
Cognitive Behaviour Therapy in the Management of Conduct Disorder Among Adolescents

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<http://dx.doi.org/10.5772/53046>

1. Introduction

When asked what developmental stage is diagnosed with conduct disorder the primary answer would be adolescent. However, based on research the greatest damage to society is the result of actions by delinquent adolescents but conduct disorder begins below the age of 7 (Scott, 2007). The researcher hypothesis suggests conduct disorder has a multi-factorial causation which includes biologic, psychosocial and numerous facets of the family unit. The research reveals a negative combination of these factors may predispose young children to exhibit symptoms of conduct disorder. The following questions will hopefully be answered: (1) What causes conduct disorder? (2) Can conduct disorder be prevented or predicted? (3) Does parenting style promote symptoms of conduct disorder? and (4) What are the intervention programmes that can be used to manage conduct disorder in adolescents.

2. Definition of conduct disorder

According to Evans (2003) conduct disorder is a steady pattern of harming others or their property, lying, stealing, or breaking societal rules of behaviour. Remote instances of acute behaviour, running away, or vandalism is not enough to merit a diagnosis of conduct disorder. Most children exhibit instances of poor judgment and bad behaviour at least one time in their childhood. The distinction is children with conduct disorder break the rules over and over again, exhibit aggressive behaviour, and show no regard for others. The behaviour is not considered conduct disorder until the symptoms are displayed for one year or more. The disturbances in behaviour result in significant clinical impairment with social skills, academics and occupational functioning (American Psychiatric Association, 1994).

Conduct disorder is differentiated from other psychiatric disorders diagnosed in children by the following criteria: “persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated” American Psychiatric Association (as cited from Tehama, 2007). According to them conduct disorder is a psychiatric syndrome occurring in childhood and adolescence which characterized by a longstanding pattern of violations of rules and antisocial behaviors. They interpret conduct disorder as:

Conduct disorder is a common childhood psychiatric problem that has increased incidence in adolescence. The primary diagnostic features of conduct disorder include aggression, theft, vandalism, violation of rules and/or lying. For a diagnosis these behaviors must occur for at least a six-month period.

3. Causes conduct disorder

The conditions that contribute to the development of conduct disorder are considered to be multifactorial, with many factors (multifactorial) contributing to the cause. Neuropsychological testing has shown that children and adolescents with conduct disorders seem to have an impairment in the frontal lobe of the brain that interferes with their ability to plan, avoid harm, and learn from negative experiences. Childhood temperament is considered to have a genetic basis. Children or adolescents who are considered to have a difficult temperament are more likely to develop behaviour problems. Children or adolescents from disadvantaged, dysfunctional, and disorganized home environments are more likely to develop conduct disorders. Social problems and peer group rejection have been found to contribute to delinquency (Salaam 1992). Low socioeconomic status has been associated with conduct disorders (Busari & Adejumbi 2012). Children and adolescents exhibiting delinquent and aggressive behaviours have distinctive cognitive and psychological profiles when compared to children with other mental health problems and control groups (Aderanti 2006). All of the possible contributing factors influence how children and adolescents interact with other people.

The etiology of conduct disorder consists of the correlation of genetic, family and social factors. The child may inherit limited baseline autonomic nervous system activity, resulting in a need for greater stimulation to attain optimal arousal. This hereditary aspect may explain the high level of sensation-seeking activity associated with the disorder (Johnson et al., 2002). Several studies have revealed the role of autonomic under-arousal in conduct-disordered adolescents (Crowell et al., 2006). According to McBurnett & Lahey, 1994 & Scapa & Raine, 1997 (as cited in Crowell et al., 2006) conduct disorder and antisocial behaviour in adulthood are marked by autonomic under-arousal which included reduced electro-dermal responding (EDR) and heart rate. Beauchaine, 2003 (as cited in Crowell et al., 2006) revealed both elementary children and adolescents have reduced sympathetic and parasympathetic linked cardiac activity when diagnosed with conduct disorder.

The importance of this research is evident when considering the critical period of preschool when noradrenergic, serotonergic, and dopaminergic systems which administer behavioural

control are susceptible to long-term changes in functioning Bremner&Vermetten, 2001 (as cited in Crowell et al., 2006). Parasympathetic nervous system (PNS)-linked cardiac activity has been associated with emotional regulation capabilities Porges, 1995 (as cited in Crowell et al., 2006) in contrast to deficiencies in sympathetic nervous system (SNS)-linked cardiac activity have been linked with reward inconsiderateness.

