

Comparative Effectiveness of Cognitive Behaviour Therapy and Alcohol Anonymous in Treating Alcohol Use Disorder among University Undergraduates in a Sub-Saharan Country

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ABSTRACT

Alcohol use disorder (AUD) has been identified as a major contributor to global burden of disease and is among the mental disorders with lowest treatment rates. This study was carried out to assess the prevalence of AUD and its treatment among undergraduates of Ekiti State University, Ado Ekiti, Nigeria. This study was in two phases. In phase one, an epidemiological survey was employed where multistage sampling technique was used to select participating students (N = 1751; Mean age = 21.53; Males, N = 844; Mean age = 22.04, and Females N= 907; Mean age =21.05). Sociodemographic and baseline data were collected in phase one through biodata form and Alcohol Use Disorder Identification Test (AUDIT) respectively. Phase two employed randomized control trial design where 24 students who scored 7 (derived norm for AUDIT in this study) and above in AUDIT were randomly assigned into three treatment groups (Cognitive Behaviour Therapy (CBT), Alcoholic Anonymous (AA), CBT/AA-combined) and one control group. The prevalence of AUD among the sampled population is as follows: (Total sampled population = 36%; males = 41.5%; females = 30.9%). The difference of pre and post-therapy tests were statistically significant for AUD (CBT group: $t(5) = 6.13, p < .01$; AA group: $t(5) = 4.59, p < .01$; CBT/AA-combined group: $t(5) = 3.71, p < .05$). The difference between pre and post therapy tests were statistically significant for dependence use in CBT group: $t(5) = 2.65, p < .05$; but were not statistically significant for dependence use in AA group: $t(5) = 1.55, p = .18$. and AA/CBT-combined group ($t(5) = 2.37, p = .064$). From these findings, psychosocial approaches are needed to effectively assess and treat AUD. More so, treatment facilities should be utilized and made available early to prevent students from going into dependence phase of AUD. So, in order to reduce the prevalence of AUD among University Undergraduates, early psychosocial detection and evidence based treatments of AUD should be prioritized in the schools to avert physical, mental, and social harms of AUD.

Key Words: Alcohol Use Disorder, University Undergraduate, Assessment, Treatment, Cognitive Behaviour Therapy, Alcoholics Anonymous.

1. INTRODUCTION

Alcohol use disorder (AUD) is a problematic pattern of alcohol use leading to significant impairment or distress. Typically AUD includes a strong desire to take alcohol, difficulties in controlling its use, persisting in its use despite harmful

consequences, a higher priority given to alcohol use than to other activities and obligations, increased tolerance, and a physical withdrawal state^[1, 2]. Alcohol use disorder (AUD) has been identified as a major contributor to global burden of disease and is among the mental disorders

with the lowest treatment rates [3]. Although there are negative consequences of salt, sugar, and tobacco on our health; but alcohol still serves as a higher key “risky commodity” affecting global rates of noncommunicable diseases [4,1]. Majority of illnesses, disabilities, and mortality ravaging people all over the whole world have been linked to alcohol use disorder [5,6].

Through a comparative risk assessment done by World Health Organization (WHO); it was discovered that only unsafe sex and childhood underweight status contributed more to global burden of disease and injury than alcohol consumption [6].

Recently, a global study revealed that no amount of alcohol is good for our overall health [7]. The most surprising finding in this study was that even little amounts of alcohol use contribute to health loss globally. Furthermore, in this same study, alcohol use was seen as the leading risk factor for disease and premature death in people between the ages of 15 and 49 worldwide in 2016; accounting for nearly one in 10 deaths. For all ages, alcohol use disorder was associated with 2.8 million deaths that year [7].

However, the treatment of alcohol use disorder has been recognized to be very low despite its harms to individuals, families, students, workplace, institutions, and community as a whole [3]. Since alcohol is seen as social drink, its usage has become

widespread across all ages leading to debilitating illnesses and premature deaths. For example, in Nigeria, young people go into harmful drinking especially when they reach legal alcohol consumption age of 18 and starting to drink at an early age increases a person’s chances of developing problems with alcohol use in later life [8]. More so, early alcohol use can be associated with behaviours such as unsafe sex, smoking, use of illegal drugs, and risk-taking behaviours [9]. When negative effects of alcohol use disorder are not treated in time, they degenerate into biological, psychological, and social health problems. So, emphasizing and increasing treatment engagement for alcohol use disorder should be a public health priority in order to curb the numerous harms of AUD.

1.1 12-Step Alcoholic Anonymous and Cognitive Behaviour Therapy

The two treatments adopted in this research look at alcoholism from different perspectives. Alcoholic Anonymous sees alcoholism as a disease, while cognitive behavior therapy sees alcoholism as life process phenomenon [10]. Different beliefs about causes of alcoholism will determine different beliefs about how to treat alcohol abuse and dependence. Table 1. Below shows the differences between disease model (Alcoholic Anonymous) and life process approach (Cognitive Behaviour Therapy) to alcoholism.

