Effect of Cognitive Behaviour Therapy in the Management of Depression Among Students in Tertiary Institutions in Delta State, Nigeria

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ABSTRACT
This study investigated effect of cognitive behaviour therapy and in the management of depression among students in tertiary institutions in Delta state, Nigeria. With this purpose in mind, one research question was posed and one corresponding hypothesis tested at 0.05 level of significance. The population consists of 19,102 year one students in Delta State tertiary institutions. Six hundred year one students were sampled from three tertiary institutions for the study through the use of non-proportional stratified random sampling technique. The instruments for data collection were two in number: the first was a research adapted instrument called Incidence of Depression Disorder Inventory (IDDI) and second was an adapted instrument called Forms of Depression Disorder Inventory (FDDI). Face and content validity of IDDI and FDDI were established by two test experts and the researcher’s supervisors. The reliability of IDDI was established using a test re-test method which produced a coefficient of 0.80, while Cronbach alpha method was used to determine the reliability for Forms of Depression Disorder Inventory which produced the following coefficients: MDD = 0.63, PDD = 0.79 ADDM = 0.83 and BD = 0.75. Two treatment groups and one control group were used; treatment groups were given CBT and IPT and the control group received placebo. Data was analyzed using mean for the research question. For the null hypotheses, ANCOVA and partial eta squared was used at 0.05 level of significance. Analysis of pre-test and post- test scores indicated that CBT was effective in reducing depression (partial eta squared)=0.835. Based on the findings, it was recommended CBT should be used by counsellors to teach depressed students how to change their thinking pattern- from irrational thinking to rational thinking.

Keywords: Depression, Cognitive Behaviour therapy, Stress.

INTRODUCTION
For a considerable part of their lives, many students affected with depression went undiagnosed and untreated. This is because usual adolescent conduct is indicated with mood swings due to hormonal changes they experience (Macknezie, Gover, Armstrong and Mitchell, 2001). Depression in students is an issue of concern because of its widespread, future intermittence and impairment of functioning in the affected individual (Akiskal, 2000). Barlow (2005) sees depression as a mental ailment marked by unwelcoming impact on the mood and is also followed by low self-respect and loss of interest in normally enjoyable activities. Moreover, depression usually exists side by side with symptoms of anxiety. These problems can become persistent and lead to considerable impairments in an individual’s ability to take care of his or her day to day tasks. Furthermore, Saunders (2003) defined depression as a psychological state of changed feeling noticeable by extreme sorrow, malaise, and pessimism which is different from pain or anguish encounter due to loss of someone. Depression is linked with absence of self-confidence and the depressed individual finds it difficult to communicate how he /she feel. Concealed anger is believed to be a strong cause of depression. The person suffering from depressive disorder feels in competent to manage daily life challenges and feels so timid. One can infer from the stated definitions that depression is a serious medical illness in which the individual struck with sorrow, despondent, feels insignificant and normally is not able to live a day to day life.
In further clarifying the definition of depression, Hollon, Thase & Markowitz (2002) stated that depression is one of the most recurrent and weakening mentally ill disorder and a major source of suicide. They went further to explain that most people who become depressed will have numerous incidents, and some depressions are persistent and long lasting. Given the repeated nature of the disorder, it is important not just to treat the serious episode but also to protect against its return and the onset of subsequent episodes. In a similar vein, National Institute of Mental Health NIMH (2015) viewed depression (equally known as depression disorder or clinical depression) as an ordinary but alarming mood disorder which causes acute symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. They stated that for one to be said to have depression, the features of depression must be present for not less than two weeks.

In an extensive survey organized by the American College Health Association in 2009, 94% of the students were devastated by the stress they encountered in school. University students are challenged daily with distinctive stressors inherent to the academic system and these stressors include examination phobia, worrying about failing examination, trying to cope with deadlines, isolation or rejection, financial difficulties, lack of self-confidence, and poor coping skills. Adapting to college life and being present in the university for the first time can make students encounter high stress level. This kind of stress that students face when attending university for the first time will require the use of previously developed coping mechanisms, as well as the development of new strategies to effectively adjust to university life. Because of the challenges faced when adapting to these life changes, as well as difficulty adjusting to the changes, university students are at risk of developing depression. The incidence of depressive symptoms can lead to negative life events in the lives of university students, the most significant of which is suicide (American College Health Association, 2009).