During gestation the brain is vulnerable to the effects of environmental stressors; this statement applies to both prenatal and postnatal development Hulzink et al., 2004 (as cited in Van Goozen et al., 2007). Environmental factors which can affect brain development are:

- Poor nutrition
- Maternal psychopathology
- Atypical child interaction from a depressed mother

Baumrind (as cited in Marsiglia et al., 2007) classified three parenting styles: authoritarian, authoritative, and permissive. For the purpose of this research authoritarian parenting styles will be discussed. The characteristics of an authoritarian parent according to this researcher, are extremely restrictive and demanding rules. Parents who utilize this style tend to hamper children's autonomy and force them to follow stringent rules by threatening harsh punishment. This type of parenting may lead children to believe they are not responsible for their actions; by contrast, when actions are questions they assume it is not their fault. According to numerous psychological theories parent-child relationship can generate psychological disorders such as anxiety, identity confusion and conduct disorder (Dwairy, et al., 2006). Hoeve et al., (2008) concluded from their study a strong link between parenting styles and delinquency trajectories; therefore, they recommended future research include parenting styles in measuring serious behaviours which are classified as conduct disorders.

The link between exposure to violence in the home and community is a crucial risk factor for conduct disorder according to research by Elze et al., 1999; Fergusson & Horwood, 1998; ; Kaplan et al., 1998 (as cited in McCabe et al., 2005). Violence exposure can take place in many places within the child's environment including: (1) victimization and witnessing child abuse; (2) community violence; (3) parental abuse (McCabe et al., 2005).

Culture and societal norms make up the macro-system which is seen as the most distant factors; the eco-system is seen as a midlevel factor; and the micro-system is seen as the most proximal position to the child. Lynch & Cicchetti, 1998 (as cited in McCabe, et al., 2005) stress risk factors which have the most impact are the factors which are more proximal to the child. Family stresses: (1) substance abuse; (2) violence; and (3) social isolation etc. increase a child's risk of conduct disorder or other mental health disorders. Garrison et al., 1992 (as cited in Baker et al., 2007) reveals several studies have documented the relationship between childhood psychosocial issues and primary care visits. Pediatricians consistently under identify mental health problems in children. Behavioural problems have been linked to an increase in family stressors: (1) divorce; (2) relocation; and (3) financial issues Lavigne et al., 1998 (as cited in Baker et al., 2007). Pediatrician should be aware of these factors when addressing repetitive visits to the office or the emergency room for treatment.

Parental psychopathology and parenting behaviour may be potentially important risk or protective factors in developmental outcomes for these children with concurrent conduct problems. Parental stress and maladaptive parenting may foster the development of conduct disorder Johnson & Mash, 2001 (as cited by Chronis et al., 2007). The researchers propose maternal smoking is a significant factor in conduct disorder because nicotine may interrupt fetal brain development. According to them, "Our study suggests that cigarette smoking may be one of the first prenatal risk factors for this very serious disorder" (University of Chicago Medical Center, 1997).

According to the ecological-transactional model child abuse has the greatest impact on child functioning. Kaplan et al., 1998 states several studies have correlated child maltreatment to an increase risk of conduct disorder (as cited in McCabe et al., 2005). A study at University of Chicago Medical Center (1997) reveals a link between smoking during pregnancy and the likelihood of having a son with conduct disorder. The researchers analyzed records of 177, 7-12 year-old boys who were referred for outpatient treatment for behavioural problems. The study indicated 24 percent of the mothers who reported smoking more than a half-pack of cigarettes per day during pregnancy, 80% of their sons had conduct disorder. This was in contrast to conduct disorder in 50% of the boys whose mothers did not smoke (University of Chicago Medical Center, 1997). According to the researcher "Our study indicates that regardless of other factors, smoking during pregnancy can have serious behavioural outcomes in children" (University of Chicago Medical Center, 1997).

The longitudinal and experimental studies on children who are raised in orphanages, children's homes, and foster homes have established the adverse effects of long-term institutional care on children's personality development according to the American Academy of Child and Adolescent Psychiatry, 2005 (as cited in Chronis et al., 2007). Consistent research has shown a correlation between institutional child rearing and hyperactivity and inattention (Busari & Ojo 2011). Both of these symptoms are precursors of conduct disorder Roy et al., 2000 (as cited in Chronis et al., 2007).

