EFFECTIVENESS OF DIALECTICAL BEHAVIOUR AND COGNITIVE PROCESSING THERAPIES IN THE REDUCTION OF EMOTIONAL STRESS AMONG SEXUALLY ABUSED FEMALE ADOLESCENTS

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ABSTRACT

This study examined the effectiveness of Dialectical Behaviour (DBT) and Cognitive Processing Therapies (CPT) in the reduction of emotional stress and moderating effects of resilience and age among sexually abused female adolescents in Ibadan metropolis. A Pretest-posttest control group, quasi-experimental design with a 3×2×3 factorial matrix was adopted. 78 participants were randomly assigned to eight weeks of intervention. Child Sexual Abuse Index (r= 0.96) for screening, Revised Impact of Events (r=0.90) and Resilience (r=0.78) were used for data collection. Analysis of Covariance and Scheffe posthoc test analysis showed a significant main effect of treatments ($F_{(2, 66)} = 5.42$, $\eta^2 = 0.14$) and resilience ($F_{(2, 66)} = 3.43$, $\eta^2 = 0.07$) on emotional stress. CPT ($\bar{x}$= 39.16) reported a higher reduction in emotional stress levels than DBT ($\bar{x}$= 39.95) and control ($\bar{x}$= 56.29) groups. A two-way significant interaction effect of treatment and resilience ($F_{(2, 66)} = 4.22$, $\eta^2 = 0.11$) and treatment and age on emotional stress ($F_{(2, 66)} = 3.35$, $\eta^2 = 0.09$) was reported. DBT and CPT were effective in reducing emotional stress, while resilience moderated the effect of emotional stress hence the two therapies and resilience skills training should be incorporated into the treatment regimen for sexually abused female adolescents in Nigeria.

Keywords: *Dialectical Behaviour Therapy, Cognitive Processing Therapy, Emotional Stress,*

INTRODUCTION

Child sexual abuse (CSA), a global public health issue in all societies transcending economic, social, religious, and ethnic divides is no doubt a stressful and traumatic life event. In CSA prevalence rate meta-analysis of 217 articles, Stoltenborgh, van Uzendoorn, Euser and Bakermans-Kranenborg (2011) reported that globally, 180 in 1000 (18%) girls and 76 in 1000 (7.6%) boys have been sexually abused as children. Extant studies reported that CSA has negative impact on children's future growth and development and serve as a risk factor for the development of an array of long-term difficulties and negative emotional disturbances including depression, anxiety, behavioural problems, posttraumatic stress disorder, dissociation, personality and eating disorders, and substance use disorders (Lansford et.al 2008; Chen et.al. 2010; Xing, Wang, Zhang, He, & Zhang, 2011; Coles, Lee, Taft, Mazza & Loxton, 2015; Hillberg, Hamilton-Giachritsis & Dixton 2011).

The resultant emotional stress following sexual abuse is attributable to several reasons ranging from the violation of the privacy of self to the compromise of both the physical and emotional integrity of the victim. Moreover, CSA is further exacerbated by the secrecy, threat to life, and stigmatization following disclosure. The belief system about the world being a safe place and the positive view of self is shattered and hinder the available psychological resources and exceeds an adolescent's traditional problem-solving capabilities, According to Dumbleton (2005), emotional stress is often triggered by a traumatic or stressful event that puts a person's nervous system under severe strain creating an inner turmoil capable of provoking negative emotions in the individual. However, an individuals' interpretations during and after the event play an important role in the subjective well-being and determine the emotional and behavioural responses (Cohn, Fredrickson, Brown, Mikels, & Conway 2009).

Furthermore, stressors experienced early in life have been reported to stimulate the overproduction of stress hormones associated with hyperarousal and anxiety (such as cortisol),

inhibiting the growth and connection of neurons and manifesting in affect and behavioural dysregulation, problems with social attachments, and decline in cognitive processing (Alink, Cicchetti, Kim, & Rogosch, 2012; Anda et al., 2006; Anda et al., 2010; Creeden, 2009; National Scientific Council on the Developing Child, 2012).

Despite the overwhelming evidences of the debilitating short- and long-term effects of CSA, some studies found that CSA victims may not develop significant negative consequences or emotional responses following abuse due to varying degree of resilience (Oliver et.al, 2006; Sawyerr, 2007). According to Masten and Powell (2003), resilience is the human capacity to resist, cope with, recover from, and succeed in the face of adverse circumstances. It refers to an individual's successful adaptation despite developmental risk, acute stressors or chronic adversities. It is assumed that resilient children are able to withstand adverse circumstances, function well despite challenges or threats, or bounce back from traumatic events that would have had negative impact on the emotional development of most children. Resilient individuals are able to absorb a high level of disruptive change while displaying minimal dysfunctional behaviour and high power of recovery (Ibeagha, Balogun & Adejuwon 2004). Resilience, therefore serve as a protective factor, maintaining and improving mental health in the face of stress, after disruptions to normal functioning (Bonanno, 2005). It therefore, describes dynamic, responsive capacities fostering healthy development, interaction, and adaptation in the face of non-normal challenges, thus has a positive, protective effect in the face of CSA.

