is problem-oriented with an emphasis on the present instead of focusing on the cause of distress (ADHD) or symptoms of the past (how it has affected the pupils). It looks for ways to improve a client's (pupils) current state of mind. CBT involves mutually agreed goal setting where the goals set should be "SMART" (Specific,

Measurable Achievable, Realistic and Time limited). This is a basic principle in CBT and the aim of this study. That pupils with ADHD will be able to work within a time frame at achieving the goals of changing the maladaptive cognition which is affecting their present behaviour.

The cognitive model hypothesizes that people's thoughts and feelings are not determined by a situation, but by their interpretation and construction of the situation. Recognizing this discrepancy, CBT seeks to modify the dysfunctional core beliefs that result in automatic thoughts which trigger emotions in any given situation. Behavioural methods are often used to accomplish the task and education components are often coupled with client homework for successful treatment. The therapist (counsellor) with the help of CBT will help ADHD pupils to set life goals in hierarchy, make a small list attached to their table in school or close to their bed at home, making conscious effort to keep the set goals within a specific time frame. Also working with their parents and teachers to help them manage the goals set so that it could reduce their attention deficiency and hyperactivity impulsivity behaviour.

AIM AND OBJECTIVES OF THE STUDY

The aim of the study is to examine the Effects of Cognitive Behavioural Therapy on Social Skills of Pupils with Attention Deficit Hyperactivity Disorder (ADHD) in Jos Metropolis, Nigeria. Specifically, the objectives of the study are to:

1. find out the effects of cognitive behavioural therapy on age – appropriate thinking problems of pupils with ADHD in experimental and control group.
2. determine the effects of cognitive behavioural therapy on inattentive behaviour problems of pupils with ADHD in the experimental and control group.
3. determine the effects of cognitive behavioural therapy on hyperactivity impulsivity behaviour problems of primary school pupils with ADHD in experimental and control group.

RESEARCH QUESTIONS

The following research questions were raised to guide the study:

1. What is the pre-test and post-test age-appropriate thinking problems mean score of primary four pupils in experimental and control group?
2. What is the pre-test and post-test inattentive behaviour problems mean scores of primary four pupils with ADHD in the experimental and control group?
3. What is the pre-test and post-test hyperactivity impulsivity problems mean scores of primary four pupils with ADHD in experimental and control group?

HYPOTHESES

The following hypotheses were posed and will be tested at 0.05 level of significance:

1. There is no significant difference between pre-test and post-test development of age-appropriate thinking problems mean scores of primary four pupils with ADHD in the experimental and control groups.
2. There is no significance difference in the pre-test and post-test inattentive behaviour problems mean scores of primary four pupils with ADHD in the experimental and control groups.
3. There is no significance difference in the pre-test and post-test hyperactivity impulsivity problems mean scores of primary four pupils with ADHD in experimental and control groups.

METHODOLOGY

This study employed the use of quasi experimental research design particularly of the non-equivalent pre-test and post-test control group design. It is a design that is widely used in behavioural research, for the purpose of comparing groups and measuring changes from experimental treatment (Gay 2009). A rating scale from DSM V was used for screening the pupils to identify pupils with evidence of ADHD. The groups were pretested and scored before treatment was administered to the experimental group, after which the groups were post tested. The justification for a pre-test – post-test design is that, a pre-test measures the outcome of interest before administering treatment after which the post-test will be used to measure outcome after administering a treatment, to ascertain the effect of CBT. The assignment of subject to groups is through randomization. One of the groups (experimental group) will be exposed to a treatment or a particular experience, the other group (control group) will not be exposed to the treatment condition. The aim of this design is to compare the mean scores gain or loss of the two groups.

The population of this study consisted of all the primary four pupils in all the public primary schools in Jos metropolis, Jos metropolis has a total of 57 public primary school as at June 2022. The researcher chose the use of primary school children specifically primary four with a total of 4,123 pupils out which 462 pupils present symptoms of ADHD. Primary four pupils are relevant to this study because they fall within the age group that ADHD can be easily detected, that is ages 6-9, and have been in school long enough for the disorder to be noticeable. The sample of 20 pupils who demonstrated evidence ADHD in two schools in Jos North were used for the study, selected with the aid of rating scale adapted from Vanderbilt Assessment scale. Ten pupils were found in school A and represented the experimental group and another 10 pupils were found in school B and they formed the control group.