The research repeatedly exposes children who are diagnosed with ADHD and conduct disorder are predisposed for (1) risky sexual behaviour; (2) substance abuse; (3) delinquency; and (4) driving risks Barkley et al., 1993 (as cited in Chronis et al., 2007). The most disturbing fact is children who are diagnosed with ADHD and conduct disorder are at a greater risk of chronic criminal offenses Lyman, 1998 (as cited in Chronis et al., 2007). They identified children with conduct disorder at a greater jeopardy for continual offending and explained their perseverance by the correlation of their behaviour, neuropsychological and physiological deficits are comparable to adult psychopaths.

Childhood conduct disorder is a major risk factor for adult disorders especially anti-social behaviour. The key to diagnosing these children is to identify the origin of antisocial behaviour which is found in (1) difficult temperament and (2) ineffective socialization (Van Goozen et al., 2007). Conduct disorder in childhood which persists through adolescence is associated with co-morbidity, recurrence and resistance to treatment Moffitt(2005). The study shows children and adolescence who struggle with signs and symptoms of conduct disorder continue to struggle throughout adulthood with psychosocial problems. The trajectories of

antisocial behaviour influence these children throughout adulthood and influence the child-rearing environment (Jafee et al., 2006).

The influences of individual factors are multifaceted and confusion. Family dysfunction is repetitively identified as one of the crucial factor for conduct disorder in adolescence. Poor parental supervision is the preeminent predictor of violence and vandalism committed by boys. Psychosocial disturbances in children and adolescence bring together a comprehensive range of research to shed light on these young people who become parents of tomorrow; these parents who were diagnosed with conduct disorder predispose their child to the same disorder (Pearce, 1996).

The public debate concerning the relationship between family characteristics and children with conduct disorder continues to raise questions which researchers hope to answer. A longitudinal survey of children suggests ineffective parenting style is the strongest predictor of delinquent behaviour in children between the ages of 8 and 11 years. In addition, aversion tactics, low socioeconomic status and the number of siblings in the home are associated with higher probability of children exhibiting delinquent behaviour and conduct disorder (Bursari&Adejumobi 2012). Somerstein (2007) reveals the common family dynamic in many individuals' histories of male terrorist is authoritarian parents.

4. Symptoms of conduct disorder

The clinical features of Conduct Disorder are:

- aggression or serious threats of harm to people or animals;
- deliberate property damage or destruction (i.e. fire setting);
- repeated violation of household or school rules, laws or both; and
- persistent lying to avoid consequences or to obtain tangible goods or privileges

The American Psychiatric Association (1994) provides further symptoms which support the clinician in diagnosis of conduct disorder. The child will often bully, threaten or intimidate others. They may intentionally set fires with the objective of harming others. The violation of rules would include: (1) often staying out late at night regardless of parental prohibitions which can begin before the age of 13; (2) has run away from home more than two times; and (3) the child is often truant from school which usually begins before the age of 13.

Additional features of conduct disorder include an indifference to the welfare of others and little if any remorse about harming others. Adolescents often verbalize outward remorse to avoid punishment but do not exhibit any guilt. They do not require an objective basis to conclude others are a threat to them. Because of this demeanor they may lash out aggressively without being provoked (Scott., 2007). During normal child development aggression and fighting is pertinent for defensive issues which do not escalate into anti-social behaviours; but, persistent anti-social behaviour collectively handicaps during childhood and

leads to deprived adjustment during adulthood. The child often endures negative responses by their peers and high levels of disapproval from their parents (Scott, 2007).

Children who are diagnosed with conduct disorder judge the world as an antagonistic and intimidating place. They may tattle on friends or blame others for the harm they have caused. They have few if any friends because of their limited interpersonal skills. Peers and family members may view them as irritating because of their indifference to their actions. They often have low self-esteem internally but externally they appear tough, cocky or self-assured (Evans, 2003).

5. Prevalence of conduct disorder among the adolescents

Conduct disorder has become a major health and social problem; it is the most common psychiatric problem diagnosed among children. Around the world the prevalence of conduct disorder is 5% (Scott, 2007). A study conducted by Sujit et al., (2006) reveals 4.58% of boys and 4.5% of girls are diagnosed with conduct disorder worldwide. In their study of 240 students in four schools in Kanke childhood conduct disorder was found in 73% and in adolescent 27%. Mild conduct disorder was found in 36%, moderate in 64% and severe conduct disorder in none. Lying, bullying and cruelty to animals were the primary symptoms (Sujit, 2006).

Conduct disorder affects 1 to 4 percent of 9- to 17-year olds in the United States. The disorder is more predominate in boys than girls and more common in cities than in rural areas (U.S. Department of Health and Human Services, 1999). Between 6 to 16 percent of boys and 2 to 9 percent of girls meet the criteria to be diagnosed with conduct disorder. It is estimated 40 percent of these children will grow up to be adults with antisocial personality disorder (Searight, 2001).

