Effect of a cognitive behavioural intervention on depression reduction among community-dwelling adult learners in Nigeria: Implications for adult education administration

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Abstract
Objective: The study objective was to determine the effect of a cognitive behavioural intervention (CBI) on depression among community-dwelling adult learners in Nigeria.
Methods: This was a 10-week randomized control trial. Participants were 82 community-dwelling adult learners with depression. The Beck Depression Inventory-II was used for data collection. Data were analysed using repeated measures analysis of variance.
Results: The initial results showed that the participants in both the treatment group and the usual care control group had severe depression. After 10 weeks of the CBI, there was a significant reduction in depression among adult learners in the treatment group compared with those in the usual care control group. The follow-up assessment indicated a further significant reduction in depression among participants in the treatment group compared with those in the control group.
Conclusion: The CBI was effective in reducing depression among community-dwelling university adult learners in Nigeria.

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Introduction

There is a high prevalence of depression among community-dwelling adult learners. Studies also show that depressed adult learners are reluctant to seek the usual interventions for depression. Left untreated, depression can damage adults' ability to engage in learning activities. Albert Ellis first developed a cognitive behavioural approach to treat depression. The main assumption underlying cognitive behavioural interventions (CBIs) is that thoughts affect feelings and influence behaviours and actions. Irrational thoughts and beliefs such as demandingness, self-downing, awfulising and frustration intolerance mediate depressive symptoms. Self-defeating life patterns, irrational thinking patterns, negative feelings, maladaptive behaviours and ignorance may also cause depression. CBIs may be useful in addressing these types of thoughts, beliefs and life patterns among adult learners and thus mitigating depressive symptoms. The objective of this study was to determine the efficacy of a CBI for depression reduction among community-dwelling adult learners in Abia state, Nigeria. The hypothesis that a CBI would be efficacious for depression reduction was tested.

Patients and methods

Clinical Trial Registration

UMIN clinical trial registration number: UMIN000038915.

Study participants

A total of 380 potential participants were recruited from a university in Abia state, Nigeria. The inclusion criteria were having severe depression, being a community dwelling adult learner, agreement and availability for participation and not currently receiving any other depression interventions. The exclusion criteria were having borderline personality disorder and/or drug or alcohol dependence. All participants provided written informed consent. Ethical guidelines for human research were followed, as per previous studies. The study protocol was reviewed and approved by the research and ethics committee of the Department of Adult Education, University of Nigeria, Nsukka. The study complied with ethical guidelines of the American Psychological Association, the World Health Organization, the American Medical Association and the Medical Association of Nigeria. Patients’ rights were maintained during the study.

Study procedure

Using a sequence generated by computer allocation software, participants were randomly allocated to either a treatment or a usual care control group. A baseline assessment (Time 1) was conducted with the two groups before the intervention. Participants in the treatment group attended a 10-week CBI whereas participants in the usual care control group were free to receive their usual care.
A post-intervention assessment (Time 2) was conducted with both groups. After 4 weeks, a follow-up assessment (Time 3) was conducted with both groups. Data were analysed using repeated measures analysis of variance. All results were regarded as significant at $P \leq 0.05$. The statistical software IBM SPSS, Version 23, was used for data analysis (IBM Corp., Armonk, NY, USA).

Depression measure
A modified version of the Beck Depression Inventory-II (BDI-II) was used for data collection. This scale comprises 21 items that assess the incidence and severity of the symptoms of depression. Items are scored on a 4-point scale ranging from 0 to 3; higher scores indicate greater severity of depression symptoms. The internal reliability consistency (Cronbach’s alpha) of the BDI-II in a previous study was 0.89. In the present study, the internal reliability consistency (Cronbach’s alpha) was 0.91.

CBI
The CBI is a structured and standardized intervention delivered to participants in groups. The researchers of this study developed the CBI following previous study guidelines. The CBI helps participants to maintain self-reflection and identity construction, which are the qualities needed for the depression reduction process. The intervention enables participants to alter their irrational thoughts and beliefs, which moderate their depressive symptoms. Techniques used in other CBI studies were used here. Specifically, the following CBI techniques were used: the ABCDEF technique, logical reasoning, relaxation, problem solving, cognitive restructuring, argumentation, recognition, unbiased analysis, evaluation of factual evidence, synthesizing, observation, explanation, exposure, behavioural experiment and stretching.

Results/Discussion
A total of 160 adult learners (male = 87; female = 73; mean age = 43.8 years) met the inclusion criteria. There were 80 participants in the treatment group and 80 in the usual care control group. Data from participants with complete scores ($n = 82$) were analysed. The results showed no significant difference between the treatment and usual care control groups on initial BDI-II scores. The post-intervention assessment indicated a significant reduction in depression among participants in the treatment group compared with those in the usual care control group, $F(1, 81) = 334.16$, $P = .000$, $\eta^2_p = .926$. Similarly, the follow-up measure (Time 3) showed a significant reduction in depression among participants in the treatment group compared with those in the usual care control group, $F(1, 81) = 369.12$, $P = .000$, $\eta^2_p = .943$. These results indicate that the CBI had a significant effect on depression reduction.

In this study, the CBI was effective in reducing depression among university adult learners in the treatment group compared with those in the usual care control group. The effectiveness of the intervention was sustained in the treatment group at follow-up assessment. These findings support those of previous studies which demonstrate the effectiveness of CBIs. Therefore, we encourage depression therapists to employ CBI principles in developing depression treatments for university adult learners. We further recommend that adult educators, counsellors, psychologists, health workers and other social workers with sufficient knowledge of CBIs should use this approach to help reduce depression in adult learners.
Declaration of conflicting interest
The authors declare that there is no conflict of interest.

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