The relationship between the age of the victim and the severity of impact has also generated a lot of divergent views. As noted by Kendall-Tackett et al. (1993), there are discrepancies in most studies concerning reporting the age of the child at the time of abuse or age at the time of assessment, as opposed to the actual age the abuse began. Some researchers (e.g. Brilleslijper-Kater, Friedrich & Corwin, 2004; Kendall-Tackett, 2000) have argued that younger children, especially toddlers and pre-schoolers, are less impacted by sexual abuse, given their limited ability to understand and remember the event. This implies further that the developmental vulnerability of children, degree of dependence on caregivers, undeveloped cognitive skills, limited ability to protect self, and minimal contact with social contexts outside of the home where abuse may be detected or disclosed may contribute to the risk of being sexually abused,

Allnock and Hynes (2011) reported the effectiveness of creative, play, art, and drama therapies in handling negative outcomes among children victims of CSA in developed countries. These services may not be the best option for adolescents who have had to live guilt, shame, embarrassment, bottled up hurts, and yet are not able to disclose the abuse experience. However, over the years in Nigeria, only medical service providers are seen to be active in providing clinical care especially following prompt disclosure, while little or no attention is given to follow-up therapeutic psychological intervention. This has necessitated exploring some other psychological interventions. Therefore, this study investigated the effectiveness of dialectical behaviour and cognitive processing therapies in the reduction of emotional stress among sexually abused female adolescents.

Dialectical Behaviour Therapy (DBT) is a highly structured, comprehensive treatment originally developed as a treatment for chronically suicidal women who met the criteria for borderline personality disorder. The unique features in DBT are its combination of cognitive behavioural approaches with acceptance-based meditative practices (behavioural science, mindfulness and dialectical philosophy) and emphasis on psychosocial aspects of treatment (Koerner & Dimeff, 2007; Swales, Heidi Heard, Mark, Williams 2000). The concept of dialectics highlights the value of searching for and finding syntheses between natural tensions to bring about change. The dialectic involves striking a balance between a therapeutic focus on change and acceptance strategies in which clients are encouraged, on the one hand, to acknowledge

and accept the emotional experience and, on the other, push away and prevent negative emotions. DBT involves four basic modes of treatment, offered concurrently, with each serving a unique function. These are core mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness (Linehan, 1993). According to McMain, Korman and Dimeff (2001), DBT serves five functions, which are: enhancing clients' skills and behavioural capabilities; improving clients' motivation to change (by modifying inhibitions and reinforcement contingencies); ensuring skills are generalized to everyday life; ensuring treatment environment do not impede treatment and enhancing therapist skills, capabilities and motivation to treat clients effectively.

Cognitive processing therapy (CPT) is a brief, structured trauma-focused, evidence-based, cognitive behavioural therapy for PTSD found to be efficacious across a range of populations and settings (e.g., Chard, 2005; Galovski et al., 2012; Monson et al., 2006; Resick et al., 2008; Resick, Wachen, et al., 2017; Resick, Monson, & Chard, 2017; Rosner et al., 2019). Briefly, treatment begins with psychoeducation and exposure to the traumatic memory and stress followed by the identification of problematic beliefs, or "stuck points," related to the traumatic experience and how the experience has impacted how the patient thinks about themselves, others, and the world (i.e., the "impact statement"). Through Socratic questioning and a series of progressive worksheets, stuck points related to the traumatic experience are challenged, such as erroneous blame about the cause of the traumatic event. The last session consists of a review of the progress the patient has made during therapy; a final impact statement that is used to compare pre- and post-treatment thinking; a discussion of goals for the future; and the conclusion of therapy.

According to Resick and Schnicke (1993), the goal of cognitive processing therapy is to facilitate exposure to traumatic memory and, in effect, correct maladaptive beliefs and misattributions. Although exposure helps to activate the client's fear-structure, it does not provide direct corrective information regarding misattributions or maladaptive beliefs. Therefore, cognitive strategies are used to continue to process larger trauma-related themes concerning safety, trust, power and control, esteem, and intimacy. The cognitive component is based on the theory that traumatic experiences are often problematic because the new information often does not fit into existing schemas. Without a way to understand and categorize the experience, the strong emotions associated with traumatic experiences are left unprocessed. Also, when individuals encounter new information that is inconsistent with pre-existing beliefs or schemas, there is either assimilation or accommodation.

From the foregoing, it is presumed that when a child is sexually abused, the abuse may easily go undetected, because the child's developmental capacities inhibit his ability to appreciate the impropriety of the abuse and thus may not find the appropriate words to aid disclosure. However, the present research is designed to assess the emotional stress as a result of sexual abuse experienced by the victim at the time of this study. The time lag between the onset of abuse and time of assessment is assumed to elicit emotional stress which is the concern of this research. Although there is a paucity of information and research on emotional stress among sexually abused adolescents in Nigeria, with the myriads of both short- and long-term effects of sexual abuse on mental health gaining public attention over the past decade, it is of great necessity and importance to provide psychological support and intervention for the victims after the traumatic experience and a platform for practical application of counselling.

Objectives of the study

This study investigated the effectiveness of dialectical behaviour and cognitive processing therapies in the reduction of the emotional stress of sexually abused female in-school adolescents in Ibadan Metropolis. Specifically, the study:

- examined the main effect of treatments, resilience, and age in the reduction of emotional stress among sexually abused female in-school adolescents
- investigated the interaction effect of treatments, resilience, and age in the reduction of the emotional stress of sexually abused female in-school adolescents

METHOD

The study adopted a pre-test, post-test, and control group quasi-experimental design with a 3×2×3 factorial matrix. It consists of two treatments (Dialectical Behavioural Therapy and Cognitive Processing Therapy) and a control group, age at two levels (early and late adolescents) and resilience (high, moderate, and low). The population for the study comprised all adolescent girls in female-only public secondary schools in Ibadan metropolis. A purposive sampling technique was adopted in selecting the schools used in the study. This was because the researcher had the intention of capturing only female in-school adolescents based on previous encounters with some students in some of the schools. One female-only public secondary school was purposively selected from each of the three local government areas where girls-only secondary schools were situated. Furthermore, the selected schools were randomly assigned to the experimental groups through simple balloting. Due to societal biases and prejudices, embarrassment, and shame, most CSA victims do not willingly disclose. Therefore, participants in this study were drawn through a purposive sampling technique using the child sexual abuse index as a screening tool to gather the participants for the study. The screening test was administered to about one hundred and fifty students across all levels from J.S 1 to S.S 2 in each of the selected schools. Furthermore, respondents with a minimum score of four on the screening test who were willing to participate were finally engaged in the study. The participants in the two experimental groups were exposed to eight sessions each of 60 minutes weekly for eight weeks. Data were analyzed at a 0.05level of significance using the Analysis of Covariance (ANCOVA), to remove initial differences between the participants in treatment and the control groups. The Scheffe Post-Hoc pairwise analysis was used to determine the directions of differences.

