British Journal of Education, Society & Behavioural Science
16(1): 1-9, 2016, Article no.BJESBS.26086
ISSN: 2278-0998

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Using Brief Therapies in the Management of Alcohol Related Problems among Male Undergraduates in Owerri, Nigeria

Ann U. Madukwe[1*], Juliana C. Njoku[2], Helen I. Annorzie[1], Ifeoma Nwufo[3] and Joy O. Echeme[1]

[1]Department of Psychology, Faculty of Social Sciences, Imo State University, P.M.B. 2000, Owerri, Nigeria.
[2]Department of Social Sciences, Federal Polytechnic Nekede, P.M.B. 1036, Owerri, Imo State, Nigeria.
[3]Department of Psychology, University of Nigeria, Nsukka, Enugu State, Nigeria.

Authors' contributions

This work was carried out in collaboration between all authors. Author AUM designed the study, performed statistical analysis and interpreted the result. She also edited the final draft. Author JCN wrote the protocol and wrote the first draft of the manuscript. Authors HIA, IN and JOE were involved in the literature searches, reading and editing, they also managed data for analysis. Authors AUM, JCN and JOE were involved in the therapy sessions. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJESBS/2016/26086
Editor(s):
(1) Oyedunni Arulogun , Department of Health Promotion and Education, University of Ibadan, Nigeria.
Reviewers:
(1) Garima S. Pal, Symbiosis International University, India.
(2) Yury Razvodovsky, Grodno State Medical University, Belarus.
Complete Peer review History: http://sciencedomain.org/review-history/14612

Original Research Article

Received 31st March 2016
Accepted 2nd May 2016
Published 13th May 2016

ABSTRACT

This study compared Harm-Reduction Therapy (HRT) only with HRT and Motivational Interviewing (MI) as brief therapeutic techniques in controlling Alcohol-Related Problems (ARPs). It was hypothesized that there will be significant reduction in the occurrence of ARPs at each interval tested following baseline occurrence. The second hypothesis compared the outcome for participants in HRT Only with HRT and MI groups. 28 male undergraduate students of Imo State University, who

**Corresponding author: E-mail: annemichael2002@yahoo.com;*

abuse alcohol, were selected using purposive sampling method. Their age range was 22-24years with mean age of 22.96 (SD= .88). The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) was used to screen participants for alcohol abuse, while the Alcohol drinking Consequences Questionnaire (ADCQ) was used to assess their ARPs. Design was experimental and data was generated by assessing participants' ARPs at baseline, 30th day and 60th day of therapeutic interventions. The repeated measures analysis of variance statistics with SPSS version 17 was used for data analysis. Significant increase in mean (SD) of ARPs reported from baseline 17.36 (4.56) first interval 11.21 (5.01) and last interval 4.96 (3.31). There was as hypothesized significant increased reduction in ARPs among participants across test intervals ($F(2, 52) = 237.75$, $p = .001$). Findings revealed no significant difference ($F(1, 26) = 1.07$, $p = .31$) in reduction of ARPs between participants in the HRT only group and those in the HRT and MI group. It was concluded that brief interventions (i.e. HRT & MI) are effective in controlling ARPs among undergraduates. A recommendation for the benefit of the inclusion of harm-reduction in the Nigerian public health policy was made.

Keywords: Harm-reduction therapy; motivational interviewing; alcohol-related problems; Nigeria.

1. INTRODUCTION

Alcohol-related problems are social, health, public and personal problems that are associated with or linked to harzadous pattern of alcohol consumption. [1] marked alcohol-related problems as social consequences of alcohol use. Meanwhile, studies [2,3] have reported high prevalence of alcohol-related problems among male undergraduates and increased alcohol consumption in Nigeria respectively. The mode, pattern and frequency of drinking exhibited by youths also point to the problematic and unwavering place of alcohol in youth activities [4,5,6]. Researchers have identified fighting, Lost productivity, alcohol poisoning, premature deaths, violent offences (e.g. rape), mental illness, accidents, road accidents (drink driving), drug use, having unprotected sex or sex without consent as some of the alcohol-related problems prevalent among undergraduates [7,2].

Due to these harms caused by abusive drinking and their associated cost to individuals, families, societies and nations, a concerted effort is being made by practitioners, researchers, policy makers, governments and non-governmental organizations to reduce these avoidable harms. Prevention and abstinence are certainly the best methods of eliminating alcohol-related problems in the society. However, World powers and global policies on alcohol regulation and usage (where they exist) have recurrently failed in this endeavour. Despite the level of force and financial commitments of varying governments of the world, the harm-reduction goal, idea, philosophy, psychology, action, program and/ or treatment is one about which drug prohibition, law enforcement, policing and incarceration have failed.