Different researches carried out across the world have proved that the ratio of university students showing depressive features have substantial contrast (Vazquez & Blanco, 2006; Ibrahim, Kelly, Adams, & Adewuya, Ola, Olatayo, Mapayi, & Oginin, 2007; Glazebrook, 2012) and constant rise in digit Ceyhan, Ceyhan, & Kurtyilmas, 2009). American College Health Association (2012) announced a 2011 national poll that disclosed that 30% of year two and four university students were very depressed to the extent that it was difficult for them to study effectively in the previous year. The percentage of depression among university students has been roughly calculated to be between 30% (students facing minor degree of depression) to around 15% (students undergoing major or severe depression) (McLennan, 1992; Rosenthal and Schreiner, 2000). On the contrary, the pace with which depression manifest in various universities of different nations and studies, according to Arslan, Ayranci, Unsal & Arslantas (2009) fluctuates from 8.0% to 40.0%. In Nigeria, research report by Aniebue & Onyema (2008) revealed that 23% of 262 medical students encountered major depression. In other words, students who wrote professional examination during that period and students aged 16-20 were found to have had higher degree of depression and students who were addicted to smoking also suffered notable levels of depression. In the United States of America, Kerr’s (2012) work stated one in every four students experienced various types of mental illness which comprises depression. However, 44% of students in American University were found to have depression and youths in the school who were diagnosed with depressive symptoms will have the possibility of attempting suicide five times in their life time.

One therapy which some scholars have recommended for managing depression is Cognitive behaviour therapy (CBT). The therapy evolved in the 1960’s when Dr. Aaron T.B was working as a psychiatrist at the University of Pennsylvania. His goal of CBT is to help an individual learn to recognize negative thought patterns, assess the authenticity and replace them with healthier ways of thinking. When clients recognizes the distressing negative thoughts and deals with it, he develops a coping skill that will help him live a successful life. The theory believes that people are responsible for their psychological distress as well as the symptoms they encounter.

Distorted thinking is the root cause of behavioural and emotional problems. Cognitive defects are the origin of emotional problems like depression. People respond and explain happenings around them in terms of how they see things, what they believe and their expectation.

Unfortunately there is an apparent lack of research reports in Delta in particular and Nigeria in general which have investigated the effectiveness of CBT in depression management among students in...
tertiary institutions. The need to fill this gap in knowledge cannot be overemphasized as it will expose professional counsellors, psychologists, social workers and other psychological care givers to other therapy which they can employ in the management of depression. This study was therefore embarked upon to fill this gap in knowledge.

The aim of the study is therefore to find out the effect of depression management therapy on students in tertiary institutions in Delta state, Nigeria. Based on this aim, one research question and one null hypothesis are stated to guide this study thus:

**Research Question:** To what extent does Cognitive Behaviour Therapy reduce depression among students in tertiary institutions in Delta state, Nigeria?

**HO:** There is no significant effect of Cognitive Behaviour Therapy reduce depression among students in tertiary institutions in Delta state, Nigeria.