The outline of the psychotherapeutic intervention is presented as follows:

Outline of Dialectical Behaviour Therapy

Session 1: Introduction, Objectives, and Administration of Pre-test instruments: Formal introduction between therapist and participants and administered the pre-test i.e. Impact of Event and Resilience Scale.

Session 2: **Understanding and Analyzing Negative and Positive Emotions**: participants were taught the art of self-awareness, understanding of emotions, and decreasing behaviours affecting the quality of life.

Session 3: **Learning Mindfulness Skills**: Using the **'What Skills'** and **'How Skills'** the participants observed the emotions, described, edited, and modified their feelings/thoughts, learned to be non-judgmental, one-minded, identified options for attention, let go of judgments and understand their chain (chain analysis, problem-solving).

Session 4: Interpersonal Effectiveness: Participants were trained to develop positive interpersonal relationship skills, set and get objectives or goals achieved in interpersonal relationships, treat problem areas of interpersonal relationships, and how to improve self-respect in any relationship.

Session 5: Emotion Regulation 1: participants were trained to identify emotions as experienced, decrease negative vulnerability, increase positive emotions, let go of painful emotions through mindfulness, and change painful emotions through the opposite action. The therapist assisted participants to take charge of the negative emotions e.g. anger, anxiety, depression and was taught

emotion control and stress management techniques.
Session 6: Emotion Regulation 2: participants were taught self-management and skills for emotion regulation
Session 7: Distress Tolerance: distress tolerance skills which constitute a natural development from mindfulness skills were discussed. It involves how to use distraction and self-soothing strategies to improve the moment, think of pros and cons, radical acceptance, and willingness versus willfulness.
Session 8: Overall review and Post-Experimental Test Administration/Conclusion: In this session sessions were reviewed, sharing of changes and post-test analysis was conducted.

Outline of Cognitive Processing Therapy-modified)
Session 1: Introduction and Pre-test Administration Phase: This entails educating the participants on symptoms of emotional stress, providing rationale for the intervention based on a cognitive conceptualization of emotional stress and emphasizing intervention compliance.
Session 2: The Meaning of the Event: It involves identifying participant's stuck points, developing the impact statements, review the cognitive-behavioural formulation of emotional stress symptoms and helping the patient to identify and see the connection among events, thoughts, and emotions. Review of the effects of the trauma can also be used to enhance motivation for change
Session 3: Identification of Thoughts and Feelings: it involves helping participants label thoughts and emotions in response to events. Introduce thought changing and challenge self-blame and guilt with regard to the traumatic event through Socratic questions.
Session 4: Remembering the Traumatic Event and Identification of stuck points: Activities in this session comprise discussing the A-B-C worksheet, Identifying stuck points of qver-accommodation and challenging self-blame
Session 5: Challenging Questions and Patterns of Problematic Thinking: It involves review of the challenging questions worksheets. Other activities include introducing and assigning the patterns of problematic thinking and challenging beliefs worksheet to aid identification of counterproductive patterns.
Session 6: Safety, Trust, Power and Control issues: involves discussion on safety, trust, power and control modules. Reviews of previous stuck points and challenging beliefs worksheet on safety, trust, power and control were carried out as well.
Session 7: Esteem and Intimacy issues and Meaning of Event: the Esteem Module for challenging self- and other-esteem issues, practice giving and receiving compliments, Challenging Beliefs Worksheets on intimacy and writing the final impact statements
Session 8: Overall review, Post-Experimental Test Administration, and Conclusion: Involves comparing the first and the final Impact Statements. Review of the entire session and administering the post test evaluation.

Control Group
Participants in control group were administered the pre-test at the commencement. They were taken through discussions on menstrual hygiene and safety consciousness. Thereafter, the post-test assessments were carried out.
The following instruments were utilized for data collection:

Measures

Child Sexual Abuse Index (Jonzon & Lindblad, 2006)
Child Sexual Abuse Index (CSAI) was used to screen participants to assess various aspects of childhood sexual experiences. Specifically, participants were asked to respond to a series of questions (yes/no) about unwanted sexual events that they may have experienced before the

age of 18-years. In this instrument, there are assigned weights based on (a) *type of experience* (i.e., Non-contact = 1, Contact but no penetration = 2, and Penetration = 3),(b) *frequency* (i.e., Once = 1, A few times/year = 2, A few times/month = 3, and Every week = 4),(c) *duration* (i.e., Once = 1, 1 to 4 years = 2, 5 to 10 years = 3, and Over 10 years = 4), and (d) *use of violence or physical force* (i.e., Yes = 1; No= 0) in order to obtain a child sexual abuse severity score. A typical victim of sexual abuse must score 4 points on a scale of 20 to qualify as participants in this study.

