Practicum Psychologia 10(1), 29-48
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http://journals.aphriapub.com/index.php.pp
ISSN: 2006-6640

THE EFFICACY OF GROUP COGNITIVE BEHAVIOUR THERAPY ON CANCER RELATED FATIGUE, ANXIETY AND DEPRESSION, AMONG NIGERIAN WOMEN WITH BREAST CANCER.

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Abstract

Group cognitive behaviour therapy (GCBT) had been reported to reduce CRF, anxiety and depression among breast cancer patients particularly in Western countries However, little is known about the effectiveness of CBT in managing CRF and emotional distress in Nigerian women with breast cancer. The study investigated the effectiveness of a group CBT on CRF, anxiety, and depression among Nigerian women with breast cancer. The study comprised 15 women with breast cancer who were allocated randomly to group CBT (N=8) or to a waiting list condition (7). While both groups received their standard oncology care, the treatment group received an 8 week, 90min session of CBT. Assessments were carried out for both conditions at baseline, immediately after the intervention and 6 months. The measures of the primary outcome variables were Multidimensional Fatigue Inventory and Hospital Anxiety Depression Scale. Data were analysed with independent sampled T test. The results showed that participants in the CBT had significant lower scores in the three dimensions of MFI (general fatigue, mental fatigue, and reduced motivation), depression and anxiety compared to participants in the control groups both at post-treatment and 6-months follow-up. CBT group also had significant reduction in reduced activity at 6-months follow-up. This preliminary study demonstrated that group CBT is effective in significantly reducing the impact of CRF, anxiety and depression on Nigerian breast cancer patients. The CBT represents an excellent complement to other oncology treatment and should be included as an essential part of oncology management in Nigeria.

Keywords: Cancer related fatigue, anxiety, depression, cognitive behaviour therapy

Introduction

Breast cancer is a major public health concern among women (Morgan, 2018) and most common cancer type in women (Carayol et al., 2013; Alacacioglu et al., 2014) globally. Despite the new advancements and significant progress in screening, diagnosis and treatment, breast cancer remains the second leading cause of death for women in both developed (Kumar Tyagi & Dhesy-Thind, 2018) and developing countries including Nigeria (Morounke, et al., 2017). The diagnosis and treatment of breast cancer has profound impact on the physical, mental, social, and spiritual wellbeing of women (Reddick, et al., 2005). Cancer has enormous negative consequences including sexual dysfunction, cancer-related fatigue (Sekse et al., 2015), anxiety and depression (de Caralho et al., 2015).

Of all complications resulting from cancer as well as cancer treatment, CRF is reported to be the most frequent symptom and severe clinical problem that greatly affect patient's quality of life (Weber O' Brien, 2017). CRF is characterized by reduced energy and an increased need for rest, that is not proportionate to any recent changes in levels of activities, and followed by a variety of other symptoms including generalized weakness, reduced mental concentration, insomnia or hypersomnia (Cella et al., 1998). Weis, (2011) reported that between 40-100% of cancer patients experience fatigue. CRF has been found to have a significant negative impact on physical, mental and psychological well-being of cancer patients (Sekse et al., 2015) and can possibly influence their survival (Paiva & Paiva, 2013).

In addition to CRF, individuals with breast cancer diagnosis also experience psychopathological conditions during or after medical treatment (Celik, Tuna, Samancioglu & Korkmaz, 2016). Depression and anxiety are the most significant psychopathological comorbidities experienced by breast cancer patients (Celik et al., 2016; Wu, Chen, Huang, Chang, & Hsu 2018). The prevalence of anxiety and depression had been found to be twice as high in cancer patients compared with the general population (Hinz et al., 2010). Depression had been found to be highly prevalent in breast cancer patient and results in poorer treatment adherence and prognosis, reduced quality of life and compromises patient outcomes, increased risk for hospitalization and leads to higher rates of mortality (de Caralho et al., 2015; Thalén-Lindström, 2014). Similarly, anxiety has been shown to impair successful treatment decision-making in

Practicum Psychologia 10(1), 29-48
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ISSN: 2006-6640

people with breast cancer, and could lead to exacerbation of other symptoms, such as pain and dyspnoea (Traeger et al., 2012) and reduced quality of life (Buzgova et al, 2015).