The instrument used was by the researcher, attention deficit hyperactive disorder social skill questionnaire (ADHDSSQ) adapted from Vanderbilt Assessment scale, it is a 20-items questionnaire of statement open-ended meant to illicit responses on effect of cognitive behavioural therapy on social skills of attention deficit hyperactive disorder pupils, the questionnaire was administered before the experiment. Pupils who scored high in the ADHD screening test were included in the study, while those who scored low were not included in the study. All variables were measured using the scale as adapted with the range; Excellent (1), Above Average (2), Average (3), Somewhat Problematic (4) and Problematic. The highest attributes are 1,2,3, and the lowest are 4 and 5.

The content and face validity of instrument were established by three experts, one in guidance and counselling, one in special education and rehabilitation science and one in research measurement and evaluation, all in Faculty of Education, University of Jos. The researcher made all the correction pointed out and the instrument was used. The construct validity was determined with the Cronbach's alpha method. In order to establish the reliability, the instrument, pilot testing was done with ADHD pupils in LEA primary schools in Jos South local government area. Plateau State which is not part of the study. This was given to expert for factor analysis; the reliability was established using Cronbach alpha method, and a coefficient of 0.84 was obtained. In answering the research questions and testing the hypotheses data were analyzed using ANCOVA, the mean and standard deviation. In reaching a decision, ANCOVA was used to test hypotheses 1, 2 and 3, while mean and standard deviation were used to answer the research questions.

RESULTS

Research Question One

What is the pre-test and post-test mean score developmental age-appropriate thinking of Primary Four pupils in the experimental and control groups?

Table 1: Pretest and Post-test Mean Score Developmental Age-Appropriate Thinking of Primary Four Pupils in the Experimental and Control Groups

Group	N	Pre-test		Post-test		Mean	Mean	Gain
		Mean	SD	Mean	SD	Gain	Difference	
Experimental	10	13.20	1.033	6.60	.97	-6.6	-6.6	
Control	10	12.50	1.51	12.50	1.51	0		

Source: Field Work, 2024

Table 1 presents the pre-test and post-test developmental age-appropriate thinking of Primary four pupils in the experimental and control groups. The result reveals that in the experimental group the pre-test mean score was 13.20 and standard deviation of 1.03, while the post-test mean score was 6.60 and standard deviation of .97 with a mean gain of -6.6, indicating that there was reduction in the developmental age-appropriate thinking mean score of primary four pupils after treatment using Cognitive Behavioural Therapy. Also, for the control group the mean score was 12.50 and a standard deviation of 1.51 at the pre-test, while the post-test mean score of students was still 12.50 and a standard deviation of 1.51. The findings show that at the pre-test both the experimental and control group had high mean scores, indicating problematic developmental age-appropriate thinking. However, students in the experimental group had a lower mean score after treatment, than those in the control group who were not given treatment with a mean difference of -6.6 This implies that CBT does reduce the developmental age-appropriate thinking problems of pupils in Jos Metropolis.

Research Question Two

What is the pre-test and post-test inattentive behaviour mean scores of Primary Four pupils with ADHD in experimental and control groups?

Table 2: Pretest and Post-test Inattentive Behaviour Mean Score of Primary Four Pupils in the Experimental and Control Groups

Group	N	Pre-test		Post-test		Mean	Mean	Gain
		Mean	SD	Mean	SD	Gain/Loss	Difference	
Experimental	10	13.50	1.080	7.20	1.03	-6.3	-6.3	
Control	10	12.80	1.23	12.80	1.23	0.0		

Source: Field Work, 2024

Table 2 shows the pre-test and post-test inattentive behaviour mean score of Primary Four pupils in the experimental and control groups. The result reveals that In the experimental group the pre-test mean score was 13.50 and standard deviation of 1.08, while the post-test mean score was 7.20 and standard deviation of 1.03 with a mean loss of -6.3, indicating that there was reduction in the inattentive behaviour of Primary Four pupils after treatment using Cognitive

Behavioural Therapy. Also, for the control group the mean score was 12.80 and a standard deviation of 1.23 at the pre-test, while the post-test mean score of students was 12.80 and a standard deviation of 1.23. The findings show that students in the experimental group had a lower mean score after treatment, than those in the control group who were not given treatment with a mean difference of -6.3. This implies that CBT does reduce the inattentive behaviour of pupils with ADHD in Jos Metropolis.