Impact of Events Scale-Revised (IES-R) (Weiss &Marmar, 1997)

The Impact of Event Scale (IES-R) is a 22 item self-report inventory of the current degree of subjective stress experienced as a result of a specific event. The original IES from which IES-R was developed has demonstrated concurrent validity with the GHQ-28 in measuring emotional distress (Hodgkinson& Joseph, 1995). IES-R has shown good psychometric properties; Creamer (2003) reported internal consistency to be excellent (Cronbach's alpha = 0.96) while Beck et al. (2008) found the IES-R to be a good measure of post-trauma phenomena and reported internal consistency of 0.95. The participants indicated whether or not a range of symptoms had been experienced within the past 7 days on a 4-point rating where responses ranged from *A Little Bit (1), Moderately (2), Quite a Bit (3) to Extremely (4).* A higher score revealed a greater experience of emotional stress within the last seven days on account of the sexual abuse experience. When the pilot tested the entire scale recorded coefficient reliability of .90

The Resilience Scale (Wagnild & Young, 1993)

The Resilience Scale was developed by Wagnild and Young (1993). It is a 25-item measure rated on a seven-point response format ranging from (1) Strongly Disagree to (7) Strongly Agree. It consists of two subscales: personal competence comprising 17 items assessing self-reliance, independence, determination, invincibility, mastery, resourcefulness, perseverance. The second subscale is acceptance of self and life comprising 8 items representing adaptability, balance, flexibility, and a balanced perspective of life. These items reflect the acceptance of life and a sense of peace despite adversity. Overall, the strength of the RS-25 (i.e. internal consistency reliability) was reported to range between .76 and .91 (Wagnild & Young, 1993). When pilot tested, coefficient reliability of .78 was recorded.

Hypotheses

The following hypotheses were tested at a 0.05level of significance:

1. There will be no significant main effect of treatments, resilience, and age in the reduction of emotional stress among sexually abused female adolescents.
2. There will be no significant interactive effects of treatments and resilience in the reduction of emotional stress among sexually abused female in-school adolescents.
3. There will be no significant interactive effects of treatments and age in the reduction of emotional stress among sexually abused female in-school adolescents.
4. There will be no significant interactive effects of treatment, resilience, and age in the reduction of emotional stress among sexually abused female adolescents.

RESULTS

Table 1: Summary of 3x2x3 Analysis of Covariance (ANCOVA) Post-Test Emotional Stress Reduction among Sexually Abused Female In-School Adolescents

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8727.620[a]	11	793.420	3.704	.000	.382
Intercept	4936.826	1	4936.826	23.046	.000	.259
Pretest	162.978	1	162.978	.761	.386	.011
Treatment	2320.008	2	1160.004	5.415	.007*	.141
Age	8.434	1	8.434	.039	.843	.001
Resilience	1469.100	2	734.550	3.429	.026*	.069
Treatment * Age	1433.358	2	716.679	3.346	.041*	.092
Treatment *Resil	1806.804	2	903.402	4.217	.019*	.113
Age * Resilience	729.204	1	729.204	3.404	.070	.049
Trt* Age*Resilience	8.011	4	2.003	0.009	.081	.001
Error	14138.329	66	214.217			
Total	173698.000	78				
Corrected Total	22865.949	77				

R Squared = .382 (Adjusted R Squared = .279)
Key: * Sig at 0.05

From Table 1, there was a significant main effect of treatments and resilience in the reduction of emotional stress among sexually abused female in-school adolescents ($F_{2, 66} = 5.415$, $p < 0.05$, $\eta^2 = 0.141$); ($F_{2, 66} = 3.43$, $p < 0.05$, $\eta^2 = 0.069$) respectively. However, contrary to our hypothesis there was no significant main effect of age on the reduction of emotional stress ($F_{2, 66} = 0.039$, $p > 0.05$, $\eta^2 = 0.001$). The table also showed a contributing effect size of 14.1%. This implies that DBT and CPT are both effective in reducing emotional stress among sexually abused female adolescents. The interaction effect of treatments and resilience was equally significant ($F_{2, 66} = 4.217$, $p < 0.05$, $\eta^2 = 0.113$). The coefficient of determination (adjusted R-squared = .279) overall indicates that the differences that exist in the group accounted for 27.9 % in the reduction of emotional stress among sexually abused female adolescents.

Furthermore, a significant interactive effect of treatments and age ($F_{2, 66} = 3.346$, $p < 0.05$, $\eta^2 = 0.092$) also was found. To assess the direction of the differences and determine the magnitude of the reduction in emotional stress among participants in the three groups, the Scheffe posthoc analysis was calculated and presented in Table 2

Table 2: Scheffe Post-Hoc Pairwise analysis showing the significant differences among the treatment groups and the control group.

TREATMENT	N	Subset for alpha = 0.05	
		1	2
Cognitive Processing Therapy	37	39.1622	
Dialectical Behaviour Therapy	20	39.9500	
Control	21		56.2857
Sig.		.985	1.000

Table 2 shows there was no statistically significant difference in the treatments, however there was an indication that the participants in CPT ($\overline{x}$ = 39.16) reported a higher rate of reduced emotional stress when compared with participant in DBT ($\overline{x}$ = 39.95) the control group ($\overline{x}$ = 56.29) respectively. Thus, it indicates that CPT had the greatest potency for the reduction of emotional stress among sexually abused female adolescents. With respect to the extent of the contribution of resilience to the reduction of emotional stress among participants at the three levels (high, moderate, and low), the magnitude of the difference was determined through Scheffe posthoc analysis as shown in table 3.

Table 3: Scheffe Post-Hoc Analysis showing Differences in Resilience levels

Resilience	N	Subset for alpha = 0.05	
		1	2
Moderate	27	40.222	
High	24	43.208	
Low	27		48.407
Sig.		.985	1.000

There was a significant difference in the post-hoc test mean scores in the low, moderate and high levels of resilience. However, the participants in the moderate level (($\overline{x}$ = 40.222) displayed a higher indication of reduced emotional stress compared with participants with high ($\overline{x}$ = 43.208) and low ($\overline{x}$= 48.407) resilience respectively.