Table 1: Differences between the Disease and the Life Process Approach to Alcoholism

Disease Model (e.g. AA)	Life Process Program (e.g. CBT)
Alcoholism is inbred	Person uses alcohol to cope with life
Everyone gets the same therapy	Treatment is tailored to individual
Person must accept he/she is alcoholic	Focus on problems, not labels
Therapy and goals are dictated to person	Person participates in therapy goals and plans
Person with drinking problem must be alcoholic	There are all kinds of drinking problems
Focus on drinking	Focus on coping
Abstinence is only resolution for a drinking problem	Improved control and successful relapse reduction sought as well as abstinence
Primary social supports are fellow alcoholics	Primary social supports: work, family, friends
Person must always think of self as alcoholic	Person need not think of self as alcoholic

Source: Peele, Brodsky, and Arnold (1991). *The Truth About Addiction and Recovery*. New York: Simon & Schuster, p. 174.

1.2.1 Cognitive Behaviour Therapy (CBT)

CBT is mostly used to treat depression, phobias, alcohol/drug addiction, eating disorders, sleeping disorders, and

other related diseases. Cognitive Behavioral Therapy (CBT) is a type of psychotherapy aimed at identifying and modifying faulty thought processes, attitudes and attributions, and problem behaviours [11]. CBT is based

on the premise that the way we think has significant impact on how we feel and what we do. The focus of the treatment is to make a patient recognize situations wherein they are more likely to give in to their addiction. CBT professionals make sure patients know how to prevent such situations and cope with addictive behaviors.

CBT helps a person focuses on the current challenges and how to proffer solution to them. The therapist/psychologist helps the person learn how to identify distorted or unhelpful thinking patterns, recognize and change inaccurate beliefs, relate to others in more positive ways, and change behaviors accordingly [12].

Table 2 below reveals emotional (personal) and interpersonal skills that the therapist need to inculcate into the beneficiaries of cognitive behaviour therapy.

Table 2 :Cognitive/Behavioral Skills Training for Alcoholics

Internal Skills	Interpersonal Skills
(Emotional Management)	(Dealing with Others)
Managing compulsive thoughts	Refusing alcohol
Problem solving	Assertiveness training
Decision-making	Expressing needs constructively
Relaxation techniques	Accepting feedback
Managing anger	Giving criticism
Reversing negative thinking	Expressing emotions
Emergency contingency planning	Building support networks

Source: Adapted from Monti, Kadden, Rohsenow, Cooney, and Abrams, (2002). *Treating Alcohol Dependence: A Coping Skills Training Guide*, New York: Guilford.

1.2.2 Alcoholics Anonymous (AA)- 12-Step Programme

Alcoholic Anonymous usually abbreviated AA, is a 12-step recovery program that has helped many people stop the use of alcohol. The original program was focused on spirituality, religion, and God having an impact on changing a person's life, but depending on the program you attend, these 12 steps may be altered for the audience. AA sees alcoholism as a disease, an inbred, and "out of control" phenomenon that cannot be modified [10]. AA treatment usually consists lectures and group confrontation sessions.

Alcoholics Anonymous (AA) was established in 1935 in Akron, Ohio, by two

men who found it was easier for them not to drink when they met with other alcoholics to share stories and inspirational readings. AA now has many offshoots like Alanon and Alateen for family members of alcoholics, Narcotics Anonymous for drug-users, Gamblers Anonymous, and 12-step groups for those who consider themselves sex addicts, food addicts, etc [13]

AA has, however, been helpful to people who can commit to abstinence, are willing to accept a lifetime identity of alcoholic, get benefits from the social and spiritual support, and believe in the AA view [13].

The main underlying beliefs and method of AA as revealed by Korhoren include:

- alcoholism is a spiritual illness over which the person has no personal control.
- life will become more and more unmanageable unless the person quits drinking completely.
- to quit, people must give themselves to God/a higher power and become spiritually healthy.
- the best way to sobriety is to fulfill a number of activities (the 12 steps) that will help lead to an abstinent, spiritually-healthy life.
- these goals can be more easily achieved with the help of others who are going/have gone through the same problems. [13]

2.0 MATERIALS AND METHODS

2.1 Research Setting

The setting where this research took place was Ekiti State University, Ado Ekiti, Nigeria. The university is a public tertiary institution with students from varying socioeconomic and cultural backgrounds.

2.2 Research Design

The two phases of this research had different designs. The first phase is an epidemiological survey research designed to assess the rate of alcohol use disorder

among college students in Ekiti State University.

While the second phase is an experimental design-between subject designs. Specifically, a randomized, wait-list control design was used at the treatment stage to test whether an intervention or treatment works) ^[14]. Randomized, wait-list control design involves the use of random assignment to ensure that known and unknown person and environmental characteristics that could affect the outcome of interest are evenly distributed across conditions. Random assignment of participants equalizes the groups on all other variables ^[14]).