Research Question Three

What is the pre-test and post-test hyperactive impulsive behaviour mean scores of primary four pupils with ADHD in experimental and control groups?

Table 3: Pretest and Post-test Hyperactive Impulsive Behaviour Mean Score of Primary Four Pupils in the Experimental and Control Groups

Group	N	Pre-test		Post-test		Mean Gain	Mean Difference	Gain
		Mean	SD	Mean	SD			
Experimental	10	13.40	1.075	7.20	1.32	-6.2	-6.2	
Control	10	12.30	1.16	12.30	1.16	0.0		

Source: Field Work, 2024

Table 3 reveals the pre-test and post-test hyperactive impulsive behaviour mean score of Primary Four pupils in the experimental and control groups. The result reveals that In the experimental group the pre-test mean score was 13.40 and standard deviation of 1.08, higher than the post-test mean score of 7.20 and standard deviation of 1.32 with a mean loss of -6.2, indicating that there was reduction in the hyperactive impulsive of Primary Four pupils after treatment using Cognitive Behavioural Therapy. Also, for the control group the mean score was 12.30 and a standard deviation of 1.16 at the pre-test, while the post-test mean score of students was still 12.30 and a standard deviation of 1.16. The findings show that students in the experimental group had a lower mean score after treatment, than those in the control group who were not given treatment with a mean difference of -6.2. This implies that CBT does reduce the hyperactive impulsive behaviour mean score of pupils in Jos Metropolis.

Hypothesis One

There is no significant difference between pre-test and post-test development of age-appropriate thinking problems mean scores of primary four pupils with ADHD in the experimental and control groups.

Table 4: ANCOVA Result on Development of Age-Appropriate Thinking Mean Scores of Pupils with ADHD in the Experimental and Control Groups

Source	Type Sum of Square	Df	Mean Square	F	P-value	Partial Eta squared
Corrected model	63.883 ^a	2	31.942	4.636	.025	
Intercept	77.172	1	77.172	11.202	.004	
Covariate	6.083	1	6.083	.883	.361	
Group	60.992	1	60.992	8.853	.008	
Error	117.117	17	6.889			
Total	2826.000	20				
Corrected total	181.000	19				

a. R Squared = .553 (Adjusted R Squared = .577)

Analysis of covariance was conducted to determine if a significant difference exist in the pre-test and post-test development of age-appropriate thinking problems mean scores of primary four pupils with ADHD in the experimental and control groups. Table 4 revealed that $F(1, 17) = 8.85$, $P < 0.05$. Since the p-value of 0.000 is less than the significant level of 0.05, the null hypothesis was rejected, indicating that there is a significant effect of Cognitive Behavioural Therapy (CBT) on the development of age-appropriate thinking problems of primary four pupils. The result further showed an adjusted R squared value of .577 which means that 57.7 percent of the variation in the dependent variable which is age-appropriate thinking problems of primary four pupils is explained by the variation in the treatment which is Cognitive Behavioural therapy. This implies that there is a significant difference in the pre-test and post-test development of age-appropriate thinking problems mean scores of primary four pupils with ADHD in the experimental and control groups.

Hypothesis Two

There is no significance difference in the pre-test and post-test inattentive behaviour problems mean scores of primary four pupils with ADHD in the experimental and control groups.

Table 5: Pre-test and Post-test Mean Scores of Pupils with ADHD Inattentive Problems in the Experimental and Control Groups

Source	Type Sum of Square	Df	Mean Square	F	P-value
Corrected model	59.699 ^a	2	29.850	5.760	.012
Intercept	57.772	1	57.772	11.148	.004
Covariate	8.499	1	8.499	1.640	.218
Group	57.571	1	57.571	11.109	.004
Error	88.101	17	5.182		
Total	2980.000	20			
Corrected total	147.800	19			

a. R Squared = .604 (Adjusted R Squared = .534)