DISCUSSION

This study was designed to investigate the effectiveness of dialectical behavioural and cognitive processing therapies in the reduction of emotional stress among sexually abused female in-school adolescents in Ibadan, Nigeria. The moderating effect of resilience and age were also considered. The result obtained showed that there was a significant main effect of treatments, resilience and age on the reduction of emotional stress among sexually abused female adolescents in Ibadan. This implies that both DBT and CPT were effective in the reduction of emotional stress among sexually abused female adolescents. This finding corroborates reports of the effectiveness of DBT in enhancing the social competence of spiritually abused adolescents in Nigeria (Ogundayo, 2007). Also DBT's adaptation have been reported to be efficacious for the treatment of adolescents with suicidal and non-suicidal self-injury, behavioural disorders involving emotional dysregulation, reduction of severe and chronic posttraumatic stress disorder related to child sexual abuse (Dimeff, Rizri, Brown and Linehan 2000; Rathus and Miller 2002; Woodberry and Popenoe 2008; Steil, Dyer, Priebe, Kleindienst and Bohus 2011; Dimeff and Linehan 2001), This largely may be traceable to the assumptions in DBT that emotions are prompted by events and function to organize and motivate action. When functional, emotion can focus and direct attention to a particular environmental event while immediately and efficiently preparing the individual physiologically and psychologically for

the event. Additionally, emotion provides individuals with information about their needs and tells them how they appraise themselves and their worlds (Lazarus, 1991). In this way, emotions are self-validating as it affirms perceptions and interpretations of events. However, some individuals react to emotional stimulation abnormally due to their upbringing and certain biological factors. Hence, the therapy's focus on emotional regulation through various elements of the emotional response system decreases self-injurious behaviour and negative emotions such as guilt, shame and other symptoms of emotional stress. It also emphasizes enhancing certain characteristics such as self-esteem, acquiring additional goals, and learned behavioural skills from the group which are core components of adolescent development (Underwood, Stewart & Castellanos 2007).

In the same vein, CPT, which was found to be most effective in the reduction of emotional stress among sexually abused female adolescents in this study aligned with the findings of Resick and Schnicke (1993) who reported the effectiveness of CPT in addressing schema conflicts, feelings of shame, guilt, humiliation, anger, betrayal, anxiety and especially confusion in victims of sexual assault with PTSD. The result of the present study further revealed that the participants in CPT showed a more reduced level of emotional stress compared to those in DBT. This implies that cognitive processing therapy was more potent. This finding corroborates the study of Resick et al. (2002), Resick and Schnicke (1992), Chard (2005) and Chard et al. (2011 who reported that CPT was found to be superior to wait-list conditions among CSA and female rape victims in reducing symptoms of PTSD and reductions in clinician-assessed PTSD symptoms and self-reported symptoms of PTSD and depression among veterans in a residential Traumatic Brain Injury/PTSD programme receiving a modified version of CPT (i.e., CPT-C, which does not involve written trauma narratives). The effectiveness of CPT lies in the primary focus of CPT to help patients gain an understanding of, and modify the meaning attributed to, the traumatic event. It is designed to bring patients into their awareness of the inconsistent and/or dysfunctional thoughts while maintaining their PTSD. Hence, CPT is aimed at decreasing the pattern of avoiding the trauma memory so that beliefs and meanings can be further evaluated and understood within the original context. The therapy, therefore, uses focused psychological strategies to teach clients how to re-examine distressing memories, to identify how the traumatic event has affected their beliefs about themselves, other people, and the world in five key domains (safety, trust, power, esteem, and intimacy), and to ultimately teach clients the skill of critical thinking.

CPT assumed that many of the problems of rape or sexual assault victims are manifesting in form of intense feelings of anger, betrayal, disgust, shame, guilt, humiliation, anxiety, and confusion resulting from schema conflicts. Hence, the therapy is tailored towards revealing previously existing distorted or dysfunctional thinking patterns by identifying and modifying schema conflicts ("stuck points"), while also teaching ways of coping with emotions which are activated by the assault. In such cases, CPT addresses these problems by teaching clients how to recognize and challenge faulty thinking patterns and how to cope with distressing emotions.

The present study revealed a main effect of resilience on the reduction of emotional stress among sexually abused female adolescents. In essence, participants with high resilience showed a more reduced emotional stress while those with low resilience displayed higher emotional stress. However, participants with moderate resilience benefited more from the intervention. This finding is in consonance studies which have reported the usefulness of resilience in positively coping with stressful events or adaptive coping in the face of multiple risk factors (Waller, Okamoto, Miles & Hurdle, 2003; Naglieri & LeBuffe (2005). It further confirmed that resilience enhances positive outcomes, adaptation, or the attainment of developmental milestones or competencies in the face of significant risk, adversity or stress.

Furthermore, our finding echoes the report of Hjemdal, Vogel, Solem, Hagen and Stiles (2011) that high levels of resilience may prevent the development of mental health problems in adolescents as higher resilience scores were associated with lower scores for levels of depression, stress, anxiety and obsessive–compulsive symptoms. Such an association was also found by Hjemdal, Aune, Reinfjell, Stiles & Friborg (2007) in relation to depressive symptoms in a separate sample of Norwegian adolescents aged 13 to 15 years, supporting the suggestion that fostering resilience may prevent the development of mental health problems in adolescents in the face of adversity. The probable explanation could be that resilient adolescents possess inherent strengths that empowers and boost coping with adverse circumstances and resultant adaptive outcomes. Such factors, which can reside within the individual or within the family or community, may not necessarily foster normal development in the absence of risk factors, but they may make an appreciable difference on the influence exerted by CSA. Likewise, Dray, Bowman, Freund, Campbell, Wolfenden, Hodder & Wiggers (2014) reported that a resilience-based, prevention-focused intervention is effective in reducing the risk of mental health problems among adolescents attending secondary school in socio-economically disadvantaged areas and also a constellation of factors comprising cognitive, behavioural, and existential elements have been identified as contributing to resilience in response to stress or trauma (Rudow, Iacoviello and Charney, 2014).