Epidemiological studies state approximately 2% of girls and 9% of boys are afflicted with this disorder. Adolescents with more external signs and symptoms would amplify the percentage to one third or one half of all children and adolescent clinic referrals Kazdin et al., 1992 (as cited by McCabe et al., 2005).

6. What are the symptoms of conduct disorder?

Most symptoms seen in children with conduct disorder also occur at times in children without this disorder. However, in children with conduct disorder, these symptoms occur more frequently and interfere with learning, school adjustment, and, sometimes, with the child's relationships with others.

The following are the most common symptoms of conduct disorder. However, each child may experience symptoms differently. The four main groups of behaviours include the following:

- **Aggressive conduct.** Aggressive conduct causes or threatens physical harm to others and may include the following:
 - Intimidating behaviour
 - Bullying
 - Physical fights
 - Cruelty to others or animals
 - Use of a weapon(s)
 - Forcing someone into sexual activity, rape, molestation
- **Destructive conduct.** Destructive conduct may include the following:
 - Vandalism; intentional destruction to property
 - Arson
- **Deceitfulness.** Deceitful behaviour may include the following:
 - Lying
 - Theft
 - Shoplifting
 - Delinquency
- **Violation of rules.** Violation of ordinary rules of conduct or age-appropriate norms may include the following:
 - Truancy (failure to attend school)
 - Running away
 - Pranks
 - Mischief
 - Very early sexual activity

The symptoms of conduct disorder may resemble other medical conditions or behavioural problems.

7. How is conduct disorder diagnosed?

A child psychiatrist or a qualified mental health professional usually diagnoses conduct disorders in children and adolescents. A detailed history of the child's behaviour from parents and teachers, observations of the child's behaviour, and, sometimes, psychological testing contribute to the diagnosis. Parents who note symptoms of conduct disorder in their child or

teen can help by seeking an evaluation and treatment early. Early treatment can often prevent future problems. Further, conduct disorder often coexists with other mental health disorders, including mood disorders, anxiety disorders, posttraumatic stress disorder, substance abuse, attention-deficit/hyperactivity disorder, and learning disorders, increasing the need for early diagnosis and treatment. Parents should consult their child's doctor for more information.

8. Prevention of conduct disorder in childhood

As with oppositional defiant disorder (ODD), some experts believe that a developmental sequence of experiences occurs in the development of conduct disorder. This sequence may start with ineffective parenting practices, followed by academic failure, and poor peer interactions. These experiences then often lead to depressed mood and involvement in a deviant peer group. Other experts, however, believe that many factors, including child abuse, genetic susceptibility, history of academic failure, brain damage, and/or a traumatic experience influence the expression of conduct disorder. Early detection and intervention into negative family and social experiences may be helpful in disrupting the development of the sequence of experiences that lead to more disruptive and aggressive behaviour

9. Relationship between conduct disorder, depression and opposition disorder

Many studies have shown that conduct disorder (CD) and depression often co-occur in late childhood and adolescence and have historically been regarded as the primary point of comorbidity between internalizing and behavioral disorders. On the other hand, recent evidence suggests that oppositional defiant disorder (ODD), and not CD, may best explain the comorbidity between disruptive behaviour disorders and depression. ODD typically onsets before CD and depression, changes in ODD symptoms predict changes in symptoms of CD and depression from one year to the next, and ODD in childhood and adolescence predicts depression in adulthood. Emerging evidence suggests that there are affective and behavioural dimensions of ODD symptoms, and those affective ODD symptoms (and not the behavioural symptoms) best predict later depression.

These results are highly relevant not only for our understanding of the etiology of the disorders, but also for optimizing early interventions aimed at reducing irritability in some ODD children. The new findings also stimulate new questions to be addressed with future research. In this review, the comorbidity between disruptive behaviour disorders (oppositional defiant disorder [ODD] and conduct disorder [CD]) and depression will be considered. The term comorbidity is used to indicate the concurrent co-occurrence of two disorders, but like Angold, Costello, and Erkanli (1999), the researcher do not use concurrent to imply that the two disorders onset or terminate at exactly the same time. In addition, the researcher is

primarily interested in the heterotypic comorbidity (e.g., Angold et al., 1999) involving the disruptive behaviour disorders and depression. The term heterotypic continuity is used to refer to the continuity of psychopathology in different forms over time, such as children with ODD being more likely to become depressed in adulthood (e.g., Copeland, Shanahan, Costello, & Angold, 2009). This is in contrast to homotypic continuity, which refers to the continuity of the same type of psychopathology over time, such as depression in adolescence showing continuity in the form of depression in adulthood.