Analysis of covariance was conducted to determine if a significant difference exist in the pre-test and post-test inattentive behaviour problems mean scores of primary four pupils with ADHD in the experimental and control groups. Table 5 revealed that $F(1, 17) = 11.11$, $P < 0.05$. Since the p- value of 0.004 is less than the significant level of 0.05, the null hypothesis was rejected, indicating that there is a significant effect of Cognitive Behavioural Therapy (CBT) on the inattentive behaviour problems of primary four pupils. The result further showed an adjusted R squared value of .534 which means that 53.4 percent of the variation in the dependent variable which is inattentive behaviour problems of primary four pupils is explained by the variation in the treatment which is Cognitive Behavioural therapy. This implies that there is a significant difference in the pre-test and post-test inattentive behaviour problems mean scores of primary four pupils with ADHD in the experimental and control groups.

Hypothesis Three

There is no significance difference in the pre-test and post-test hyperactivity impulsivity problems mean scores of primary four pupils with ADHD in experimental and control groups.

Table 6
Pre-test and Post-test Hyperactive Impulsive Behaviour Mean Scores of Pupils with ADHD in the Experimental and Control Groups

Source	Type Sum of Square	Df	Mean Square	F	P-value	Partial Eta squared
Corrected model	77.951 ^a	2	38.975	6.689	.007	.894
Intercept	92.615	1	92.615	15.896	.001	.000
Covariate	5.751	1	5.751	.987	.334	.622
Group	69.577	1	69.577	11.942	.003	.893
Error	99.049	17	5.826			
Total	2822.000	20				
Corrected total	177.000	19				

a. R Squared = .640 (Adjusted R Squared = .575)

Analysis of covariance was conducted to determine if a significant difference exist in the pre-test and post-test hyperactivity impulsivity problems mean scores of primary four pupils with ADHD in the experimental and control groups. Table 6 revealed that $F(1, 17) = 11.94$, $P < 0.05$. Since the p- value of 0.003 is less than the significant level of 0.05, the null hypothesis was rejected, indicating that there is a significant effect of Cognitive Behavioural Therapy (CBT) on the hyperactivity impulsivity problems of primary four pupils. The result further showed an adjusted R squared value of .575 which means that 57.5 percent of the variation in the dependent variable which is hyperactivity impulsivity problems of primary four pupils is explained by the variation in the treatment which is Cognitive Behavioural therapy. This implies that there is a significant difference in the pre-test and post-test hyperactivity impulsivity problems mean scores of primary four pupils with ADHD in the experimental and control groups.

DISCUSSION

The findings show that at the pre-test both the experimental and control group had high mean scores, indicating problematic developmental age-appropriate thinking. However, students in the experimental group had a lower mean score after treatment, than those in the control group who were not given treatment with a mean difference of -.6.6 This implies that CBT does reduce the developmental age-appropriate thinking problems of pupils in Jos Metropolis. The pre-test mean score of the experimental and control group were high, indicating inattentive behaviour. However, students in the experimental group had a lower mean score after treatment, than those in the control group who were not given treatment with a mean difference of -.6.3. This implies that CBT does reduce the inattentive behaviour of pupils in Jos Metropolis. The findings is in line with that of Fenn and Byrne, (2013) who found CBT to be a link between thoughts, emotions and behaviour. It is a directive, time limited structured approach used to treat a variety of mental health disorders. It claims to alleviate distress by helping clients develop more adaptive cognitions and behaviours.

The findings revealed that students in the experimental group had a lower mean score after treatment, than those in the control group who were not given treatment with a mean difference of -.6.2. This implies that CBT does reduce the hyperactive impulsive behaviour mean score of pupils in Jos Metropolis. It also shows that there is a significant difference between the development of age-appropriate thinking of primary school pupils with ADHD exposed to treatment and those who were not. The findings is in line with the work of Oke, Osene, Adejuyigbe, Mosaku, (2019) who did a studied on the pattern of attention deficit hyperactivity disorder among primary school children in Ile-Ife, Nigeria. The prevalence of ADHD was significantly higher in the younger age group than the older age group. Early diagnosis and treatment of this disorder using CBT will create better outcomes in children. This implies that CBT doe help in reducing the problems associated with development of age-appropriate thinking of primary school pupils with ADHD. That there is a significant difference between primary school pupils with ADHD inattentive, behaviour exposed to treatment and those who were not. It means that CBT do reduce inattentive behaviour of primary school pupils. It also shows that there is a significant difference between the hyperactive impulsive behaviour of primary school pupils with ADHD exposed to CBT and those who were not. This is an indication that CBT do reduce the problems of hyperactive impulsive behaviour of primary school pupils with ADHD. The findings is in line with the works of Kazdin (2019); miller and Lejuez (2022) who found that CBT s helps individuals build and strengthen their social support networks, providing them with a sense of belonging, understanding, and resources for coping with challenges.