With higher prevalence and the negative impact of CRF, anxiety and depression reported in breast cancer patients, a psychological intervention is indeed needed. Evidence have shown that some of the psychological distress that causes significant impairment in patient's psychological well-being most of the time go un-noticed and that depression in cancer patients often goes undetected and untreated (Institute of Medicine 2007; Massie 2004). Despite calls from National Comprehensive Cancer Network (NCCN, 2014) for systematic detection and treatment of depression in cancer patients, many depressed cancer patients are not receiving effective treatment (Fallowfield, Ratcliffe, Jenkins, & Saul, 2001) particularly in Nigeria. CBT is one of the major psychological therapies that have been recognized as the dominant approach to the treatment of a wide range of psychological disorders. CBT emerged from the work of Ellis (1962) and Beck (1976), and gained its reputation from a wide range of empirical data that validated its efficacy in the treatment of anxiety, depression and other psychological conditions. Cognitive theory of psychopathology according to Beck (1967) and Ellis (1958) posited that depression and anxiety results from faulty cognitions or faulty cognitive processes and that the remedy is to correct and modify the faulty cognition and replacing it with more rational one. Thus in CBT, cognitions are modified directly by guiding clients to change their maladaptive thoughts and indirectly by helping clients improve their overt behaviours.

The cognitive theoretical perspective gave rise to the use of CBT in management of psychopathology among people with different illness including women with cancer (Edelman & Kidman, 1999; Eichler et al., 2015) and these had been supported by several empirical evidence. Studies on CBT have shown its effectiveness in the management of CRF among cancer patients (Abrahams et al., 2015; Heckler et al., 2016) particularly among breast cancer patients (Lee et al., 2011; Eichler et al., 2015). For instance, Lee et al. (2011) conducted an exploratory study among breast cancer patients

who were undergoing radiotherapy and had severe fatigue. After a 6-week CBT session, they found that the participants in the treatment group were able to better control their fatigue levels and had substantially higher quality of life compared to the participants in the control group. In a study testing an 8 week (90 minutes session) cognitive behavioral therapy intervention for tumor associated fatigue among 23 breast cancer patients, Eichler et al. (2015) found that a 70% reduction in diagnosable tumor associated fatigue and patient anxiety and depression levels.

In addition, CBT have shown to be effective in the management of anxiety and depression among breast cancer patients (Cocker, Bell, & Kidman, 1994; Kissane, Bloch, Smith, Miach, Clarke, Ikin et al. 2003; Qiu, Chen, Ga., Xu, Tong, Yang, et al., 2013). For instance, in a randomized controlled trial of group CBT for sixty-two Chinese breast cancer patients with major depression (Qiu et al., 2013), the participants were randomly assigned to group CBT group (N=31) or a waiting list control group provided with an educational booklet (N=31). They were assessed with the measures of 17-Item Hamilton Depression Rating Scale, Self-Rating Anxiety Scale and Functional Assessment of Cancer Therapy – Breast and Self-Esteem Scale at base line, at the completion of the study and six-month follow-up. The results of the study showed that patients in the GCBT had a significant reduction in depression compared to the participants in the control group. In another randomised controlled trial aimed at Cognitive-Existential Group Psychotherapy (CEGT) for women with early stage breast cancer receiving adjuvant chemotherapy, Kissane et al. (2003) found that CBT significantly reduced anxiety for women in the treatment group compared to the control group.

The effectiveness of group CBT in breast cancer patients have received considerable attention particularly in the developed countries, however, less is known about its effectiveness in a developing country like Nigeria. It will be noted that culture is an important phenomenon in understanding the influence of Western based psychological therapies, this study therefore examine whether CBT will be effective in the management of CRF, anxiety and depression among Nigerian breast cancer patients.

Purpose of the study:

The purpose of this study was to investigate the effectiveness of group CBT on CRF, anxiety and depression among Nigerian breast cancer patients.

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Hypotheses

We hypothesize that:

Participants who received CBT will differ significantly in their CRF scores from the participants in the control group, such that participants in treatment group will have significant reduction in fatigue levels compared to control group.

Participants who received CBT will differ significantly in their anxiety scores from the control group, such that participants in treatment group will have significant reduction in anxiety scores compared to control group.