**METHODOLOGY**

This study was carried out in tertiary institutions in Delta state, Nigeria. Descriptive Survey research design and Quasi-experimental research design were employed in this study. The study adopted a descriptive survey design because the design enabled the researcher to find the incidence and various forms of depression among year one students while quasi-experimental design was used to know the effect of CBT and IPT in depression management by comparing the results of pretest and posttest of experimental and control group without randomization. A population of nineteen thousand one hundred and two (19,102) year one students in the tertiary institutions in Delta state, Nigeria. There are a total number of twenty (20) tertiary institutions in Delta state, Nigeria made up of 6 universities, 6 polytechnics, 4 colleges of Education and 4 school of nursing. A sample size of 600 students was used which is higher than the minimum sample size of 392 statistically estimated using Taro Yemen’s formula for sample size. Simple random sampling and non-proportional stratified random sampling was used to compose the sample. Delta state is divided into three senatorial districts namely Delta North, Delta South and Delta Central. Firstly, Simple random sampling through balloting (without replacement) method was used to draw three tertiary institutions (one from each senatorial district) from the three senatorial districts in Delta state, Nigeria. Secondly, non-proportional stratified random sampling technique was used to compose a sample of 600 students though 460 copies of questionnaire were properly filled and finally used for the analysis.

The instruments for data collection were two in number. The first one is an index for knowing the incidence of depression and it is called Incidence of Depression Disorder Inventory (IDDI). While the second instrument is for diagnosing a student with any form of depression and it is known as Forms of Depression Disorder Inventory (FDDI). These were culled from Diagnostic and Statistical Manual of Mental Disorder (5) and adapted to suit the targeted group. Both were scored using Likert –type scale of 1-4 points. The IDDI is made up of two parts, A and B. Part A elicits personal information of the respondents such as age and gender. Section B consists of 40 items on dimensions of incidence of depression. The FDDI has four different sections comprising four forms of depression. The face and content validities of the questionnaires were ascertained by three lecturers. The reliability of the instrument (IDDI) was determined using Pearson Product Moment Correlation and high reliability coefficient score of 0.80 obtained certified the use of the instrument for the study and ensured its reliability. In the same vein, Cronbach alpha method was used to determine the reliability for forms of depression, which produced the following coefficients: MDD = 0.63, PDD = 0.79 ADDM = 0.83 and BD = 0.75.

Copies of the instruments were administered directly to the respondents by the researcher and two research assistants. During the administration, instructions guiding the filling of the instrument were explained to the respondents where necessary. The researcher supervised the filling after which the completed copies of the instrument were collected from the respondent on the spot. After the scoring of the instrument (pretest), students whose mean fell between 2.5 and above 3.0 were identified as people who need treatment. They were placed into experimental and control group for treatment. The students in the experimental group received CBT training as a management strategy of depression while those in control group received placebo. Treatment lasted for twelve weeks and a posttest was...
given to all the groups. The data generated were analyzed using mean, effect size and ANCOVA in Statistical Package for Social Sciences (SPSS).

RESULTS
The result of the statistical analysis of the only research question and its corresponding hypothesis are presented in the following tables:

Table 1a and b: ANCOVA Summary for effect of CBT as a Management strategy for reducing depression among students in tertiary institutions in Delta state, Nigeria.

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT</td>
<td>1.809</td>
<td>.032</td>
<td>1.745 - 1.874</td>
</tr>
<tr>
<td>CONTROL</td>
<td>2.481</td>
<td>.032</td>
<td>2.416 - 2.545</td>
</tr>
</tbody>
</table>

a. Covariates appearing in the model are evaluated at this value: PRETEST = 2.4158.

b) Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>3.185</td>
<td>2</td>
<td>1.592</td>
<td>94.048</td>
<td>.000</td>
<td>.836</td>
</tr>
<tr>
<td>Intercept</td>
<td>.095</td>
<td>1</td>
<td>.095</td>
<td>5.638</td>
<td>.023</td>
<td>.132</td>
</tr>
<tr>
<td>PRETEST</td>
<td>1.160</td>
<td>1</td>
<td>1.160</td>
<td>68.505</td>
<td>.000</td>
<td>.649</td>
</tr>
<tr>
<td>GROUPS</td>
<td>3.169</td>
<td>1</td>
<td>3.169</td>
<td>187.125</td>
<td>.000</td>
<td>.835</td>
</tr>
<tr>
<td>Error</td>
<td>.627</td>
<td>37</td>
<td>.017</td>
<td>187.125</td>
<td>.000</td>
<td>.835</td>
</tr>
</tbody>
</table>

a. R Squared = .836 (Adjusted R Squared = .827)

Table 1 and 2 showed that the depression mean score of students in the treatment group (CBT X= 1.809) is lower than those of their counterpart in the control group (X= 2.481). To measure the extent to which CBT reduce depression in students, the computed partial eta² or correlation ratio was used to determine the effect size. The partial eta² (0.835) shows that 83.5% of variance in the depression mean score was attributed to the effect of the treatment (which is Cognitive Behavioural Therapy) while 16.5% is attributed to other factors.