10. What is cognitive therapy?

Cognitive therapy is an active, structured form of psychotherapy that is designed to rapidly and effectively reduce and eliminate psychological symptoms. Cognitive is simply a fancy word that means thoughts. Cognitive behaviour therapy, sometimes known as CBT is a form of psychological treatment that focuses on the thoughts and behaviours that accompany psychological distress.

Traditionally, CBT has been relatively brief treatment compared to other types of psychotherapy. CBT is focused on achieving defined and measurable treatment goals. Progress towards these goals is regularly assessed to ensure that treatment is progressing in an efficient and effective manner.

There is a significant amount of scientific evidence demonstrating that CBT is effective in treating a wide variety of psychological difficulties including depression, anxiety, panic attacks, phobias, obsessive compulsive disorder, social anxiety and shyness, and post-traumatic stress disorder. The evidence suggests that CBT is not only effective in helping people get better but it is also effective in minimizing relapse or helping people stay better. Cognitive behaviour therapists (CBT) emphasise the process of learning in improving and maintaining behaviour. The client is encouraged to identify connections between thoughts and their responses to social situations.

CBT often involves problem solving skills training. This type of training has been widely evaluated and there is evidence for its efficacy in the short term in treating aggression and conduct disorders in children. CBT is used for a range of problems for children and adults. It places emphasis on certain cognitive techniques that are designed to produce changes in thinking and therefore changes in behaviour or mood (Busari & Uwakwe 2001). CBT also emphasises the learning process and the ways in which external environments can change both cognition and behaviour. CBT for children and adolescents usually includes a range of behaviour performance-based procedures, and often involve the family or school in therapy. It may include individual work, group sessions, or both. The length of treatment varies considerably and depends on the severity of difficulties experienced.

For children with conduct disorder CBT usually has a strong focus on social cognitions and interpersonal problem-solving. Programmes are often quite long and may take up to 25 or 30 weekly sessions. The therapist is active and involved and tries to develop a collaborative

relationship that stimulates the child to think for him or herself. The approach aims to give the child the opportunity to try things out and develop new skills

11. Problem solving skills training

A basic ingredient in CBT is to improve the problem-solving abilities of children and adolescents with conduct disorder. The training helps them to deal with external problems that may provoke behaviours. The child is first encouraged to generate potential solutions to a problem. The child and the therapist then decide on the best solution and identify steps in implementing it. The child practices these steps, and finally the whole process is evaluated.

There is some evidence that suggests that clients that develop new ways of thinking get better from psychological difficulties. When clients develop skills that enable them to identify, evaluate and change their thoughts they are likely to get better. In fact, there is proof, in the form of research studies that suggests that when clients develop these new thinking skills that they tend to get better and stay better, or have a lower chance of relapse (Busari 2012).

Cognitive behaviour therapy aims at changing clients' beliefs by treating beliefs as testable hypothesis to be examined through behavioural experiments jointly agreed upon by the clients and the therapists. The therapist does not tell the client that his belief is wrong but rather asks questions to elicit the meaning, function, usefulness, and consequences of clients' beliefs (Busari, 2000).

Cognitive behaviour therapy also challenges adolescents to make conscious choices and to accept full responsibility for their choices (Martye 2004). Cognitive behaviour therapy has been found to be very effective in the treatment of all forms of antisocial behaviours such as stealing (Obalowo, 2004), socially undesirable behavior, faulty thinking, frustration, recidivism and delinquent behaviour (Busari & Adejumo 2012). Cognitive Behaviour Therapy also involves self-management which explains the self- which believes that individuals have potential for self-actualization. The proponent of this theory believed that human beings have inherent tendency to develop their "self" in the process of interpersonal and social experiences, which they have in the environment (Chauman 2000). Since individual has the potential for self-actualization, self-management techniques will make the delinquent individual take part in the management of his own behaviour. Research work cited in Juvenile Justice Bulletin (1999), Gardner 2003), revealed that self-management is effective in modifying deviant behaviours. The present study therefore investigates the effectiveness of cognitive – behaviour programme in the management of adolescents conduct disorder.

12. Hypotheses

The following four null hypotheses were formulated and tested to guide this study at 0.05 level of significant.