This design is a multileveled, completely randomized design to ensure differences between pre-test - post-test measures. This design was employed due to the fact that the study contains four levels of independent variables which include three treatment groups and a control group or wait-list group. The treatment groups include 12 Step Alcoholic Anonymous AA as group 1, Cognitive Behaviour Therapy CBT as group 2, and group 3 for combined therapies (both AA and CBT). While the fourth group is the control group or wait-list group. The research participants, sampling techniques, research instruments, and procedure used in this research are described separately in each of the two phases as presented below:

2.3 Research Instruments Used in Phase One and Phase Two

In the first phase of this study, an assessment battery containing (i) socio demographic information and other information such as family structure, family drinking problem. (ii) Alcohol Use Disorder Identification Test (AUDIT) was used. AUDIT was developed by the World Health Organization (WHO) as a simple method of screening for hazardous and harmful patterns of alcohol consumption. ^[15]. AUDIT is a self-administered questionnaire consisting of ten items categorized into three domains namely (a) Hazardous

alcohol use which include items 1, 2, 3; (b) Dependence symptoms which include items 4, 5, 6; and (c) Harmful Alcohol Use which include items 7, 8, 9, 10 ^[15]. In Nigeria, as reported by Obadeji et al, problematic drinking pattern or alcohol use disorder (AUD) starts when a male scores 8 and above; and a female scores 7 and above ^[16]. But in this study, through statistical analysis, a mean score of 6.04 was gotten for both male and female but approximated to 7; since no participants score can fall between 6 and 7. So, in this study, problematic pattern of alcohol use starts when a participant scores 7 and above.

2.4 Participants, Inclusion Criteria and Sampling Techniques

INCLUSION CRITERIA

1. scores of 7 and above on AUDIT
2. Written consent to participate in the study

EXCLUSION CRITERIA

1. Final year students were excluded due to their busy schedule.
2. Participants not willing or who refuse to give consent.

Initially 40 students were selected to participate in phase two of this study after scoring 7 or more on the AUDIT scale. Out of these 40 students, only 24 students gave consent to participate and they were randomly assigned into four groups of 6 participants-

- A. Cognitive Behaviour Therapy (CBT) group
- B. 12 Step Alcoholic Anonymous (AA) group
- C. CBT and AA-combined group
- D. Control group

2.5 Therapeutic Procedures Used Therapy Groups

The therapeutic technique used in Group A was Cognitive Behaviour Therapy (CBT), Group B was 12 Step Alcoholic Anonymous (AA), Group C was combined therapy-AA and CBT, while Group D

served as the control group where no treatment was given.

The group therapies were taken in 8 sessions in which each of the groups met separately twice weekly. The duration for each of the group sessions was an hour apart from group C that has two therapies combined, which took 1 hour 30 minutes. Evidence has shown that procedures similar to the aforementioned therapeutic procedures have been used with cancer outpatients going through psychotherapy in a health facility and was found effective. [15]

2.6 Post Therapy Assessment

Two research instruments were used at this stage to test the effectiveness of the therapeutic programmes. The scales include: 1) Alcohol Use Disorder Identification Test (AUDIT) and 2) The AWARE Questionnaire (Advance Warning of Relapse) The therapy took place within four weeks-Saturday September 8th, 2018 to Saturday October 6th, 2018. The AUDIT scale used at the first stage was re-administered a month after the therapy. Assessing participants a month after therapy agrees with the tenth revision of the *International Classification of Diseases* (ICD 10) criteria for diagnosing acute alcohol intoxication, harmful use, and alcohol dependence syndrome [2]. ICD 10

says three or more alcohol use symptoms as can be seen in Alcohol Use Disorder Identification Test, should have occurred for at least a month before diagnosis can be made [2]. Since this research has a limited time frame, at post therapy assessment, wherever “LAST ONE YEAR, MONTHLY, WEEKLY, AND DAILY” were written in AUDIT were changed to “LAST ONE MONTH, WEEKLY, DAILY, AND HOURLY;” respectively. This was done to be able to accommodate one month post therapy assessment. More so, the control group was assessed using the AUDIT to know how effective the therapies have been.

To test if drinkers’ motivation is associated with warnings or propensity to relapse; a test instrument called Advanced Warnings of Relapse (AWARE Questionnaire) was administered at this stage to identify probable relapse episode in the future.

Analysis was done using statistical package for social sciences (SPSS version 23).

3.0 RESULTS

3.1 Hypothesis1: There will be a significant difference in the pre and post therapy evaluation of alcohol use disorder among the CBT/AA group.