To test the hypothesis, ANCOVA for effect of CBT as a management strategy for reducing depression among students was significant, F(1,37)= 187.13, P< 0.001, effect size (partial eta²)= 0.835. Therefore the null hypothesis is rejected, which means there is a significant effect of Cognitive Behaviour Therapy (CBT) as a management strategy for reducing depression among students in tertiary institutions.

DISCUSSION
The first result of the study states that there is a significant effect of Cognitive Behaviour Therapy (CBT) as a management strategy for reducing depression among students in tertiary institutions. ANCOVA for effect of CBT as a management strategy for reducing depression among students was significant, F(1,37)= 187.13, P< 0.001, effect size (partial eta²)= 0.835. The result shows that CBT significantly reduced the depression among students as compared to the control group. The partial eta² (0.835) shows that 83.5% of variance in the depression mean scores (dependent variable) was attributed to the effect of CBT (the treatment group or independent variable). This large effect size of CBT in reduction of depression among students confirms it as a reliable management strategy for treating all forms of depression. Therefore, CBT aims to reduce automatic thoughts and negative actions (Kaufman, Rohade, Seeley, Clarke & Stice, 2005). In all, CBT for depressed adolescents
addresses lagging cognitive and behavioral skills that are needed to create and maintain supportive relationships and to regulate emotion. The result of the study was expected but the effect size of the study was quite revealing.

This study is in agreement with the study of Zainab and Madiha (2012), they investigated the effect of CBT on depressed female university students in Karachi, Pakistan. The 50 female university students aged between 18 to 25 years (mean age was 21 years) were drawn purposively from the campus counselling clinic. The hypotheses were significant at P < 0.05. This indicates that Cognitive Behavioral Therapy (CBT) is effective with depressed female university students in Karachi, Pakistan.

Also, Keshi, Basavarajappa and Nik (2013) studied the potency of cognitive behaviour therapy on depression amid college students. The participants were randomly drawn from population of 400 college students and the sample consisted of 60 males and females. Out of 400 students, 130 of them met the cut off benchmark used for the study. Out of 130 students, 60 of them were randomly assigned to experimental and control group (30 in each group). Participants in the experimental group had CBT treatment for 13 weeks which included problem solving, positive thinking, cognitive restructuring, assertive training and time management while those in the control group did not receive any treatment. The researchers adopted pretest, post-test with control group design. Data was analyzed with mean, standard deviation, analysis of variance and effect size. Result showed a significant showed a significant reduction of scores of post test scores meaning that CBT was effective in reducing depressive symptoms among college students. However, this work is found to be in agreement with this present study. Both used almost the same sample size.

CONCLUSION

From the foregoing research, the researcher drew the conclusion that there is a significant effect of CBT as a management strategy for reducing depression among students in tertiary institutions in Delta state, Nigeria.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that:

- There should be an update on the knowledge of students through organized workshops on the warning signs of depression. This will help the students in the tertiary institution to appreciate and utilize the services of school guidance counsellors in the various tertiary institutions.

- The Faculty of Education in Colleges of Education and Universities should organize programs on depression and its forms and include such programs in the school curriculum. Counselling units should be established in primary schools in line with the provision in the Nigeria Policy of Education (NPE). This will lead to early intervention and will reduce the incidence and prevalence of depression in Nigeria.

- CASSON and APROCON can also collaborate with reputable health organizations to train counsellors on how to construct valid and culture fair instruments for detecting depression early in students.

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