Participants who received CBT will differ significantly in their depression scores from the control group such that participants in treatment group will have significant reduction in depression scores compared to control group

Methods

Participants

The study involved fifteen (15) women with breast cancer undergoing oncology clinic at the University of Nigeria Teaching Hospital (UNTH). They were randomly assigned to two groups: CBT group (N=8) and control group (N=7). The inclusion for the study are: 1) ability to speak and understand English; 2) Women with breast cancer diagnosis (stages I to III); 3) experiencing significant fatigue ascertained by a significant cut-off point in Multidimensional fatigue inventory (MFI) (14 for subscales and 70 for total MFI); and 4) experiencing a significant emotional distress adjudged by a cut off score of 10 in anxiety and 8 in depression subscale of Hospital Anxiety and Depression Scale (HADS). Exclusion criteria for the study are: 1) Being diagnosed with any severe mental health condition (e.g. Psychotic disorders); 2) having any co-morbid health condition (e.g. hypertension, diabetes); 3) taking any anti-depressant or/and anxiolytic drugs as it may influence their mood and thus confound study results. The ages of the participants ranged from 29-58 years with a mean age of 45.60 (SD- 9.04) years. Baseline characteristics of the study population are depicted in table 1 below:

Table 1: Baseline Characteristics of Study Participants

	CBT (N=8)				Control Group (N= 7)			
Characteristics	**N**	**%**	**Mean**	**SD**	**N**	**%**	**Mean**	**SD**
General Fatigue			11.37	4.24			14.28	2.69
Physical Fatigue			12.38	3.20			14.29	1.80
Reduced activity			15.50	4.41			16.43	1.39
Mental Fatigue			12.37	4.07			11.42	2.22
Reduced Motivation			11.37	2.06			12.00	2.45
Anxiety			11.38	2.56			12.14	3.37
Depression			10.63	2.19			12.00	3.00
Age (29-58)			45.63	9.04			45.57	8.66
Marital Status								
Married	6	75%			6	95%		
Single	2	25%			1	5%		
Education								
Secondary	3	37.75			4	57.1%		
Tertiary	5	%			3	42.9%		
		62.5%						
Cancer Stage								
Stage 1	2	25%			1	14.3%		
Stage 11	4	50%			1	14.3%		
Stage 111	2	25%			5	71.4%		
Cancer Duration								
Less than 1 yr	3	37.5%			2	28.8%		
1-5 years	5	62.5%			5	71.4%		
Previous treatment								
Chemotherapy	8	100%			7	100%		
Current Treatment								
Chemotherapy	4	50%			3	42.9%		
Radiotherapy	3	37.5%			3	42.9%		
Drug	1	12.5%			1	14.3%		

Procedures

The study was approved by the Ethical Committee of the University of Nigeria Teaching Hospital (UNTH) South-East Nigeria. Between January and May 2018, forty (40) patients receiving standard oncology care at the UNTH who volunteered to participate in the study were recruited. Twenty eight (28) patients met the inclusion and exclusion criteria for the study. Among the twenty eight participants, Five (5) declined to take part in the study either because they lived far away from the hospital

