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Clinical Correspondence

The effect of pilot cognitive restructuring therapy intervention on depression in female cancer patients

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Dear Editor,

Introduction

The experience of depression is common among cancer patients and has been found to be significantly associated with impaired quality of life [1]. In Nigeria, despite documented cases of depression among cancer patients in different clinics [2], psychosocial support for depression and other emotional, social, or psychological problems for this population is not widely documented.

The need for psychosocial interventions and support is particularly crucial in Africa with 'regard' to 'the' frequent misconceptions in the origin of cancer as the result of spiritual or supernatural cause and curses [3]. Such misconceptions tend to affect mood and feelings negatively and may lead to depression. Depression in cervical cancer patients may emerge from feelings of stigmatization from others that patients are being punished by the gods for engaging in extra-marital affairs [4]. On the other hand, some women who have had mastectomy as a result of breast cancer may experience depression due to feeling mutilated, losing sense of femininity, mourning the loss of the breast, or worrying about the possibility of still retaining their husbands' affection after surgery [3]. Cognitive restructuring around these beliefs may be useful in decreasing the emotional attention given to them and thereby reducing the experience of depression.

Previous studies have found cognitive interventions or a combination of cognitive and behavioral intervention useful in managing mild to moderate depression [5]. The current study presents initial data on the feasibility and acceptability of a pilot cognitive restructuring intervention and its impact on depression outcomes in a group of female cancer patients in Nigeria.

Methodology

Participants

Participants in this study were 17 women who were receiving treatment for breast and cervical cancers at the oncology outpatient clinic of the University Teaching Hospital in Lagos State, Southwest Nigeria. Out of the 17 participants, 13 were receiving treatment for breast cancer, while four were receiving treatment for cervical cancer. The research participants had an age range of 33 to 67 years, with a mean of 47.82 and a standard deviation of 9.19. Other disease-related and personal characteristics of respondents are presented n Table 1.

Measures

Beck Depression Inventory II (BDI-II)

The BDI-II is a 21-item self-report instrument used in assessing the existence and severity of symptoms of depression [6]. It uses a 4-point scale response format with higher scores indicating more severe depressive symptoms. Good psychometric properties have been reported for the BDI-II in screening for depression in Nigeria with a cutoff score of 18 and above, a sensitivity of 0.91, specificity of 0.97, positive predictive value of 0.88, and negative predictive value of 0.98 [7].

Procedure

Ethical approval was obtained from the relevant institutional review boards to carry out this study. At the recruitment stage, medical doctors referred patients with breast and cervical cancers to the researchers (a clinical psychologist and a PhD student) after consultation. After an explanation of what the research was about, if patients were interested in participating and were eligible to, they

Table 1. Demographic characteristics of respondents

Disease-related characteristics	Frequency and percent	Personal characteristics	Frequency and percent
Cancer type		Age groups	
Breast cancer	13 (76.5%)	≤40 years	3 (17.6%)
Cervical cancer	4 (23.5%)	≥41 years	14 (82.4%)
Total	17 (100.0%)	Total	17 (100.0%)
Stage of cancer		Marital status	
Stage 1	2 (11.8%)	Married	16 (94.1%)
Stage 2	9 (52.9%)	Unmarried	1 (5.9%)
Stage 3	5 (29.4%)	Total	17 (100.0%)
Stage 4	1 (5.9%)		
Total	17 (100.0%)	Educational status	
		Primary education	6 (35.3%)
		Secondary education	8 (47.1%)
		Above secondary education	3 (17.6%)
		Total	17 (100.0%)

were given the informed consent form and the baseline measure of depression to complete. 'The eligible participants of the study were females who were 18 years and above and who were receiving treatment for cervical and breast cancers. They were also well enough to attend the intervention sessions and were free from severe cognitive and psychological impairment that may hinder them from participating fully in and benefitting from the intervention'. Participants were called at least a day prior to each session to remind them to attend the session. The intervention included seven group-based sessions of cognitive restructuring. Although all participants could speak the English language, their fluency in it differs; hence, sessions were held using the English language and also interpreted into Yoruba language for better understanding. Each session was approximately 1 h in length and covered the following topics:

Session 1: Patients' cancer-related beliefs: In this session, participants' beliefs about the determinants of health and sickness (cancer) as well as how the identified beliefs affect feelings and health-seeking behavior were explored. Cognitive behavioral therapy (CBT) was introduced.

Session 2: Beck's cognitive triad: Participants were taught how their thoughts, feelings, and behaviors are linked as well as how these affect the way they see themselves, their current situation, and their future in the context of cancer. Some cognitive distortions were examined.