Ho1: There is no significant difference in the level of reduction of conduct disorder of participants in the experimental and those in the control group

Ho2: There is no significant difference in the level of reduction of conduct disorder of participants based on gender after exposure to therapeutic treatment

Ho3: There is no significant difference in the level of reduction of conduct disorder of participants from separated and those from intact homes exposed to cognitive behaviour intervention

Ho4: There is no significant difference in the level of reduction of conduct disorder exhibited by participants from polygamous and those from monogamous home after therapeutic treatment

13. Methodology

13.1. Design

The design adopted for this study was a two group (experimental vs control) pretest-post - test design with dependent variable (conduct disorder) and independent variable (Cognitive Behaviour Therapy). Participants were assigned to either experimental or control group by randomly alternating sign-up at counter balanced times.

13.2. Participants

The participants of this study were 350 adolescents pre-selected using conduct disorder questionnaire. The participants' ages between 10-19 years from five secondary schools selected through stratified random sampling techniques in Ibadan metropolis of Oyo State, Nigeria. Out of 350 (72%) 252 were males while (28%) 98 were females 58% (203) were from monogamous home while (42%) 147 were from polygamous homes. (84%) 294 were from intact family while (16%) 56 were from separated family.

13.3. Instrument

The instrument used for collecting data was conduct disorder questionnaire (CDQ) designed by the researcher. It consists of two sections with section A consisting of Demographic data such as age, sex, religion, type of home, type of family, class, etc. while section B consists of 37 items eliciting information on conduct disorder of the participants. These items require the participants to indicate their degree of agreement with each item on a five point likert type scale ranging from 1 (most unlike me) to 5 (very much like me). Total scores range thus from 37 to 185. High score indicate highest level of conduct disorder. This instrument (conduct disorder questionnaire) was cross-validated with two other instruments (Juvenile Delinquency Questionnaire and Anti-social Behaviour Scale) in a pilot study among randomly selected adolescents in the Junior secondary School, different from the participants (n= 150). The result when correlated with conduct disorder questionnaire was (.

763) at 0.01. A test-retest method was used to establish the reliability of the instrument. A reliability coefficient of 0.83 was obtained, thus indicating that the instrument was highly reliable. Some of the items in the instrument (conduct disorder questionnaire) include:

- Fighting is okay, so far you are not caught
- Running away from school to avoid punishment is okay
- Stealing is not bad so far you don't exceed what you need
- Rules are not meant to be strictly obeyed

13.4. Procedure

This study was carried out in three phases. In the first phase, the participants were screened through conduct disorder questionnaire (CDQ). In the second phase, the participants were randomly assigned to the treatment group (cognitive behaviour therapy) and the control group respectively. At phase three, the experimental group went through eight weeks (1 hour a week) of intensive training consisting of discussion/lecture, discussion of the previous assignment given to the participants, summary and given of assignment for the next session. Instructions and explanations on the task involved in the experimental group such as lectures, discussion and assignment were given to all participants.

In the first session, participants introduced themselves to one another and the therapist familiarized them with the entire programme, she also created a good climate for discussion sessions. Pre-test questionnaire was administered to the participants. A contract was then made between the therapist and the participants such as agreeing on the venue, and time of meeting for the next eight sessions. The participants were encouraged to participate actively in the discussions and to do home work/assignments.

The second session witnessed conceptualization of Cognitive Behaviour Therapy (CBT) which was discussed with participants as an active, structured form of psychotherapy designed to rapidly and effectively reduce and eliminate psychological symptoms. The participants were taught that CBT is a form of psychological treatment that focuses on the thoughts and behaviours that accompany psychological distress.

In the third session the participants and the therapist discussed negative effects of conduct disorder to include school drop-out, inferiority complex, low self-esteem, lack of ambition, lack of decision making skills, inability to set goals and make plans inability to clarify values, feelings of guilt, unhappiness etc.

During the fourth session participants were asked to write down various conduct disorder experienced. Among the conduct disorder experienced as mentioned by the participants include truancy, aggression, theft, violation of rules, stealing, disobedience to parents and teachers etc.

The fifth session witnessed, teaching of various personal skills needed by the adolescents to make life meaningful to them. Various personal skills taught the adolescents include decision making goal setting, values of honest, honour, respect, self-control, responsibility,

equality, social justice etc. others include communication skills, assertiveness, negotiation. When asked why they engage in conduct disorder the participants mentioned cruelty by parents, teachers and other siblings, inadequate provision of needed materials, lack of love and affection by relations, etc.