It is this hopeless global failure that actually set the stage for the harm-reduction movement. The inability of law enforcement to curb drug demand, drug use and drug-related harm left an obvious vacuum that called for an urgent filling. Thus, a pragmatic view of the world's drug situation has necessitated a re-evaluation and re-thinking of international as well as national strategies to drug control and alcohol being a gateway drug, its' use also needs to be controlled. As such, new scientific and evidence-based approaches to successful drug use control or treatment are coming up, and one of them is the harm-reduction approaches.

Using harm-reduction strategies to curtail alcohol-related problems, [7], reported that undergraduates who used the strategies (e.g., Choose not to drink alcohol, use a designated driver, eat before and/ or during drinking), reported fewer negative consequences and more regularly employed drinking reduction strategies. Ritter and Cameron [8] reported the effectiveness of harm-reduction interventions in the reduction of road trauma, while [9], found that a harm-reduction programme which does not solely advocate non-use or delayed use can produce larger reductions in alcohol consumption than either classroom-based or comprehensive programmes that promote abstinence and delayed use.

Motivational interviewing is another evidence-based approach which continues to attract research over its effectiveness in managing alcohol-related problems. It is based on the 5 stages of change of the transtheoretical model of [10]. The Stages of Change is the central organizing construct of the model [11] it includes pre-contemplation, contemplation, preparation,

action and maintenance, through which individuals pass as they aim to change. The cyclic nature of the change process depicts that (for most alcoholics/drug abusers) recurrence or relapse occurs several times and counselees circle through the different stages several times before a stable change is achieved [12]. Research has shown that motivational interviewing (MI) can be used to raise the topic of change with the individual, create discrepancy in them about the seeming harmlessness of their substance use patterns and evoke concerns of 'all-is-not-well-after-all' [13,12].

Other studies combined harm-reduction therapy and motivational interviewing as brief intervention protocols in studying college drinkers. [14] examined brief intervention for harm-reduction with alcohol-positive older adolescents in a hospital emergency room. The study involved 94 (64% male, 36% female) participants who were randomly assigned to received either Motivational Interviewing or standard care (SC) in a hospital's emergency room in the United States. The researchers examined the efficacy of a brief MI for reducing harm associated with drinking among alcohol-positive adolescents, the MI condition was based on the principles of MI [15], with a focus on empathy, not-arguing, developing discrepancy, self-efficacy, and personal choice; while the SC condition was designed to be consistent with general practice for treating alcohol-involved teens in an urgent care setting. The researchers reported that patients who received MI had a significantly lower incidence of drinking and driving, traffic violations, alcohol-related injuries, and alcohol-related problems than patients who received SC. However, both conditions showed reduced alcohol consumption. The study concluded that MI was evident in harm-reduction because it reduced negative outcomes related to drinking, beyond what was produced by the precipitating event plus SC alone.

Collins et al. [16] studied mailed personalized normative feedback as a brief intervention for at-risk college drinkers. They used a brief, non-confrontational motivational intervention focused on encouraging students to change their drinking behavior, by mailing to each participant individual report that included information based on the student's self-report, indicating how much and how frequently the student drank, how often he or she engaged in heavy drinking episodes, as well as the student's typical and peak blood alcohol levels and his or her alcohol-related problems. The personalized normative feedback was intended to make participants aware of the level and consequences of their drinking and how these compared with the drinking behavior of others to whom they could relate. At a 6 weeks follow up the researchers found that students who received the mailed feedback reported having fewer heavy-drinking episodes and consuming fewer drinks during their heaviest drinking week than did students in the control group who were only mailed a psycho-educational brochure about alcohol use.

Murphy et al. [17] examined the efficacy of Personalized Drinking Feedback (PDF) delivered with or without Motivational interviewing sessions. Their participants were a large sample of heavy drinking college students 69% of which were females, who were randomly assigned either to receive PDF during single Motivational interviewing session or to receive PDF without MI. The participants were also asked to complete 6 month follow-up assessment that included measures of alcohol consumption and alcohol-related problems. At a 6 months follow up, they found significant small-to-moderate reductions in alcohol use, but no differences between the groups and no change in alcohol- related problems for either group. The concluded that personalized feedback and motivational interviewing appear to influence changes in drinking behaviors and to a much lesser extent, alcohol-related problems.

Baer et al. [18] found that alcohol consumption dropped by up to 40percent among college students who received one hour feedback and advice using motivational interviewing, similar to those who participated in a 6 week skills training group. And that for both groups these effects were maintained at the 2 year follow up.