Table 3: Paired sample t-test showing pretest and posttest difference in alcohol use disorder scores among the CBT/AA group

Variable	Pretest		Posttest		t ₍₅₎	P	95%CI
	M	SD	M	SD			
Hazardous use	4.83	3.31	.50	1.55	3.53	<.05	[.03, 4.31]
Harmful use	6.83	3.19	2.67	3.65	2.57	<.05	[3.62, 7.71]
Dependence use	2.83	4.26	.17	.41	1.55	.18	[-.24, 5.91]
Alcohol use disorders	14.50	7.18	3.33	2.34	3.72	<.05	[7.92, 4.75]

A paired sample t-test (table 3) showed that the difference between pretest and posttest hazardous alcohol use scores of the CBT/AA group were statistically significant, $t(5) = 3.53, p < .05$. This means that the posttest hazardous alcohol use scores were significantly lower than the pretest hazardous alcohol use scores of the

CBT/AA group. Similarly, the difference between pretest and posttest harmful alcohol use scores of the CBT/AA group were statistically significant, $t(5) = 2.57, p < .05$. This means that the posttest harmful alcohol use scores were significantly lower than the pretest harmful alcohol use scores of the CBT/AA group. In addition, the difference

between pretest and posttest alcohol use disorder scores of the CBT/AA group were statistically significant, $t(5) = 3.71, p < .05$. This means that the posttest alcohol use disorder scores were significantly lower than the pretest alcohol use disorder scores of the CBT/AA group. However, the difference between pretest and posttest

dependence alcohol use scores of the CBT/AA group were not statistically significant, $t(5) = 1.55, p = .18$.

3.2 Hypothesis 2: There will be a significant difference in the pre and post therapy evaluation of alcohol use disorder among the CBT group.

Table 4: Paired sample t-test showing pretest and posttest difference in alcohol use disorder scores among the CBT group

Variable	Pretest		Posttest		t ₍₅₎	P	95%CI
	M	SD	M	SD			
Hazardous use	5.50	2.88	1.50	1.05	3.04	<.05	[.62, 7.38]
Harmful use	7.83	3.87	2.67	1.75	3.97	<.05	[1.82, 8.51]
Dependence use	3.50	3.08	1.17	1.94	2.65	<.05	[.07, 4.60]
Alcohol use disorders	16.83	6.18	5.33	3.88	6.13	<.01	[6.68, 16.32]

A paired sample t-test (table 4) showed that the difference between pretest and posttest hazardous alcohol use scores of the CBT group were statistically significant, $t(5) = 3.04, p < .05$. This means that the posttest hazardous alcohol use scores were significantly lower than the pretest hazardous alcohol use scores of the CBT group. Similarly, the difference between pretest and posttest harmful alcohol use scores of the CBT group were statistically significant, $t(5) = 3.97, p < .05$. This means that the posttest harmful alcohol use scores were significantly lower than the pretest harmful alcohol use scores of the CBT group. Also, the difference between pretest and posttest dependence alcohol use scores of the CBT group were statistically

significant, $t(5) = 2.65, p < .05$. This means that the posttest dependence alcohol use scores were significantly lower than the pretest dependence alcohol use scores of the CBT group. In addition, the difference between pretest and posttest alcohol use disorder scores of the CBT group were statistically significant, $t(5) = 6.13, p < .01$. This means that the posttest alcohol use disorder scores were significantly lower than the pretest alcohol use disorder scores of the CBT group.

3.3 Hypothesis 3: There will be a significant difference in the pre and post therapy evaluation of alcohol use disorder among the AA group.

Table 5: Paired sample t-test showing pretest and posttest difference in alcohol use disorder scores among the AA group

Variable	Pretest		Posttest		t ₍₅₎	P	95%CI
	M	SD	M	SD			
Hazardous use	4.33	3.07	2.17	1.60	2.60	<.05	[.03, 4.31]
Harmful use	9.17	3.55	4.00	3.74	8.60	<.001	[3.62, 7.71]
Dependence use	4.17	2.93	1.33	1.94	2.37	.06	[-.24, 5.91]
Alcohol use disorders	17.67	8.50	1.33	1.51	4.99	<.01	[7.92, 24.75]

A paired sample t-test (table 5) showed that the difference between pretest and posttest hazardous alcohol use scores of the AA group were statistically significant, $t(5) = 2.60, p < .05$. This means that the

posttest hazardous alcohol use scores were significantly lower than the pretest hazardous alcohol use scores of the AA group. Similarly, the difference between pretest and posttest harmful alcohol use

scores of the AA group were statistically significant, $t(5) = 8.60, p < .001$. This means that the posttest harmful alcohol use scores were significantly lower than the pretest harmful alcohol use scores of the AA group. However, the difference between pretest and posttest dependence alcohol use scores of the AA group were not statistically significant, $t(5) = 2.37, p = .064$. Although, the mean score of posttest is lower than the mean score of pretest. In addition, the difference between pretest and posttest

alcohol use disorder scores of the AA group were statistically significant, $t(5) = 4.59, p < .01$. This means that the posttest alcohol use disorder scores were significantly lower than the pretest alcohol use disorder scores of the AA group.