Practicum Psychologia 10(1), 29-48
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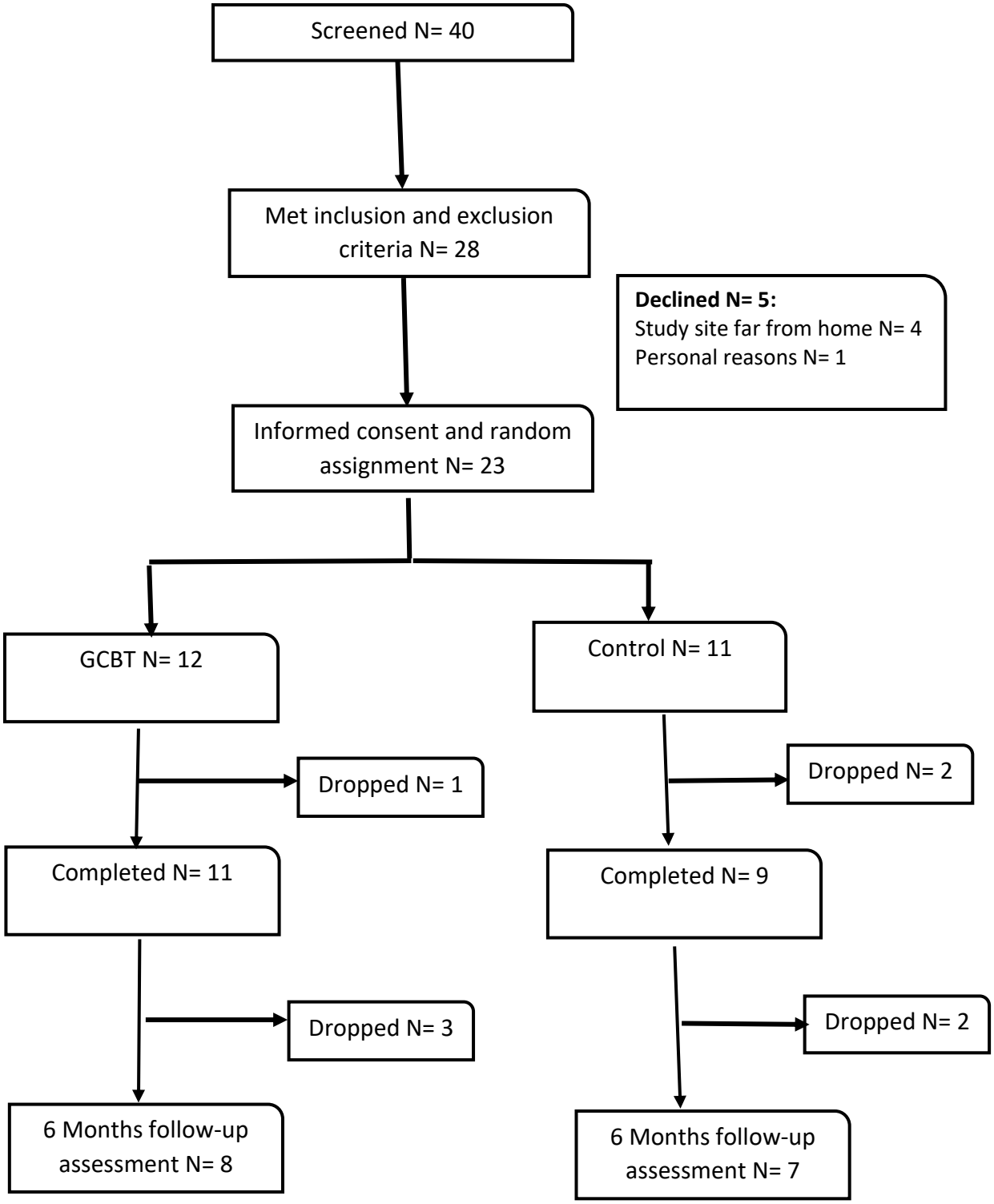
ISSN: 2006-6640

(N=4) or for personal reasons (N=1). The remaining twenty three (23) participants signed informed consent form and took part in the study. They were randomly allocated to two groups: treatment (CBT, N=12) group and control group (CG, N= 11). The treatment group attended an 8 week 90 min CBT spanning from June-July, 2018 whereas the control group only received their usual standard oncology treatment. Both groups were assessed at baseline, immediately after the intervention and at 6-months follow-up. At the end of the eight week intervention, a total of twenty (20) participants (CBT= 11, CG = 9) completed the whole session and post-treatment assessment. One participant dropped from the CBT group after the second session as a result of change in treatment location outside the study site whereas two participants dropped from the control group for personal reasons. However, at six month follow up assessment, a total of fifteen (15) participants (CBT= 8, CG = 7) completed the assessment. Three participants could not complete the 6-months follow-up. Two participants reported that they cannot continue as a result of their working schedule whereas one person complained of issues related to family problems. For the control group two persons dropped due to change in radiotherapy location outside the study site.

Figure 1. Schematic representation of the study procedures.



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ISSN: 2006-6640

Intervention

The CBT was a closed eight week 90mins, CBT handled by a consulting clinical psychologist with a PhD in Clinical psychology, and a fifteen (15) years of experience in group CBT. The CBT package was based on Rational Emotive Behaviour Therapy of Ellis (1962). The CBT basically achieved three major goals: cognitive restructuring, behavioural strategies and self-expression. This CBT model which utilized these three major goals had been used in previous research with cancer patients (Edelman & Kidman, 1999) and metastatic breast cancer patients (Coker et al., 1994; Edelman, Bell & Kidman, 1999). In the first three sessions, cognitive restructuring was introduced. Participants were guided to identify their patterns of maladaptive thinking and core irrational beliefs. They were guided on how to challenge and modify their maladaptive perceptions through relevant examples related to their experience with cancer. Behavioural strategies component of the therapy was introduced in the fourth session. Participants were taught a variety of behavioural coping strategies including deep progressive muscle relaxation and effective communication/assertiveness techniques. Progressive deep muscle relaxation was taught at the first three sessions as a way of dealing with anxiety. They were provided with a relaxation tape and encouraged to practice them at their convenience. Self-expression is at the centre of all group therapy as the participants were allowed to express their issues of concerns and associated feelings within the group. Specifically, for any problem a participant raised in the group, the therapist and other participants discussed the issue and suggested appropriate coping mechanism. Homework was a major component of the group sessions as participants were given homework at the end of each session. Each session usually started with a recapitulation of the previous sessions as well as a review of the participant's homework. The homework was very useful as it helped the participants to comprehend fully how thoughts influence behaviours which is the main theoretical concept of CBT. At the end of the therapy sessions, a manual containing summarized version of what was done in the sessions was compiled and given to the participants to study and continue to practice till six month follow-up assessment. This was aimed at sustaining the impact of the therapy.