Homework: Participants were asked to observe and note some of the cognitive distortions they may experience during the following week and how they make them feel.

Session 3: Identifying and challenging maladaptive thought patterns – 'Someone must be after me': In this session, participants were introduced to challenging maladaptive core beliefs and reframing them to become more adaptive. A-B-C-D (activating event, beliefs, consequences, and disputing the beliefs) method, participants were guided to debate or challenge their maladaptive thoughts. Emphasis was on addressing ruminative thought patterns of being powerless in the face spiritual and supernatural attack.

Homework: Participants were asked during the following week to observe and write down any thought they tend to dwell upon that makes them feel powerless, the event that led to the thought, and how they could challenge and re-frame the thought to become more adaptive.

Session 4: Identifying and challenging maladaptive thought patterns – 'I must have done something wrong': Participants were taught to deal with the feelings of guilt, self-blame, and self-inadequacy. Using the 'Yes but …' technique, participants were guided to debate or challenge maladaptive thoughts that are based on incomplete truths.

Homework: Participants were told to make a chart of their thoughts during the following week noting whether it was based on full truth or partial truth, how it made them feel, and how they were able to challenge the thought to develop to help them feel better.

Session 5: Introduction to the use of positive self-statements: Participants were taught to be conscious of their thoughts and to avoid ruminating on negative and disabling thoughts but rather to distract themselves from the negative thoughts and self-talks by replacing them with positive and empowering ones. Empowering statements drawn from religious scriptures to which participants can easily relate were used in practice.

Homework: Participants were asked to create and use more positive self-statements that empower them personally during the following week.

Session 6: Introduction to the use of breathing exercise with guided imagery: Participants were taught to use deep breathing and the power of imagination to bring up relaxing scenes to their minds as they focus on the positive feelings and dispel the negative feelings.

Homework: Participants were asked to practice using guided imagery during the following week.

Session 7: Relapse prevention and self-management: Participants are taught how to prevent relapse and how to use the skills learnt in self-management.

Homework: Participants were asked to practice using the skills learnt for self-management.

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Table 2. Paired samples statistics for the pre–post intervention depression scores

Measure	Mean	*N*	*SD*	Mean difference between the domains (95% CI)	*p*-value
BDI-II pre-cognitive restructuring intervention	23.71	17	10.11	−10.53 (95% CI = −14.63, −6.43)	0.000
BDI-II post-cognitive restructuring intervention	13.18	17	8.07		

BDI-II, Beck Depression Inventory II.
Mean was tested at 0.05 significance level.

Results

Feasibility and acceptability

Thirty-three female cancer patients were initially recruited for this study and completed the pre-test instrument, but only 17 participants (comprising 13 breast and four cervical cancer patients) fully participated in all the sessions and completed the post-test instrument. This resulted in a dropout rate of 48.5% in this study. Given almost 50% dropout rate, the cognitive restructuring intervention could be said to have a moderate feasibility and acceptability in our environment.

Table 2 shows a significant difference between participants in their pre and post intervention depression scores ($M = 23.71$, $SD = 10.11$ and $M = 13.18$, $SD = 8.07$ for pre and post intervention depression scores, respectively, $p = 0.00$, 95% CI (−14.63, −6.43)). This pilot study though with a small sample size suggests the possible benefits of cognitive restructuring in reducing the severity of depression in female cancer patients in Nigeria.

Discussion

Although depression has been reported among Nigerian cancer patients [2], psychosocial services are not widely available to help them. The cognitive restructuring intervention piloted in this preliminary single-arm study seemed effective in reducing depression in Nigerian cancer patients diagnosed with breast and cervical cancers. This brief intervention could be developed further with a larger sample size, and if found effective, it could be incorporated into routine care for patients who indicate clinically relevant levels of depression in Nigerian cancer centers.

Although CBT is primarily a Western approach, its spread across divergent cultures and non-Western settings is progressively evident [8]. The dearth of evidence on the efficacy of CBT strategies in developing countries could serve as a deterrent to its application in less developed countries especially considering the cultural differences between the Western world and most developing countries. Some culture-specific differences between Westerners and Africans that could serve as limitations to wholly adopting CBT methods relate to those of language, time handling, religious beliefs, attribution style, perception, and reasoning. However, in those developing nations where CBT trials have been carried out in adult population with major depressive disorder, CBT has been regarded as a preferred treatment option [5].

To make the cognitive restructuring sessions more adaptive to the Nigerian environment, some cultural values and beliefs were considered and incorporated into the CBT intervention to ensure as much as possible that the intervention was culturally sensitive and effective. A consideration of the educational levels and level of fluency in spoken and written English language informed the use of English and Yoruba languages in carrying out the intervention. Yoruba language is the language predominantly spoken in southwest Nigeria.