3.4 Hypothesis 4: There will be no significant difference in the pretest and posttest evaluation of alcohol use disorder among the control group.

Table 6: Paired sample t-test showing pretest and posttest difference in alcohol use disorder scores among the control group

Variable	Pretest		Posttest		$t(5)$	P	95%CI
	M	SD	M	SD			
Hazardous use	6.00	2.10	5.67	2.06	1.58	=.18	[-.21, .88]
Harmful use	5.83	1.94	6.50	3.62	-.73	=.50	[-3.03, 1.70]
Dependence use	5.17	4.26	5.50	4.23	-.50	=.63	[-2.05, 1.38]
Alcohol use disorders	17.00	6.39	17.67	2.34	-.93	=.39	[-2.50, 1.17]

A paired sample t-test (table 6) showed that the difference between pretest and posttest hazardous alcohol use scores of the control group were not statistically significant, $t(5) = 1.58, p = .18$. Also the difference between pretest ($n = 6, M = 5.83, SD = 1.94$) and posttest harmful alcohol use scores of the control group were not statistically significant, $t(5) = -.73, p = .50$. Further, the difference between pretest and posttest dependence alcohol use scores of the control group were not statistically significant, $t(5) = -.50, p = .63$. In addition, the difference between pretest and posttest

alcohol use disorder scores of the control group were not statistically significant, $t(5) = -.93, p = .39$. All these findings revealed that there were no significant differences between pretest and posttest scores on hazardous, harmful, dependence and alcohol use disorder of the waitlist control group. Therefore, hypothesis 4 is supported.

3.5 Hypothesis 5: There will be a significant therapeutic effect on measures of alcohol use disorders at the post intervention analysis.

Table 7: One-way ANCOVA-treatment effect on alcohol use disorder(full score)

Source	S S	Df	MS	F	Sig.	Partial Eta ²
AUD (baseline)	307.53	1	307.53	24.35	<.01	.56
Therapy	653.84	3	217.95	17.26	<.01	.73
Error	239.97	19	12.63			
Total	1277.96	23				

A one-way analysis of covariance (ANCOVA: table 7) was conducted to determine the effect of psychotherapy on alcohol use disorder while adjusting for alcohol use disorder (AUD) baseline scores.

ANCOVA results indicate a significant effect of psychotherapy on alcohol use disorder, $F(3, 19) = 17.26, p < .01$, partial $\eta^2 = .73$. Pairwise comparisons using Bonferroni showed that the combined

therapeutic group (AA/CBT group) had the least scores (M = 3.33) while the control group had the highest score (M = 17.67). Other scores were; CBT group (M = 5.33), AA group (M = 7.50). However, there was no significant mean difference among CBT, AA, and AA/CBT groups. The covariate (alcohol use disorder baseline scores) had

significant effect on post treatment alcohol use disorder scores, $F(1, 19) = 24.35, p < .01$, partial $\eta^2 = .56$.

3.6 Hypothesis 6: There will be a significant effect of therapies on propensity to relapse.

Table8: One-way ANOVA- treatment effect on propensity to relapse

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4103.17	3	1367.72	2.84	.064
Within Groups	9636.67	20	481.83		
Total	13739.83	23			

Results in table 8 showed that therapeutic techniques did not have significant effect on propensity to relapse [$F(3, 23) = 2.84, p = .064$]. Therefore, hypothesis 6 is not supported.

4.0 DISCUSSION

4.1 Hypothesis 1 investigated if there will be a significant difference in the pre and post therapy evaluation of alcohol use disorder among the CBT/AA group-combined. As revealed in table 3 posttest scores on hazardous and harmful alcohol use except dependence use were significantly lower compared with pretest scores. Indicating that CBT/AA combined therapies were more effective among participants manifesting hazardous and harmful use than participants manifesting dependence use (state where tolerance and withdrawal symptoms have set in). These outcomes suggest that recovery is based on the level of severity of alcohol abuse or addiction. Dependent alcohol users may not recover as fast as hazardous or harmful users even when two therapies (AA/CBT-combined) or complementary therapies are used. Although, evidence has shown that holistic or complementary treatment techniques like AA/CBT-combined are the most beneficial for participants in therapy^[17]; but the severity of alcohol use (dependence use) and shorter duration of

intervention may bring about poor therapeutic effects. This finding suggests that early treatment intervention for alcohol users will promote quick recovery while delay in treatments may lead to addiction (tolerance and withdrawal symptoms), thereby making treatment somewhat difficult. Apart from considering the post therapy scores on hazardous, harmful and dependence use, posttherapy score on alcohol use disorder generally was significantly lower compared with pretherapy score. Indicating that complementary therapies (AA/CBT-combined) used in this study is very effective in treating alcohol use disorder. This agrees with the explanation of Ouimette et al) that CBT works in a complementary fashion with 12-step approaches that provide patients with valuable social support and a methodology for change^[18]. Moreover, the effectiveness of these combined therapies have been recognized, and therapists providing CBT to their patients with substance misuse problems can also encourage the patients' involvement in 12-steps groups^[18,19]. Moreover, using combination therapies like AA/CBT-combined allow patients to be exposed to both spiritual therapy (using AA) and psychological therapy (using CBT). With these findings, therapists should not just stick to one pattern of treatment but

should endeavour to use combination treatments in solving problematic patterns of alcohol use.