Again, [19] in a study with mandate students (i.e. students who have violated campus alcohol policies) compared the efficacy of two brief in-person interventions for reducing drinking and alcohol-related problems among students screened and classified as heavy drinkers. Selected students were randomly assigned to either a 60-90 minutes motivational interviewing or a 60-90 minute alcohol education session in which the student was provided information about alcohol and its effects. Their findings revealed that at 3 and 6 month follow-ups both treatment groups demonstrated significant drinking reductions, with BMI students reporting significantly fewer alcohol- related problems than

alcohol education students at the 6 month follow-up.

Also, [20] in their study randomly assigned incoming college students who reported binge drinking or problems with alcohol use to a brief intervention or an assessment only condition. Four year follow-up showed that students in the brief intervention group experienced significant reductions in drinking rates and problems associated with alcohol, compared with their own baseline levels and with students in the assessment only condition.

All the studies reviewed are works pertinent to the issue of abusive drinking, the problems associated with this behavior and how harm-reduction therapy and motivational interviewing have been used to achieve some level of harm-reduction in the various populations of the studies. Apart from the national and world-wide studies cited, most of the studies reviewed involved research works that focused on the student population. However, one glaring fact is that among all the studies reviewed in which either motivational interviewing or harm-reduction therapy were used as treatment module none was conducted in Africa. Again, findings from previous studies point to the individual effectiveness of both harm-reduction and motivational interviewing in the management of abusive drinking and alcohol-related problems. In this study, the researcher also aim to find out if a eclectic therapy involving both harm-reduction therapy and motivational interviewing will be more effective than harm-reduction therapy alone in reducing alcohol-related problems.

1.1 Hypotheses

1. At baseline, 30th day and 60th day interval tests there will be a significant reduction in the occurrence of alcohol- related problems among participants
2. Participants who received Harm-reduction therapy only will differ significantly from those who received both harm-reduction therapy and motivational interviewing in reduction of alcohol- related problems.

2. MATERIALS AND METHODS

2.1 Participants

The research involved 28 male undergraduate students of Imo state university, Owerri, who abuse alcohol. Purposive sampling method was used to select three students' inhabited hostels at Front-gate axis of the University. They were Red house hostel, Laurel Suites and Abuja hostel. Participants were also selected from these hostels using purposive sampling technique. These sampling techniques were used because only individuals who are abusing alcohol, an alcohol- related problem considered as common among participants in this study were selected. Secondly, individuals were not compelled to participate or continue in therapy; as such only those willing to join were selected. Participants' age ranged from 22 to 24 years. They were of all academic levels (i.e. year one to year 5) and from all Faculties of the University except the Faculty of Social Sciences; this was done to avoid bias due to familiarity with both the researchers and the study tools.

2.2 Instruments

Alcohol abuse was measured using the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), English version 3.0 [21]. The ASSIST was used to assess rate of alcohol abuse among participants prior to therapy. Alcohol abuse is one alcohol-related problem that is common to all participants in this study. It was therefore considered as a key variable in selecting and ensuring equivalence of participants on the dependent variable. The instrument is an 8 item questionnaire covering 10 substances. It uses a 5-point likert scoring pattern for items 2, 3, 4, & 5 and 3-point likert scoring pattern for items 6 & 7, while item 1is a nominal question with yes or no response. However, only items 1, 2, 4, 5, and 6 for ascertaining alcohol abuse were considered in this study. The screening test result based on a participant's score is interpreted as 0-10 Low (requires no intervention); 11-26 Moderate (requires brief intervention) and 27 and above High (requires intensive treatment).

A validation study was conducted to adapt the scale for local use. Internal consistency for the ASSIST was Cronbach alpha 0.71. For validity, concurrent validity between the ASSIST for alcohol and AUDIT was $r = 0.54$, $p<.01$; discriminant validity between ASSIST for alcohol and RTQ- Smoking was $r = 0.59$, $p<.01$

The second instrument in this study, the Alcohol Drinking Consequences Questionnaire (ADCQ) was used to measure Alcohol- related problems (harms). The instrument is a 14 item questionnaire developed and validated by the

researchers. It was used to assess students' resultant drinking problems as experienced in the last 3 months. The items were coded using a 3 point likert type scale of 3= yes, 0= no, and 1= I can't say.

Internal consistency of the instrument was Cronbach alpha 0.78. Concurrent validity was obtained by correlating scores of the instrument with those of the GENACIS Drinking Problem Instrument and concurrent validity was r = 0.66, p<.01.