CONCLUSION

The results of the findings revealed that CBT was effective for age-appropriate thinking, inattentive problems and hyperactivity/impulsivity behavioural problems among ADHD pupils. It also help ADHD pupils to make adjustment of cognition and behaviour in order to be socially acceptable among peers. CBT is a reliable intervention tools in helping ADHD pupils cope with relationship and hyperactive/impulsive behaviour.

RECOMMENDATIONS

The following recommendations were made based on the findings:

1. Teacher and parent should be educated on the prevalent of ADHD and how to manage children or pupils with the disorder in order to have help these children/pupils live normal life.

2. Counsellors, school administrator and all stakeholders in education should be exposed to relevant information on ADHD, so as to make sure that school programmes are plan with these pupils in mind
3. Schools should make relevant diagnosis and medical checks, including that of ADHD are done before pupils are admitted into schools, so that pupils with the disorder are known form the entry point

REFERENCES

- Abbasi, M. A., Bolah, H., Modhaddam, T., Khadem, G., & Saeidi, M. (2020). Attention deficit hyperactivity Disorder (ADHD) in children: A short review and literature, Bibilieila Hoseine,. *International Journal of Paediatrics Quarterly*, 1(4), 12-16.
- Achinike, E., Alikor, D., Frank-Braggs, A., Alali, B. & Okoh, N. (2015). Attention deficit hyperactivity disorder among school children in Port Harcourt, Nigeria. *American Journal of Psychiatry and Neuroscience*, 3(2), 23-29.
- Aderson, D. (2023). *ADHD ad behaviour problems*, childmind institute. Online publication children.org. Retrieved 25 March, 2024.
- Alkhateeb, J. M., & Alhadidi, M. S. (2019). ADHD research in the Arab countries: A systematic review of literature. *Journal of Attention Disorders*, 23(13), 1531-1545.
- Bakare, M. O. (2021). Attention deficits hyperactivity symptoms and disorder (ADHD) among African children: A review of epidemiology and co-morbidities Johannesburg. *African Journal of Psychiatry*,
- Birchwood, J. & Daley, D. (2021). ADHD symptoms and academic performance in adolescents than the relationship in younger children. *Journal of Adolescence*. 35(1), 225 – 231.
- Cordeiro, M. L., Farias, A. C., Unha, A., Benko, C. R., Farias, L. G., Costa, M. T., Martins, L. F. & McCracken, J. T. (2010). A case series empirical study. *Journal of attention disorders co-occurrence of ADHD and high IQ*. Retrieved at: <https://doi.org/10.1177/1087054710370569>
- Fann, K. & Bynne, M. (2013). A published online 2024. *The Key principles of cognitive behaviour therapy*, 6(9), 579-585. Jo –INNOVAIT the RCEP Journal for Associates in training.
- Lola, H, Belete, H., Gebeyehu, A., Zenilum, A., Yimar, S., & Leta, K. (2019). Attention Deficit Hyperactivity disorder (ADHD)/among children Aged 6 to17 years old living in Girja district, rural Ethiopia behavioural neurology article online-doi101155/2019/1753580.Pmc.ncbi.nlm.nih.gov. retrieved March 14 2024 at 11pm.
- Tasto, M. G., Momi, S. K., Asherson, P., Malki, K. A. (2015). A Systematic review of attention deficit hyperactivity disorder (ADHD) and mathematical ability current findings and future implication *BMC Medi cube* 13, 204. <https://doi.org/10.1186/512916.015-0414-4>.
- Wolraich, M. L. (2015). The frontiers of research about Attention Deficit/Hyperactivity Disorder *Paediatrics*, 135(4) e1042-e1043.