4.2 Hypothesis 2 investigated if there will be a significant difference in the pre and post therapy evaluation of alcohol use disorder among the CBT group. As shown in table 4, the posttherapy scores on hazardous, harmful, dependence alcohol use are significantly lower compared with pretest scores. More so, posttest scores on alcohol use disorder generally is significantly lower compared with pretest scores. These findings revealed that cognitive behaviour therapy (CBT) has positive impact in helping people with alcohol use disorder. Although, the outcome after CBT intervention did not show total abstinence from alcohol use; but there is hope of total abstinence because the differences in pretherapy and posttherapy scores in a month after CBT intervention were statistically significant. In line with the findings in this study, CBT has been shown to be successful in helping people with alcohol use disorder [20,21]. Furthermore, CBT has been recognized as a therapeutic tool that provides a powerful set of interventions for the treatment of patients suffering from substance use disorders [19]. In addition, McHugh et al revealed that CBT for alcohol use disorder is effective as both a monotherapy and as part of combination treatment [22]. So, the effectiveness of CBT among the university students is pointer to the usefulness of CBT to curb alcohol use disorder in our higher institutions.

4.3 Hypothesis 3 tested if there will be a significant difference in the pre and post therapy evaluation of alcohol use disorder among the AA group. As shown in table 5, the posttest scores on hazardous and harmful alcohol use except dependence use were significantly lower compared with pretest scores. AA programme seems more effective among hazardous and harmful users than users that are dependent on

alcohol. Indicating that participants who manifest dependence use of alcohol (where tolerance and withdrawal symptoms have set in) may need to stay longer in AA therapy session than those that manifest hazardous and harmful use. This agrees with the finding of Moos and Moss, that longer duration of AA attendance is associated with less drinking [23]. Similarly, Kaskutas revealed that those with a shorter duration of time in AA had lower rates of abstinence [24]. That is, more involvement in AA relates to higher levels of abstinence. Apart from observing the effectiveness of AA on the subscales (hazardous, harmful and dependence) of AUDIT, this study also discovered that posttest score on alcohol use disorder as a whole was significantly lower compared with pretest score on alcohol use disorder in AA group. Indicating effectiveness of AA in treating alcohol use disorder when participants are consistent in therapy. The effectiveness of AA among alcohol users have been supported by different studies [24-26].

4.4 Hypothesis 4 investigated that there will be no significant difference in the pretherapy and post therapy evaluation of alcohol use disorder among the control group. As seen in table 6, the scores on hazardous, harmful, dependence, and alcohol use disorder generally from the groups that did not receive any therapy (control group) were not significantly different from baseline scores. Indicating that absence of therapeutic interventions may worsen hazardous, harmful, dependence, or alcohol use disorder as a whole. Judging from the mean scores from control group: hazardous (before = 6.00; after = 5.67), harmful (before = 5.83; after = 6.50), dependence (before = 5.17; after = 5.50), alcohol use disorder (before = 17.00; after = 17.67); apart from the users that manifested hazardous use, all others revealed higher mean scores (worsen condition) as regards harmful, dependence, and alcohol use disorder after two months. So, exposure to treatment can prevent

addiction and/or severity of addiction. This agrees with with the observation of other authors that increasing the treatment coverage to 40 % would lead to a reduction of up to 10 % in alcohol-attributable mortality^[27].

4.5 Hypothesis 5 tested that there will be a significant effect of therapeutic groups on measures of alcohol use disorders at the post intervention analysis. As revealed in table 7, the therapies have significant effect on the participants revealing that therapies used in this study were effective in treating alcohol use disorder. More so, Pairwise comparisons using Bonferroni showed that the CBT group (M = 5.33), AA group (M = 7.50) and AA/CBT group (M = 3.33) had significant lower scores on alcohol use disorder than the control group (M = 17.67). This suggests that therapies to treating alcohol use disorder are effective when compared with the control group. More so, outcome of different therapies after controlling for the alcohol use disorder baseline score was also significant. All these findings indicate effectiveness of therapies in treating alcohol use disorder. However, this study does not show significant difference as regards contribution of each of therapies to treating alcohol use disorder. Suggesting that none of the therapies is superior to other but that each therapy can complement other therapies to treating alcohol use disorder.