Instruments

The outcome was assessed using:

The Multidimensional Fatigue Inventory (MFI)

The Multidimensional Fatigue Inventory was developed by Smets et al., (1995). The MFI measures CRF in five dimensions: general fatigue, physical fatigue, reduced activity, mental fatigue and reduced motivation. General fatigue includes general statements concerning a person's functioning. Physical fatigue refers to the physical sensation related to the feeling of tiredness. Reduced activity indicates individual‘s decrease in one’s daily activities. Reduced motivation measures a person’s lack of motivation to start any activity. While mental fatigue assesses some cognitive symptoms such as having difficulties concentrating. Every dimension contains four items with two items formulated in a positive (e.g. I feel fit) and two formulated in a negative direction (e.g. I feel fatigued). Items are given on a 7-point Likert-type scale and scores ranges from 7 – 28 for each subscales while the overall score ranges from 7 to 140 with higher scores indicating a greater sense of fatigue. Smets et al. (1995) reported a Cronbach's alpha coefficients for each of the subscales: general fatigue- .93, physical fatigue- .90, reduced activities- .89, mental fatigue- .82 and reduced motivation- .83. For this study, a Cronbach’s alpha coefficients for each of the subscales were as follows: General fatigue- .76, physical fatigue- .73, reduced activities- .73, mental fatigue- .69 and reduced motivation- .67.

Hospital Anxiety and Depression Scale (HADS)

The HADS is a 14 item self-report questionnaire developed to assess anxiety and depression for use in non-psychiatric hospital settings and in hospital outpatient departments (Zigmond and Snaith, 1983). The measure comprises 14 items divided equally between the two mood states (anxiety- 7 items and depression- 7 items), with 4-point rating scales for each item. This scale is helpful for evaluating the presence or absence of depression and its severity in cancer patients, as it excludes somatic symptoms (such as fatigue, insomnia), which can be attributed to cancer and its treatment (Walker et al., 2006) thereby allowing a more precise and accurate diagnosis. Smet et al. (1996) suggests that a major advantage of HADS over many other measures

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ISSN: 2006-6640

of depression is that it has no items directly relating to symptoms of tiredness or sleepiness that would most likely contaminate the relationship with a fatigue questionnaire. For the degrees of abnormality, Stern (2014) contend that for anxiety and depression scores of 8 – 10 shows Mild anxiety or depression, 11 – 14 shows Moderate anxiety or depression while scores between 15 – 21 indicate Severe anxiety or depression. The Cronbach's alpha for HADS as reported by the developers (Zigmond & Snaith, 1983) are r =.83 and r= .82 for anxiety and depression respectively. For this study, the HADS has good reliability with Cronbach's alpha coefficients of r = .77 for anxiety and .74 for depression subscales.

Design and statistics

The study adopted Pre-test Post-test Comparison Group Designs. Participants were tested before the therapy as well as after the therapy. Data was analysed using Statistical Package for Social Sciences (SPSS) version 25 and Independent sampled T test was used to test the hypotheses for the study. The baseline, post-treatment and 6-month follow-up assessment of the outcome variables was compared between the CBT group and the control group.

Results

Table 2: Effect of Group Cognitive Behaviour Therapy on Cancer-related Fatigue, anxiety and Depression.