The present study revealed there was no main effect of age on the reduction of emotional stress among sexually abused female early and late adolescents' when compared with each other. However, an interactive effect of treatment and age was found. This is in line with Kendall-Tackett, Williams and Finkelhor (1993) findings in a review of 45 studies on child sexual abuse, although age at the time of assessment of impact of child sexual abuse was an intervening variable, majority of the studies indicated that children who were older at the time of assessment appeared to be more symptomatic than those who were younger. The outcome was attributed to duration: which suggests that older victims may have had longer duration of molestation; identity of the perpetrators: suggesting that intra-familial perpetrators may have been able to continue the abuse for a longer time; and severity of the abuse: which also implies that older victims may have experienced more severe sexual acts. In sum, negative symptoms of impact of sexual abuse were specific to certain ages. However, the present study is in dissonance with the findings of Wolfe, Gentile and Wolfe (1989) who reported that younger children were more symptomatic, while in yet another, Gomez- Schwartz, Horowitz and Sauzier (1985) reported a curvilinear relationship between age and symptomalogy with the middle age range being more symptomatic.

Inadvertently, CSA victims may experience the "sleeper effect" in which recovery is attained rather quickly because of denied feelings at a subconscious level and the secrecy surrounding the abuse. However, feelings about the abuse may emerge at some point later in life, signifying a delayed reaction. Moreover, younger children are at risk of short-term effect due to confusion surrounding experiencing CSA and not having adequate knowledge of the negative consequences since they are less able to make sense of the magnitude of the violation. However, pre-adolescents and adolescents are more at risk over the long-term, because, in the short term, their close alignment with their peers may repress the negative outcomes, but later, the gravity of the abuse is most likely to be understood which then gives rise to symptoms in adulthood.

In addition, Steyn and Kamper (2006) maintained that age influences how stress is viewed, the nature and frequency of the stressful life events, coping resources available to combat stressful events, coping styles and strategies, availability or otherwise of family as buffer. This possibility is consistent with evidence that although younger children may benefit from cognitive therapy, these techniques must be adapted based on the age and cognitive ability of the child (Doherr, Reynolds, Wetherly and Evans, 2005). Although age is an important factor to consider when assessing treatment outcomes, cognitive abilities that develop with age may make older children more responsive to cognitively-based interventions. The finding that older children benefitted more from treatment seem more tenable and makes intuitive sense because many existing interventions rely

heavily on cognitive components (e.g., the cognitive triad, cognitive distortions), which may be easier for older children to grasp.

Conclusion

In this current study, dialectical behavioural and cognitive processing therapies were effective in the reduction of emotional stress among sexually abused female in-school adolescents. By implication, application of the underlying principles of these therapies should help reduce considerably the negative symptoms and emotional stress induced by sexual abuse. Unequivocal, cognitive processing therapy was more potent in the reduction of emotional stress among sexually abused female in-school adolescents. In addition, resilience was found to significantly moderate emotional stress induced by sexual abuse among the victims. Participants with moderate level of resilience reported lower emotional stress.

Implication of the Study for Counselling Practice in Nigeria

The implication of this study is that, in terms of intervention, DBT and CPT have been revealed to be beneficial for the reduction of negative feelings associated with emotional stress resulting from sexual abuse beyond providing medical gynaecological intervention alone. Therefore, encouraging CSA victims to engage in therapy aimed at developing effective coping strategies and prevent the development of the myriads of long term effect is very essential. In essence, the current findings suggest that treatments encouraging open expression of thoughts and feelings surrounding CSA experience can help to deter having a generation of adolescents with different forms of mental disorders over time. In addition, in line with the presumed effects of resilience, it is expected that high resilient victims will experience less emotional stress compared with those with low resilience. In addition, resilience skill training could be facilitated among adolescents to improve the ability to bounce back in the face of adversity since the adolescent stage itself is filled with myriads of stressful events beyond CSA.

REFERENCES

Alink, L.R, Cicchetti, D., Kim, J., & Rogosch F.A. (2012). Longitudinal associations among child maltreatment, social functioning, and cortisol regulation. *Developmental Psychology*; 48(1):224-36. doi: 10.1037/a0024892. Epub 2011 Aug 8. PMID: 21823793; PMCID: PMC3400182.

Allnock, D. & Hynes, P. (2011). Therapeutic Services for Sexually Abused Children and Young People: Scoping the Evidence Base, NSPCC, London

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D. & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256(3), 174–186. doi:10.1007/s00406-005-0624-4

Anda, R., Tietjen, G., Schulman, E., Felitti, V., & Croft, J. (2010). Adverse childhood experiences and frequent headaches in adults. *Headache*, 50(9), 1473–1481. doi:10.1111/j.1526-4610.2010.01756.

Bonanno, G. A. (2005). Loss, trauma, and human resilience: have we underestimated the human capacity to thrive after extremely aversive events? *American psychologist*, *59*(1), 20.

Brilleslijper-Kater, S. N., Friedrich, W. N., & Corwin, D. L. (2004). Sexual knowledge and emotional reaction as indicators of sexual abuse in young children: theory and research challenges. *Child Abuse & Neglect*, *28*(10), 1007-1017.

Chard, K. M.(2005).An evaluation of cognitive processing therapy for the treatment of posttraumatic stress disorder related to childhood sexual abuse. *Journal of consulting and clinical psychology*, *73*(5), 965.