In the sixth session participants were taught to replace negative conducts, behaviours and feelings with positive ones; for example they were asked to substitute statement like

- Rules are not meant to be strictly obeyed with
- To avoid punishment rules must be strictly obeyed. In this session the process of learning in improving and maintain behaviour was emphasized. The participants were encouraged to identify connections between thoughts and their responses to social situations.

During the seventh session the participants were taught that the various negative thoughts and behaviors were learned and therefore can be unlearned. They were therefore trained in the emphasis of certain cognitive techniques that are designed to produce changes in thinking and therefore changes in behavior or mood. They were taught on how learning process and the ways in which external environments can change both cognition and behaviour. They were taught how to strongly focus on social cognitions and inter-personal problem-solving techniques.

Session eight witnessed review of previous session activities rehearsal, role play and administration of post-test instrument.

The control group were given a brief educational review in conduct disorder but no treatment was applied to them both the pre and post -test measures were also administered on them.

Follow-up: Six weeks after the treatment programme, conduct disorder questionnaire was administered on the participants. The results obtained from the data indicates that cognitive behaviour therapy was effective in the management of conduct disorder among adolescent.

Data analysis: The data obtained from this study was analysed using analysis of co-variance (ANCOVA).

14. Results

In order to estimate the effects of the independent variable in the observed differences in the pre- and post- treatment scores of the participants on the dependent measures, an Analysis of Covariance (ANCOVA) was ran, using the pre- test scores as covariates and the post- test scores a criterion. ANCOVA is used to adjust for the initial differences that existed between the groups, since they were randomly selected. Thus, this study adopted ANCOVA to test the hypotheses formulated.

Source of variation	DF	SS	MS	F-ratio Obs.	F-ratio Crit.	Test decision
Between group	7	6376.44	910.92	18.74	2.81	Reject Ho
Within group	342	17681.4	51.7			
Total	349	24057.84	962.62			

Critical value F (7,342 = 18.74; P>0.05

Table 1. Post-treatment Comparison of Cognitive Behaviour Therapy (CBT) and the Control Group using ANCOVA.

With regard to between group differences, there was a significant main effect of treatment(Cognitive Behaviour Therapy) on participants’ mean level of conduct disorder (Dependent Variable)scores, $F(7,342)=18.74;p>0.05$.Treatment was found to have contributed significantly to variations in participants’ conduct disorder scores.

As shown in table 1, the computed outcome of pre and post treatment evaluation revealed that the null hypothesis was not confirmed at 0.05 alpha level. The finding showed that the critical value $F(7,342) = 18.74$ has $P>0.05$ and thus simultaneously indicated that a statistical significant difference existed in the investigated conditions.

Source of variation	DF	SS	MS	F-ratio Obs.	F-ratio Crit.	Test decision
Between group	3	54948.3	18316.1	47.91	3.72	Reject Ho
Within group	346	156911.0	453.5			
Total	349	211859.3	18769.6			

Critical value F (7,346 = 47.91; P>0.05

Table 2. Pre and post-treatment comparison of male and female participants using ANCOVA.

A significant main effect of treatment (Cognitive Behaviour Therapy) on participants’ mean level of conduct disorder (Dependent Variable) was evident $F(3, 346)=47.91;p>0.05$.Post treatment comparison outcome of pre and post -test indicates treatment was found to have contributed significantly to variations in participants’ conduct disorder scores.

As shown in table 2, the compared pre and post-treatment outcome with the critical value $F(3,346) = 47.91$ and $P>0.05$ showed that there was statistical significant difference between male and female participants exposed to cognitive behaviour therapy. The null hypothesis therefore was not supported.

Source of variation	DF	SS	MS	F-ratio Obs.	F-ratio Crit.	Test decision
Between group	5	156528.0	31305.6	194.57	2.72	Reject Ho
Within group	344	107293.6	311.9			
Total	349	263821.6	31617.5			

Critical value $F(5,344) = 194.57$; $P > 0.05$

Table 3. Pre and post-treatment comparison participants from intact and those form separate family using ANCOVA.

The between group differences, shows that a main significant effect of treatment (Cognitive Behaviour Therapy) on participants' mean level of conduct disorder (Dependent Variable) scores existed $F(5,344)=194.57$; $p > 0.05$. Treatment was found to have contributed significantly to variations in participants' conduct disorder scores.

As indicated in table 3, the outcome of pre and post treatment details among participants from intact and those form separated family showed that there was statistical significant difference in the results obtained contrary to the postulated null hypothesis. Consequently, therefore, the null hypothesis was rejected at 0.05 level of significance.