Variable and Time Point	GCBT(N=8) Mean (SD)	Control (N=7) Mean (SD)	t	95% Cl	p
General Fatigue					
Baseline	11.37 (4.24)	14.28 (2.69)	-1.56	-6.94 to 1.24	.14
Post-treatment	8.37 (3.29)	12.42 (2.07)	-2.80	-7.18 to -9.28	.02
6-months Follow-up	8.75 (3.99)	13.29 (1.11)	-2.95	-7.11 to -.93	.011
Physical Fatigue					
Baseline	12.38 (3.20)	14.29 (1.80)	-1.39	-4.87 to 1.05	.18
Post-treatment	9.38 (3.02)	11.86 (1.57)	-1.95	-5.23 to .27	.07
6-months Follow-up	7.88 (2.69)	10.43 (1.81)	-2.12	-5.16 to ,05	.054
Reduced activity					
Baseline	15.50 (4.41)	16.43 (1.39)	-.53	-4.69 to 2.84	.60
Post-treatment	11.75 (3.77)	13.14 (2.04)	-.87	-4.85 to 2.06	.40
6-months Follow-up	11.00 (3.46)	14.57 (1.71)	-2.47	-6.69 to -.44	.028
Mental Fatigue					
Baseline	12.37 (4.07)	11.42 (2.22)	.55	-2.79 to 4.89	.59
Post-treatment	7.87 (2.90)	10.86 (1.35)	-2.49	-5.57 to -.39	.027
6-months Follow-up	6.38 (2.62)	10.57 (1.13)	-3.92	-6.51 to -1.88	.002
Reduced Motivation					
Baseline	11.37 (2.06)	12.00 (2.45)	-.54	-3.14 to 1.89	.60
Post-treatment	7.87 (1.96)	10.43 (1.51)	-2.79	-4.53 to -.58	.015
6-months Follow-up	7.13 (2.59)	12.71 (1.97)	-4.64	-8.18 to -2.99	.000
Anxiety					
Baseline	11.38 (2.56)	12.14 (3.37)	-.42	-4.69 to 3.16	.68
Post-treatment	7.00 (2.67)	11.00 (3.78)	-2.39	-7.62 to -.38	.033
6-months Follow-up	4.13 (1.46)	9.28 (3.59)	-3.74	-8.14 to -2.18	.002
Depression					
Baseline	10.63 (2.19)	12.00 (3.00)	-1.02	-4.28 to 1.53	.33
Post-treatment	4.50 (1.60)	11.86 (2.48)	-6.92	-9.65 to -5.06	.000
6-months Follow-up	3.13 (1.13)	9.28 (1.60)	-8.71	-7.76 to -4.56	.000

Note: SD: Standard Deviation, GCBT= Group cognitive behaviour therapy, Post-treatment= assessment after intervention.

The result for baseline outcome of the two groups showed that there was no significant difference between CBT and control group on the five dimensions of CRF (general fatigue, physical fatigue, reduced activity, mental fatigue and reduced motivation),

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ISSN: 2006-6640

anxiety and depression. This showed that both groups were similar prior to the commencement of the intervention.

For post-treatment and 6-months follow-up, the result showed that participants in CBT group differed significantly from the participants in the control group on general fatigue, mental fatigue and reduced motivation. For post-treatment, the result showed that there was a significant difference in general fatigue scores between the CBT group and the control group ($t(13) = -2.80$, $p < .028$) such that participants in the CBT ($M = 8.37$, $SD = 3.29$, $n = 8$) had significant general fatigue scores compared to the participants in control group ($M = 12.42$, $SD = 2.07$, $n = 7$). The result also showed that participants in CBT significantly different from participants in control group ($t(13) = -2.49$, $p < .027$) on mental fatigue such that participants in the CBT ($M = 7.87$, $SD = 2.90$, $n = 8$) had significant mental fatigue scores compared to the participants in control group ($M = 10.86$, $SD = 1.35$, $n = 7$). The result also showed that participants in CBT significantly different from participants in control group ($t(13) = -2.79$, $p < .015$) reduced motivation such that participants in the CBT ($M = 7.87$, $SD = 1.96$, $n = 8$) had significant reduced motivation scores compared to the participants in control group ($M = 10.43$, $SD = 1.51$, $n = 7$). For 2-month post-treatment follow-up, the result indicated that participants in CBT significantly differed from those in the control group on general fatigue, reduced activity, mental fatigue and reduced motivation. This showed that clinical improvement was sustained even six months after taking the CBT. There was however no significant difference between CBT and control group on physical fatigue both at pot-treatment and 6-months follow-up.

For anxiety and depression, the result in table 2 showed that there was a significant difference between participants in CBT and control group on those measures at post-treatment. Specifically, participants in CBT significantly differed from participants in control group on anxiety ($t(13) = -2.39$, $p < .033$) such that CBT group had significant reduction in anxiety ($M = 7.00$, $SD = 2.67$, $n = 8$) compared to control group ($M = 11.00$, $SD = 3.78$, $n = 7$). There was also a significant difference between the CBT group and the control group ($t(13) = -6.92$, $p < .000$) on depression scores.