Chard, K. M., Schumm, J. A., McIlvain, S. M., Bailey, G. W., & Parkinson, R. B. (2011). Exploring the efficacy of a residential treatment program incorporating cognitive processing therapy-cognitive for veterans with PTSD and traumatic brain injury. *Journal of traumatic stress*, *24*(3), 347-351.

Chen, L. P., Murad, M. H., Paras, M. L., Colbenson, K. M., Sattler, A. L., Goranson, E. N., ... & Zirakzadeh, A. (2010). Sexual abuse and lifetime diagnosis of psychiatric disorders: systematic review and meta-analysis. In *Mayo Clinic Proceedings,* 85(7), 618- 629.

Cohn, M., Fredrickson, B., Brown, S., Mikels, J., Conway, A. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience, Emotion,9, 361–368.

Coles, J. Y., Lee, A. K., Taft, A., Mazza, D., & Loxton, D. (2015). Childhood sexual abuse and its association with adult physical and mental health: results from a national cohort of young Australian women. *Journal of Interpersonal Violence*, *30*(11), 1929 - 1944. https://doi.org/10.1177/0886260514555270

Creeden, K. (2009). How trauma and attachment can impact neurodevelopment: Informing our understanding and treatment of sexual behaviour problems Journal of Sexual Aggression, 15.(3). 261-273

Dimeff, L. A., & Linehan, M. M. (2008). Dialectical behaviour therapy for substance abusers. *Addiction science & clinical practice*, *4*(2), 39.

Dimeff, L., Rizvi, S. L., Brown, M., & Linehan, M. M. 2000. Dialectical behavior therapy for substance abuse: A pilot application to methamphetamine-dependent women with borderline personality disorder. *Cognitive and Behavioural Practice,* 7, 457-468.

Doherr, L., Reynolds, S.,Wetherly, J., & Evans, E. H. (2005). Young children's ability to engage in cognitive therapy tasks: associations with age and educational experience. *Behavioural and Cognitive Psychotherapy*, 33, 201–215

Dray, J., Bowman, J., Freund, M., Campbell, E., Wolfenden, L., Hodder, R. K., & Wiggers, J. (2014). Improving adolescent mental health and resilience through a resilience-based intervention in schools: study protocol for a randomised controlled trial. *Trials*, *15*(1), 289.

Dumbleton, T. (2005). Dealing with Emotional Stress; The Hardest Thing in the World? Retrieved April 15, 2008.

Galovski, T.E., Blain, L.M., Mott, J.M., Elwood, L., & Houle, T. (2012). Manualized therapy forGomes-Schwartz, B., Horowitz, J. M., & Sauzier, M. (1985). Severity of emotional distress among sexually abused preschool, school-age, and adolescent children. *Psychiatric Services*, *36*(5), 503-508.

Hillberg, T., Hamilton-Giachritsis, C., & Dixon, L. (2011). Review of meta-analyses on the association between child sexual abuse and adult mental health difficulties: A systematic approach. Trauma, Violence, & Abuse, 12, 38–49. https://doi.org/10.1177 /1524838010386812

Hjemdal O, Aune T, Reinfjell T, Stiles T.C, & Friborg O. (2007). Resilience as a predictor of depressive symptoms: a correlational study with young adolescents. *Clinical Child Psychology Psychiatry*; 12(1):91-104. doi: 10.1177/1359104507071062. PMID: 17375811.

Hjemdal, O., Vogel, P. A., Solem, S., Hagen, K., & Stiles, T. C. (2011). The relationship between resilience and levels of anxiety, depression, and obsessive–compulsive symptoms in adolescents. *Clinical psychology & psychotherapy*, *18*(4), 314-321.

Hodgkinson, P., & Joseph, S. 1995. Factor analysis of the Impact of Events Scale with female Bank staff following an armed robbery raid. *Personality and Individual Differences*, *19*(5), 773- 775.

Ibeagha, P. N., Balogun, S. K., & Adejuwon, G. A. (2004). Resiliency of Inner-City Yoruba University Undergraduates in South Western Nigeria. *Kamla-Raj Studies of Tribes and Tribals*, *2*(2), 125-129.

Jonzon, E., & Lindblad, F. (2006). Risk factors and protective factors in relation to subjective health among adult female victims of child sexual abuse. *Child abuse & neglect*, *30*(2), 127-143

Kendall-Tackett, K. (2009). Psychological trauma and physical health: A psychoneuroimmunology approach to etiology of negative health effects and possible interventions. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*(1), 35–48. https://doi.org/10.1037/a0015128

Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: a review and synthesis of recent empirical studies. *Psychological bulletin*, *113*(1), 164.

Koerner, K., & Dimeff, L. A. (2007). *Overview of dialectical behavior therapy.* In L. A. Dimeff & K. Koerner (Eds.), *Dialectical behavior therapy in clinical practice: Applications across disorders and settings* (p. 1–18). Guilford Press.

Lansford, J. E., Malone, P. S., Stevens, K. I., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2006). Developmental trajectories of externalizing and internalizing behaviours: Factors underlying resilience in physically abused children. *Development and psychopathology*, *18*(01), 35-55.

Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist, 46*(8), 819–834. https://doi.org/10.1037/0003-066X.46.8.819

Linehan, M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. Guilford Press.

Masten, A.S. & Powell, J.L. (2003). A resilience framework for research, policy and practice. In S.S. Luther (Eds.), *Resilience and Vulnerability: Adaptation in the context of childhood adversities* (pp.1-25). New York: Cambridge University Press.

McMain, S, Korman, L.M, Dimeff L. (2001) Dialectical behaviour therapy and the treatment of emotion dysregulation. *Journal of Clinical Psychology ;57(2)*:183-96. doi: 10.1002/1097-4679(200102)57:2<183::aid-jclp5>3.0.co;2-y. PMID: 11180146.