2.3 Procedure

2.3.1 Pre-treatment phase

Ethical approval to carry out this study was granted and received from the departmental Post-graduate Board through the study supervisors following which the study commenced. A one day closed lecture on '*ALCOHOL CONSEQUENCES EDUCATION'* which involved oral explanation and a video show of people who abused alcohol and the different alcohol-related problems they experienced. On the day of the lecture, the researcher with the help of two research assistants randomly offered a numbered Tally/Ticket to each invitee at the point of entry. Oral consent was sought from those who agreed to participate and they were informed to tick good (√) on their tally to show this agreement. In the course of the lecture, the participants were required to write their phone numbers and hostel names on the other side of the tally, and also respond to ASSIST and ADCQ questionnaires. The tally and phone numbers were used as identification codes throughout the course of the therapy. Participants were randomly assigned to Motivational interviewing (MI) and No-Motivational interviewing (No-MI) groups based on their Tally numbers, using the odd and even numbers' categories. Participants with even numbers were assigned to MI group, while those with odd numbers were assigned to No- MI group. Assurance of confidentiality of every process and information undertaken, released or shared in the course of the research was given. The lecture and all other processes described here lasted for a maximum of 90 minutes. At the end of the lecture, all those present and who also gave informed consent were encouraged to come for further harm-reduction therapy; they were given the venue, date and time. The first session took place the day following the lecture. This close dating was to prevent a renewed ambivalence among participants.

2.3.2 Treatment phase

The treatment adopted a group counseling approach and the intervention techniques were the harm-reduction therapy and motivational interviewing given as brief interventions. The therapy involved two clinical psychologists and two counseling psychologists. Harm-reduction therapy was a 10-behaviour based activities, taught over 13 group sessions of 20-30 minutes each and assessed at baseline, on the 30th day and the 60th day of therapy using the ADCQ questionnaire. Motivational Interviewing was conducted towards the end of every group session, with only the participants who had been randomly assigned to the MI group. There were five sections of the motivational interviewing, one section to three group counseling sessions. The 20 minutes motivational interviewing was aimed at clearing the ambivalence they might have about coming in for therapy and highlighting some of the benefits of joining therapy. Therapy lasted for 2 months, twice a week (5 pm on Fridays and Saturdays) on an outpatient basis.

2.3.3 Post-treatment phase

A compilation of some alcohol treatment service centers *Out-Patient Counseling, Day Treatment, Residential and Detoxification Programs and Mental Health Programs that deal with Alcohol-Related Problems* within southern Nigeria was made available to participants. Phone numbers, address, contact person, and a brief description of the services they offer were also provided. This was made available at all sessions for participants who might need further assistance than the therapy sessions offered. The entire treatment process took place in a temporary clinic at the hall in the Red House hostel, Frontgate, Imo State University. The hostel was chosen because of its proximity to the other two hostels and all participants gathered there for each counseling session. After termination, data gathered during the study were used for statistical analysis.

2.4 Design and Statistics

This is an experimental field study that utilized a mixed-experimental repeated measures design.

The repeated measures analysis of variance (Repeated Measures ANOVA) was used to test the hypotheses.

3. RESULTS

Result from Table 1 shows the mean scores of participants from different experimental conditions and at different stages of the intervention. Generally, there is a mean difference showing reduction in alcohol related problems reported at baseline of 17.36 (4.56), at first assessment after 30 days of intervention of 11.21 (5.01) and at final assessment after 60 days of intervention of 4.96 (3.31).

Repeated measures ANOVA result of Table 2 showed that the within-subject main effect was significant (sphericity assumed) ($F(2,52) = 237.75$, $p = .001$). The linear trend analysis was also significant ($F(1, 26) = 404.16$, $p = .001$), while the quadratic trend analysis was not significant ($F(1, 26) = .01$, $p<.05$). This finding showed that alcohol-related problems reported by participants continued to decrease as intervention progressed. Thus, the first alternative hypothesis that there will be a reduction in the occurrence of alcohol- related problems from baseline to 30th day and 60th day interval tests was accepted.

The test of between-subjects effects (experimental groups) was not significant ($F(1, 26) = 1.07$, $p = .31$), indicating that there is no significant difference in reduction of alcohol-related problems between the two experimental groups. Thus, the second alternative hypothesis that there will be a greater reduction of alcohol-related problems in participants who received Harm-reduction therapy only than those in the harm-reduction therapy and motivational interviewing group was rejected.

4. DISCUSSION

This study investigated the efficacy of harm reduction therapy and motivational interviewing in controlling alcohol-related problems of male undergraduates.