Participants in the CBT (M = 4.50, SD = 1.60, n = 8) had significant lower depressive scores compared to the participants in control group (M = 11.86, SD = 2.48, n = 7). This showed that CBT was effective in reducing depressive symptom among women with breast cancer. For 6-months follow-up, the result showed that there was a significant difference between CBT and control group on both anxiety and depression indicating a sustained clinical improvement overtime.

Discussion

The major aim of the study was to test the effectiveness of group CBT on CRF, anxiety and depression among Nigeria women with breast cancer. Our findings confirmed the first hypothesis which stated that participants who received CBT will differ significantly in their CRF scores from the participants in the control group. Specifically participants who received CBT had significant reduction in general fatigue, mental fatigue and reduced motivation both at the post-treatment and 6-month follow-up compared to the participants in the control group. The CBT group also had significant reduction in reduced activity at 6-month follow-up. This is in line with previous study (Lee et al., 2011; Eichler et al., 2015) which found that CBT is effective in the management of CRF among breast cancer patients. Furthermore, other studies among cancer survivors (Abrahams et al., 2015; Heckler et al., 2016) have shown the effectiveness of CBT in CRF. In line with previous evidence, the present study found that group CBT is an effective psychological intervention in the management of CRF among breast cancer patients.

The result also confirmed the second and third hypotheses which stated that participants in CBT will significantly differ from the control group on anxiety and depression. Particularly, it was found that participant in CBT had significant reduction in anxiety and depression compared to the control group. This result is consistent with previous findings (Cocker et., 1994; Kissane et al., 2003; Qiu et al., 2013) which found that CBT is effective in the management of anxiety and depression among women with breast cancer. The findings that CBT could significantly reduce anxiety and depression among women with breast cancer are also supported by the cognitive theory of emotional disorders which posit that the way an individual interpret an event is at the

core of all emotional disorders (Beck, 1964 Ellis, 1962). Negative interpretation of events appears to be even more certain when it comes to such threatening illness like cancer. The cognitive theorists (Beck, 1964; Ellis, 1962) contend that CBT aims at modifying client's maladaptive thought processes, on which maladaptive emotional responses and behaviour are presumed to depend. Thus, working on the cognition of patients suffering from breast cancer using CBT have shown to be very efficacious and could serve as adjunct therapy to standard oncology care.

Implication for clinical practice

The findings of this preliminary study had important implication for clinical practice. As shown in this study that CBT was effective in significantly reducing CRF, anxiety and depression among Nigerian breast cancer patients, it is very important to include psychologically based therapies such as CBT as a complementary intervention to standard oncology care. It will be observed that psycho-oncology is a burgeoning field in Sub-Saharan Africa, thus the need to advance this field in Nigerian oncology setting. Unlike in Western Countries, psychosocial assessments and treatments are not common in Nigeria, there is therefore need to emphasize psychological intervention for cancer patients in order to improve their overall quality of life. Governments could make this possible by employing more mental health workers in Nigeria oncology setting. When this is achieved, cancer patients will received holistic treatment comprising both standard oncology treatment (e.g. chemotherapy, radiotherapy) as well psychological treatments (e.g. CBT) that will address psychological related disorders arising from the burden of cancer and its treatments.

Limitations and recommendation for further studies

There are some limitations of the study. First the study recorded relatively higher rate of attrition among the participants (34.78%). While the rate of attrition for CBT was 33.33% that of the control group was 36.36%. The higher rate of attrition may be attributed to the fact that the study was conducted among patients who are currently under standard oncology treatment such as radiotherapy because some of them were dropping out due to radiotherapy outside the study site. Future studies could replicate

this study among patients that have already completed their course of chemotherapy and radiotherapy or newly diagnosed cancer patients yet to start their treatment as this will go a long way to lessen the rate of attrition. Second, the study was restricted to patients with breast cancer patients. Although, this could be described in terms of participants' homogeneity. Future studies could replicate these findings on other cancer population.

Conclusion

Our study found that group CBT is effective in the management of CRF anxiety and depression among women with breast cancer. This present study appears to be one of the few studies investigating the effectiveness of CBT on CRF, anxiety and depression among Nigerian women with breast cancer. The study had an important clinical implication in the psychological management of cancer patients particularly in Nigeria oncology setting. Thus an urgent need to incorporate psychological therapies particularly CBT in oncology care especially in Nigeria oncology setting where such therapies are grossly deficient.

References

Abrahams, H. J, Gielissen, M. F, & Goedendorp, M. M. (2015). A randomized controlled trial of web-based cognitive behavioral therapy for severely fatigued breast cancer survivors (CHANGE-study): study protocol. *British Medical journal of Cancer,* 15, 765-778.