Given the 'African time' syndrome in which Nigerians and most Africans normally turn up late for events, it is important to operate with the mindset that the timing for the sessions could change. Also, placing reminder calls was necessary to help research participants put the time for sessions in mind as well as show that the researchers were serious about wanting the participants to attend the sessions thereby giving the participants a sense of self-importance. This approach is similar to that used by Hooper *et al.* [9] in which reminder calls were used to facilitate participants' sustained interest in a culturally specific CBT for smoking cessation among African–Americans.

The characteristic manner in which people deal with problems is often dependent upon their experience and cultural orientation that is mostly built on their traditional and religious belief systems. Hence, the beliefs about the origin of sickness and how it can be cured were important considerations as these beliefs could affect the patients' perception about the illness, their attitude towards it, and the feelings they have about it and their life situations. For instance, the belief that cancer has a spiritual causative factor [3] could create the feeling of helplessness and sadness on being the target of unseen forces that could lead to depression. This underscores the need to employ cognitive or behavioral approaches that are rooted in religious beliefs or practices. Most Nigerians today are either Christians, Islamists, or traditional worshippers. Each of these religions has tenets that could be adapted to the cognitive restructuring. Cognitive approaches could include reciting (and claiming or denouncing the contents) of psalms/scriptural verses/chant, praying, reading the rosaries, or tasbih. Africans believe in the efficacy of spoken words, and they can be helped to use this belief in constructing positive self-statements. These approaches are capable of enabling patients with traditional religious beliefs to cope with stress and negative mood states as well as distract them from their problems. Cognitive restructuring could also be used to address the feeling of

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helplessness resulting from a common religious belief among some Africans that nothing happens without God knowing or allowing it and so let His will be done. Patients are helped to understand that when a man is hungry, he does not just wait for God to feed him because God knows all about it but rather he makes efforts to get something to eat to relieve the hunger. Similarly, because a diagnosis of cancer has been made, they need to use every help God has made available to the hospital to help them get better.

The average African is more likely to attribute their emotional problems to their prevailing circumstances and other external factors than to their maladaptive thinking patterns that are sometimes based on incomplete truths. Organista [10], who had used cognitive restructuring with Hispanic/Latino clients who have a similar disposition opined that using the 'Yes, but…' technique is useful in triggering clients to successfully challenge maladaptive thought patterns linked with depression or anxiety and thus enabling them to consider more adaptive options. The 'Yes but…' technique helps clients to identify and change the fragmented truth they tell themselves and that is causing much of their problematic thinking to complete and more adaptive truth.

This study no doubt has several limitations especially in relations to the high dropout rate resulting in the rather small sample size used for this study. The small sample size implies that care should be taken in generalizing the findings of this study beyond the studied population. A possible reason for the high dropout rate in spite of reminder calls could be the lack of transport reimbursement at the end of each session. The transportation reimbursement for the participants was left until the last session as recommended by the ethical committee as it was believed that giving the participants money at the end of each session might serve as an unnecessary inducement for them to participate in the study. A study that was successful in retaining a higher percentage of research participants among African–American population [9] reported giving transportation reimbursement at the end of each session. Perhaps, this is something to consider in future similar studies.

The observed limitations notwithstanding the current study suggest that cognitive restructuring interventions have moderate acceptance and feasibility among Nigerian breast and cervical cancer patients and that women may benefit from participating in the intervention. This approach is notable given the context of frequent misconceptions concerning the cause of cancer and its potential association with depression. Given these preliminary findings, further efforts are needed to address misconceptions regarding cancer and to ensure that cancer patients who need and desire psychosocial services will have such within their reach. 'However, psycho-oncology is yet to be integrated into management of patients in all the cancer centers in Nigeria. Further studies are needed to understand patients' and practitioners' views of supportive interventions and medication in management of mental health issues in oncology settings in Nigeria'.

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Conflict of interest

The authors have declared no conflicts of interest.

Key points

- There is a high prevalence of depression among Nigerian cancer patients.
- Psychosocial interventions for Nigerian cancer patients are scarce in scholarly literature.
- Cognitive restructuring intervention for depression has a moderate feasibility and acceptability among Nigerian female cancer patients.
- Female cancer patients exposed to cognitive restructuring experienced reduced depression compared to their baseline depression scores.
- Further efforts in developing psychosocial interventions for cancer patients are needed to ensure that cancer patients in need of psychosocial services will have such within their reach.

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