Table 1. Mean and standard deviations of alcohol-related problem arranged by experimental groups and at different points of assessment

	Experimental groups	N	Mean	Std. deviation
Baseline	HRT only group	14	17.36	3.62
	HRT and MI group	14	17.36	5.47
	Total	28	17.36	4.56
30th Day	HRT only group	14	9.86	4.88
	HRT and MI group	14	12.57	4.94
	Total	28	11.21	5.01
60th Day	HRT only group	14	4.00	2.93
	HRT and MI group	14	5.93	3.47
	Total	28	4.96	3.31

Note: HRT= Harm Reduction Therapy

Table 2. Summary of repeated measures analyses of variance (ANOVA) showing within- subjects effect of HRT and mi on alcohol-related problems

APR 1	APR 2	APR 3	F	df	Sig.
M (SD)	M (SD)	M (SD)			
17.36 (4.56)	11.21 (5.01)	4.96 (3.31)	237.75***	2,52	.001

****p = .001*

Table 3. Summary of repeated measures analyses of variance (ANOVA) showing between- subjects effects on alcohol related problems based on the experimental groups

HRT only group	HRT and MI group	F	df	Sig.
M (SD)	M (SD)			
10.41 (1.06)	11.95 (1.06)	1.07	1,26	.31

The findings showed significant differences in reduction of alcohol-related problems at baseline, 30th and 60th day tests. This finding agrees with [16,18,20,2] results in which the efficacy of brief interventions in the control of alcohol abuse and alcohol- related problems, alcohol consumption rate, binge drinking or drinking patterns were strongly established. Brief interventions like the motivational interviewing and harm reduction therapy used in this study have recurrent scientific evidence for being effective interventions in controlling or initiating control for problematic behaviours like drinking, eating, especially in reducing the harm due to these behaviours but not being particular about abstaining.

This shows that the application of brief interventions to individuals experiencing alcohol-related problems is effective. In other words, Nigerian undergraduates experiencing alcohol-related problems would benefit from these interventions.

In this study however, compared to harm-reduction therapy only group, participants who received harm-reduction therapy and motivational interviewing techniques reported lesser reduction in alcohol- related problems. This result did not agree with earlier findings in which motivational interviewing [19] and a combination of harm reduction therapy and motivational interviewing [14] were found to be effective interventions. Baer, et al. [18] also found that motivational interviewing in combination with one hour feedback was as effective as six weeks skill training in reducing alcohol consumption. However, Murphy, et al. [17] found no differences between the groups who received personalized feedback with motivational interviewing and those who received personalized feedback without motivational interviewing.

Motivational interviewing techniques used in this study aimed at increasing the motivation, awareness and knowledge base of participants in relation to alcohol-related problems. It also addressed to an extent the individual's underlying psychological issues that could have predisposed them to alcohol use or abuse. Now, contrary to the expected effect of increased determination and readiness to change among participants, the technique may have reopened psychological wounds of individuals. And the brief nature of the therapy may have been limited in its capacity to reduce, eliminate or resolve the concerns. Again, this can be due to lack of faith in the role of motivation to change, as against societal ills and lacks that may be sustaining the alcohol abuse behavior and consequent alcohol-related problems. Participants may require or prefer motivation to change their living circumstances rather than their drinking behavior and problems accruing from it.

5. CONCLUSION

A very important recommendation of this study is that alcohol abuse which is tantamount to alcohol-related problems should be considered as a public health issue. Nigerian policy makers are advised to reconsider the status of alcohol, alcohol abuse, and alcohol-related problems in the nation in other to allow for proper control of these problems. Policies regarding the consideration of individuals who are involved in alcohol-related problems as individuals who need help, must be enacted and promulgated to enable such individuals' access the much needed psychological treatment and consequently minimize the incidents and costs of alcohol-related problems to the nation, state, family or individual.

It is also recommended that psychological services center be established in all tertiary institutions and counsellors (Psychologists) employed to help manage the student population properly. Also, effective training of counselors and clinicians must inculcate harm-reduction therapy and motivational interviewing. This will help to ensure effective application of these techniques in therapy.

Finally, it was concluded that this study provided crucial theoretical and practical implication for addiction counsellors. It is important to note that, prior to this study harm-reduction therapy and motivational interviewing were barely known therapeutic techniques among local counsellors and clinicians, and many were not even aware of their existence or efficacy. Hence, this study serves as a catalyst to encourage counsellors and clinicians to learn effective use of these techniques and also employ them in counselling especially in addiction counselling.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/14612