Monson, C.M., Schnurr, P.P., Resick, P.A., Friedman, M.J., Young-Xu, Y., & Stevens, S.P. (2006). Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 74*, 898–907. doi:10.1037/0022-006X.74.5.898\

Monson, C.M., Schnurr, P.P., Resick, P.A., Friedman, M.J., Young-Xu, Y., & Stevens, S.P. (2006). Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 74*, 898–907. doi:10.1037/0022-006X.74.5.898

Naglieri, J. A., LeBuffe, P. A., & Ross, K. M. (2013). Measuring resilience in children: From theory to practice. In *Handbook of resilience in children* (pp. 241-259). Springer US.

National Scientific Council on the Developing Child, (2007). The timing and quality of early experiences combine to shape brain architecture. Working paper 5. Cambridge, MA: Center on the Developing Child at Harvard University. retrieved 7 March 2013, http://developingchild.harvard.edu/index.php/resources/reports_and_working_papers/working_papers/wp5/

Ogundayo, D.A. (2007). Dialectical Behaviour and Acceptance-Commitment Strategies for enhancing social competence among spiritually-abused adolescents in Ibadan *Unpublished dissertation. Guidance and Counselling, University of Ibadan*

Oliver, K. G., Collin, P., Burns, J., & Nicholas, J. (2006). Building resilience in young people through meaningful participation. *Australian e-Journal for the Advancement of Mental Health*, *5*(1), 34-40.
PTSD: Flexing the structure of cognitive processing therapy. *Journal of Consulting and Clinical Psychology, 80*, 968–981. doi:10.1037/a0030600

Rathus, J. H., & Miller, A. L. (2002). Dialectical behaviour therapy adapted for suicidal adolescents. *Suicide and life-threatening behaviour*, *32*(2), 146-157

Resick, P. A., Monson, C. M., & Chard, K. M. (2007). *.Cognitive processing therapy for PTSD: A comprehensive manual.* The Guilford Press

Resick, P.A, Wachen, J.S, & Dondanville K.A, et al. (2017). Effect of Group vs Individual Cognitive Processing Therapy in Active-Duty Military Seeking Treatment for Posttraumatic Stress Disorder: A Randomized Clinical Trial. *JAMA Psychiatry*.74 (1):28–36.doi:10.1001/ jamapsychiatry.2016 .2729

Resick, P.A., & Schnicke, M.K. (1992). Cognitive processing therapy for sexual assault victims.

Resick, P.A., Nishith, P., Weaver, T.L., Astin, M.C., & Feuer, C.A. (2002). A comparison of

Rosner R, Rimane E, Frick U, et al. Effect of Developmentally Adapted Cognitive Processing Therapy for Youth with Symptoms of Posttraumatic Stress Disorder after Childhood Sexual and Physical Abuse: A Randomized Clinical Trial. *JAMA Psychiatry*. 2019; 76(5):484–491. doi:10.1001/jamapsychiatry.2018.4349

Rudow, D.L, Iacoviello, B.M, & Charney D. (2014). Resilience and personality traits among living liver and kidney donors. Prog Transplant.; 24(1):82-90. doi: 10.7182/pit2014448. PMID: 24598570.

Sawyerr, S. M. (2007). Defining patterns of genital injury from sexual assault: a review. *Trauma violence and abuse*, *8*(3), 270-280.

Steil, R., Dyer, A., Priebe, K., Kleindienst, N., & Bohus, M. (2011). Dialectical behavior therapy for posttraumatic

stress disorder related to childhood sexual abuse: a pilot study of an intensive residential treatment program . *Journal of traumatic stress*, *24*(1), 102-106.

Steyn, G. M., & Kamper, G. D. (2006). Understanding occupational stress among educators: an overview. *Africa Education Review*, *3*(1-2), 113-133.

Stoltenborgh, M., van IJzendoorn, M. H., Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A Global Perspective on Child Sexual Abuse: Meta-Analysis of Prevalence around the World. Child Maltreatment, 16, 79-101.http://dx.doi.org/10.1177/1077559511403920

Swales, Heidi L. Heard, J. Mark G. Williams, M. (2000). Dialectical Behaviour Therapy (DBT) for borderline personality disorder: Overview and adaptation. *Journal of Mental Health*, *9*(1), 7-23.

Underwood, L., Stewart, S. E., & Castellanos, A. M. (2007). Effective practices for sexually traumatized girls: Implications for counselling and education. *International Journal of Behavioural Consultation and Therapy*, *3*(3), 403.

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience *scale. Journal of Nursing Measurement,* 1(2), 165-178.

Waller, M. A., & Okamoto, S. K., Miles, B.W, & Hurdle D.E (2003). Resiliency factors related to substance use/resistance: Perceptions of Native adolescents of the Southwest. *Journal of Sociology & Social Welfare*, *30*, 79-94.

Weiss, D. S., & Marmar, C. R. (1997). *The Impact of Event Scale—Revised.* In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (p. 399–411). The Guilford Press.

Wolfe, V. V., Gentile, C., & Wolfe, D. A. (1989). The impact of sexual abuse on children: A PTSD formulation. *Behaviour Therapy*, *20*(2), 215-228.

Woodberry, K. A., & Popenoe, E. J. (2008). Implementing dialectical behavior therapy with adolescents and their families in a community outpatient clinic. *Cognitive and Behavioural Practice*, *15*(3), 277-286.

Xing, X. P., Wang, M. F., Zhang, Q., He, X. R., & Zhang, W. X. (2011). Gender differences in the reciprocal relationships between parental physical aggression and children's externalizing problem behavior in China. *Journal of Family Psychology*, 25, 699-708.