4.6 Hypothesis 6 investigated that there will be a significant effect of therapies on propensity to relapse. As revealed in table 8, the therapeutic techniques used in this study did not have significant effect on propensity to relapse; suggesting that the risk to relapse remains high in the participants after treatment. Alcohol use disorder has been recognized as a chronic relapsing disorder characterized by a prolong course of alcohol-related problems and a persistent vulnerability to relapse^[28]. So, the propensity to relapse into alcohol use disorder as found in this study can be

attributed to chronic relapsing nature of AUD. In addition, craving has been found to be one of the common cause for relapse in alcohol dependent patients; and craving for alcohol may not disappear without alcohol detoxification) and longer duration for therapies^[23,28,29]. Furthermore, it has been widely recognized and accepted that addiction as a chronic disorder, requires long-term management much like other chronic disorders^[30,31]. So, manifestation of propensity to relapse after alcohol use disorder treatment in this study could be attributed to lack of alcohol detoxification, type of sampled population (target audience, substances being use and level of use), and shorter duration in therapy^[32].

5.0 CONCLUSION

Alcohol use disorder (AUD) is a major mental health problem that if left untreated may degenerate into more serious psychiatric and medical complications capable of incapacitating the sufferers throughout his/her life time. However, this study has been able to recognize some psychosocial determinants of AUD and probable therapeutic strategies to curb or treat AUD among the sufferers. Furthermore, this study has been able to establish that there are treatments (CBT, AA and CBT/AA-combined) that can help an individual to recover from AUD but this recovery can be made easily possible when people with AUD enter therapy early before alcohol dependence (tolerance and withdrawal symptoms) sets in. Major strength in the findings of the present study lies on the outcome that CBT, AA, and CBT/AA-combined were effective in treating alcohol use disorder. The implication of this study is that schools authorities should employ these therapeutic strategies to tackle the prevalence of alcohol use disorder in Nigerian universities. Moreover, as revealed in this study, students who are just at the level of hazardous or harmful alcohol use recovered through all the therapeutic strategies used in this study; suggesting that prolong problematic pattern

of alcohol use may be difficult to treat even when the sufferer anticipates to stop abusing alcohol.

More so, it is (also cancelled) recognized in this study that combination of therapies for example, AA/CBT-combined has higher tendency of reducing level of alcohol intake judging from the mean differences [CBT group (M = 5.33), AA group (M = 7.50) and AA/CBT group (M = 3.33)] as revealed in this study. So, combination of these two treatments will allow usage of both psychological and spiritual means to treat AUD which will in turn enhance better outcome among people with AUD.

ACKNOWLEDGEMENT

We will like to acknowledge the support of the Lecturers in the department of psychology, Ekiti State University.

REFERENCES

1. Mental Health (2015). Alcohol Use Disorder. Available online from: <http://www.mentalhealth.com/home/dx/alcoholdependence.html>.
2. WHO ICD-10(2015). Dependence Syndrome Due To Alcohol F10.2 -ICD10 Description, World Health Organization.
3. Probst, C., Manthey, J., Martinez, A and Rehm, J. (2015). Alcohol use disorder severity and reported reasons not to seek treatment: a cross-sectional study in European primary care practices. *Substance Abuse Treatment, Prevention, and Policy*, 10:32.
4. Martinez, P. (2013). Alcohol use in special populations in Africa. Data from the world health survey and study on global ageing and adult health. Available from: <https://www.duo.uio.no/handle/10852/36048>; retrieved 15/09/2015.
5. Woolf-King, S.E., Steinmaus, C.M., Reingold, A.L., and Hahn, J.A. (2013). An update on alcohol use and risk of HIV infection in sub-Saharan Africa: Meta-analysis and future research directions. *International Journal of Alcohol and Drug Research* 2(1): 99-110.
6. Rehm, J.; Mathers, C.; Popova, S.; et. al. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol use disorders. *Lancet* 373(9682):2223–2233.
7. LaMotte, S. (2018). No amount of alcohol is good for your overall health, global study says. Available online from: <https://edition.cnn.com/2018/08/23/health/global-alcohol-study/index.html> on 04/03/2019.
8. Atoyebi, O.A. (2013). Patterns of substance abuse among senior secondary school students in southwestern Nigerian city. *International review of social sciences and humanity*; 4(2):55-65.
9. Ferri, M., Amato, L., and Davoli, M. (2006). Alcoholic Anonymous and other 12-step programmes for alcohol dependence. *Cochrane database of systematic reviews*. Art No. CD005032.
10. Peele, A., Brodsky, A., and Arnold, M. (1991) *The Truth About Addiction and Recovery*. New York: Simon & Schuster.
11. Barlow, D.H. and Durand, V.M. (2002). *Abnormal Psychology: An integrative approach* (3rd edition). Belmont: Wadsworth.
12. Saddleback Resources (2015). *Mental Health Resource Guide for Individuals and Families*. Santa Margarita: Saddleback Resources.
13. Korhonen, M. (2004). *Alcohol Problems and Approaches: Theories, Evidence and Northern Practice*. National Aboriginal Health Organization. Ottawa, Ontario.
14. Speca, M., Carlson, L.E., Goodey, E., Angen, M. (2000). A randomized, wait-list controlled clinical trial: the effect of a mindfulness meditation-based stress reduction programme on mood and symptoms of stress in cancer outpatients. *Psychosom Med.* 62(5): 613-622.
15. Babor, T.F., Higgins Biddle, J.C, Saunders, J.B. and Monteiro, M.G. (2001). *Alcohol use disorder identification test (AUDIT): Guidelines for use in a primary care* (2nd edition). WHO, Department of mental health and substance dependence.
16. Obadeji, et. al., (2015) [17], Obadeji, A., Oluwole, L.O., Dada, M.U., and Ajiboye, A.S. (2015). Pattern and Predictors of Alcohol Use Disorders in a Family Practice in Nigeria. *Indian Journal of Psychological Medicine*, 37(1): 74-80.
17. Thomas, S. (2019). *Addiction therapy options for treating alcoholism*. Available online from:

- <https://www.alcohol.org/therapy/> on 21/03/2019.
18. Ouimette, P. C., Finney, J. W., & Moos, R. H. (1997). Twelve-Step and cognitive-behavioral treatment for substance abuse: A comparison of treatment effectiveness. *Journal of Consulting and Clinical Psychology*, 65, 230-240.
 19. Newman, C. (2018). Reconciling 12 Step tenets with the principles of CBT for substance use disorders. Available online from: <https://beckinstitute.org/reconciling-12-step-tenets/> on 23/3/2019.
 20. Alcohol Recovery (2018). Alcoholism recovery through cognitive behavioural therapy (CBT). Available online from: <https://www.alcohol.org/therapy/cbt> on 21/03/2019.
 21. Buddy, (2017) Buddy, T. (2018). The effects of parental alcoholism on children: Growing up around drinking can impact kids into adulthood. Available online from <https://www.verywellmind.com/the-effects-of-parental-alcoholism-on-children-67233> on February 18th, 2019.
 22. McHugh, R.K., Hearon, B.A. & Otto, M.W. (2010). Cognitive behavioural therapy for substance use disorders. *The Psychiatric Clinics of North America*, 33(3): 511-25. doi:10.1016/j.psc.2010.04.012.
 23. Moos, R.H. and Moos, B.S. (2006). Participation in treatment and Alcohol Anonymous: a 16 year follow up of initially untreated individuals. *Journal of clinical psychology*. 62(6):735-750.
 24. Kaskutas, L.E. (2009). Alcoholics Anonymous Effectiveness: Faith meets science. *Journal of Addict Dis*,28(2): 145-157.
 25. Friedman,R. (2014). Taking Aim at 12-Step Programmes. *The New York Times*.
 26. Alcoholics Anonymous World Services, Inc., (2001). *Alcohol Anonymous: The Story of how many thousands of men and women have recovered from alcoholism*.
 27. Rehm J, Shield KD., Gmel G., Rehm M.X., Frick U. (2013). Modelling the impact of alcohol dependence on mortality burden and the effect of available treatment interventions in the European Union. *Eur Neuropsychopharmacol*. 2013;23(2):89-97.
 28. Korlakunta, Chary, and Reddy, 2012 Korlakunta, A., Chary, S.R.S., and Reddy, P.K.CM. (2012). Reasons for relapse in patients with alcohol dependence. *AP J Psychological Medicine*, 13(2): 108-114.
 29. Reflections Center, (2018). How long do alcohol cravings last during alcohol addiction recovery? Available online from: <https://reflectionsrehab.com/blog/how-long-do-alcohol-cravings-last-during-alcohol-addiction-recovery/> on 19/3/2019.
 30. McLellan, A.T., Lewis, D.C., O'Brien, C.P., & Kleber, H.D. (2000). Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA*;284(13):1689-95. doi: 10.1001/jama.284.13.1689.
 31. McLellan, A.T. (2002). Have we evaluated addiction treatment correctly? Implications from a chronic care perspective. *Addiction*; 97(3):249-52.. doi: 10.1046/j.1360-0443.2002.00127.x.
 32. Dickard, N., Downs, T., and Cavanaugh, D. (2011). *Recovery/Relapse Prevention in Educational Settings For Youth With Substance Use and Co-occurring mental health disorders*. 2010Consultative Sessions Report. U.S. Department of Education: Working Draft – May 13,2011.
- How to cite this article: Ajiboye AS, Mokuolu BO, Dada MU. Comparative effectiveness of cognitive behaviour therapy and alcohol anonymous in treating alcohol use disorder among university undergraduates in a Sub-Saharan Country. *Int J Health Sci Res*. 2021; 11(2): 72-83.