Source of variation	DF	SS	MS	F-ratio Obs.	F-ratio Crit.	Test decision
Between group	5	78299.5	15659.9	125.9	2.72	Reject Ho
Within group	344	1836157.6	5337.65			
Total	349	1914451.1	20997.55			

Critical value $F(5,344) = 125.9$; $P > 0.05$

Table 4. Pre and Post-treatment comparison of participants from Monogamous and those from Polygamous Homes using ANCOVA.

There was a significant main effect of treatment (Cognitive Behaviour Therapy) on participants' mean level of conduct disorder scores (Dependent Variable) $F(5,344)=125.9$; $p > 0.05$. Post treatment comparisons revealed its significant contribution to variations in participants' conduct disorder scores.

In table 4, the compared computed pre-and post –treatment outcome of participants from monogamous and polygamous homes showed that there was statistical significant difference following the alpha level of 0.05. The findings revealed that the critical value of $F(5,344)=125.9$; $P > 0.05$ evidently failed to support the predicted null hypothesis.

15. Discussion of the findings

The result of the first hypothesis shows that there was a significant difference in the level of reduction of conduct disorder of participants in the experimental and those in the control group.

This result corroborates the findings of Wolinsky and Miller (2006) when they found that cognitive training would affect the cognitive ability targeted by that training and these effects would be maintained over time. It also indicates that maintained on improvements in cognitive ability would have a positive transfer effect on everyday function.

Gardner (2003) also confirms the effectiveness of cognitive behaviour therapy in treating rebelliousness, delinquency and conduct disorder. According to him, cognitive factors play an important and well documented roles in these undesirable behaviors since the way people think has a controlling effect on their action and that replacement of negative habits with positive ones and rethinking will help individual to generate more adaptive behaviour. Moreover, an individual cognition is important in the acquisition of a new behaviour.

Results emanated from hypothesis two indicates that there exists significant difference in the level of reduction of conduct disorder of male and female participants.

This finding agrees with that of Rathus (1996) who suggested that females who have become involved in criminality must somehow be more male-like than their law abiding counterparts. Some researchers have suggested that where the females have been involved in crime, they have typically played a more passive compliance role, their male counterparts are actually responsible for the planning and execution of the crime. Moreover, it was observed that females restricted their criminal activities to such female crimes as shoplifting, incorrigibility, sex offences or running away whereas males participates in offences like homicide, forcible rape, aggravated assault, robbery, burglary, and auto-theft.

The findings from the result of hypothesis three reveals that there exist significant difference in the response to treatment of participants form intact and those from separated homes. Parents are responsible for the upbringing and development of their children and make provision for their basic needs such as food, education, shelter, protection etc. the family integrates the child into the community. Families raise children to learn the cultural norms. They are the teacher of the rules which in most cases are not written down but may be passed from one generation to another through the process of socialization. In a situation where the two parents are not living together proper upbringing of the children might be impossible. Actions and behaviours which do not promote positive development and growth of the children are likely to be the end product of separated parents whereas the opposite is find in the intact homes (Busari & Adejumobi, 2012).

Results from the findings of the fourth and the last hypothesis indicates that there was significant difference in the level of education of conduct disorder of participants form monogamous and those from polygamous homes after exposure to treatment.

This findings is in line with the findings of Mathye (2004) which reveals that family size is a variable which makes major contribution to the explanation of degree of participation of children in anti-social behaviour such as delinquent acts, rebelliousness, conduct disorder etc. He further expantiate that large family is believed to be negatively related to high rate of anti-social behaviours and that as family increases a child's undesirable behaviour increases. The findings also appear to be consistent with the finding that poor living conditions may slow down growth and maturity among growing children and thrown them off their "programmed curve" that is off the curve that they normally follow under optimal conditions.

16. Conclusion / recommendation

The main objective of this study was to investigate the effects of cognitive behaviour therapy on the management of conduct disorder among adolescents. This study provided substantial evidence to support the fact that cognitive behaviour therapy was effective in the reduction of conduct disorder among the adolescents.

Clearly the research reveals the correlation of diverse factors which promote conduct disorder. Parenting styles play a key role in promoting an environment which is conducive to this disorder. It follows therefore that therapist need to educate their clients, public, parents, families etc. on the negative effects authoritarian parenting styles have on their children.

The research suggests that children with conduct disorder become adults with anti-social behaviour and other psychological problems. The disorder is more than a fussy child it is a serious issue which parents, teachers and the mental health professionals needs to address.

Another aspect to consider is the link between nicotine and conduct disorder. Pregnant women need to be warned against smoking during and after pregnancy. There are significant risks with cigarette smoking during pregnancy.

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