Alacacioglu, A., Ulger, E., Varol, U., Yildiz, I., Salman, T., Bayoglu, V., ⋯ Dirican, A., (2014). Depression, Anxiety and Sexual Satisfaction in Breast Cancer Patients and their Partners-Izmir Oncology Group Study. *Asian Pacific Journal of Cancer Preview,15(24),*10631-10636.doi:http://dx.doi.org/10.7314/APJCP.2014.15.24.10631

Beck, A. T. (1967). *Depression: clinical, experimental, and theoretical aspects*. New York: Harper & Row.

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders.* New York: New American Library.

Practicum Psychologia 10(1), 29-48
©The Author(s) 2020
http://journals.aphriapub.com/index.php.pp
ISSN: 2006-6640

Buzgova, R., Jarosova, D., & Hajnova, E. (2015). Assessing anxiety and depression with respect to the quality of life in cancer in-patients receiving palliative care. *European Journal of Oncology Nursing 19(6),* 1 – 6.

Campos, M. P., Hassan, B. J., & Riechelmann, R. (2011). Cancer related fatigue: a review. *Rev Assoc Med Bras, 57*, 211-9.

Carayol, M., Bernard, P., Boiché, J., Riou, F., Mercier, B., Cousson-Gélie, F., ⋯ Ninot, G. (2012). Psychological effect of exercise in women with breast cancer receiving adjuvant therapy: what is the optimal dose needed? *Annals of Oncology, 24*(2), 291 – 300. doi:10.1093/annonc/mds342

Cella, D., Peterman, A., Passik, S., Jacobsen, P., & Breitbart, W. (1998). Progress towards guidelines for the management of fatigue. *Oncology, 12,* 369 – 377.

Celik, G. O., Tuna, A., Samancioglu, S., & Korkmaz, M. (2016). The fatigue, anxiety and depression levels of patients with breast cancer during radiotherapy. *International Journal of Clinical and Experimental Medicine, 9(2),* 4053-4058.

Cocker, K. I., Bell, D. R., & Kidman, A. D. (1994). Cognitive behaviour therapy with advanced breast cancer patients: A brief report of a pilot study. *Psycho-oncology, 3 (3),*
233 – 237. doi: 10.1002/pon.2960030310

de Caralho SMF, Bezerra , I. M. P., Freitas, T. H., Rodrigues, R. C. D., de Carvalho, I. O. C., Brasil, A. Q., Júnior, F. T. C., ⋯ Diniz, L. F. B. (2015). Prevalence of major depression in patients with breast cancer. *Journal of Human Growth and Development. 25(1),* 68-74. doi: http://dx.doi.org/10.7322/jhgd.96770

Edelman, S. & Kidman, A. D. (1999). Description of a group cognitive behaviour therapy programme with cancer patients. *Psycho-Oncology, 8*, 306 – 314.

Edelman, S., Bell D. R., & Kidman, A. D. (1999). A group cognitive behaviour therapy programme with metastatic breast cancer patients. *Psycho-Oncology 8,* 295 – 305.

Ellis, A. (1958). Rational psychotherapy. Journal of General Psychology, 59, 35-49.

Ellis, A. (1962). *Reason and emotion in psychotherapy*. New York: Lyle Stuart.

Eichler, C., Pia, M., Sibylle, M., Sauerwald, A., Friedrich, W., & Warm, M. (2015). Cognitive behavioral therapy in breast cancer patients - a feasibility study of an 8 week intervention for tumor associated fatigue treatment. *Asian Pacific Journal of*

Cancer Prevention, 16 (3), 1063-1067. DOI:http://dx.doi.org/10.7314/APJCP.2015.16.3.1063.

Fallowfield, L., Ratcliffe, D., Jenkins, V., & Saul, J. (2001). Psychiatric morbidity and its recognition by doctors in patients with cancer. *British Journal of Cancer, 84*, 1011 – 1015.

Heckler, C. E., Garland, S. N., & Peoples, A. R.(2016). Cognitive behavioral therapy for insomnia, but not armodafinil, improves fatigue in cancer survivors with insomnia: a randomized placebo-controlled trial. *Support Care Cancer, 24*, 2059 – 2066.

Hinz, A., Krauss, O., Hauss, J. P., Hockel, M., Kortmann, R. D., Stolzenburg, J. U, et al. (2010) Anxiety and depression in cancer patients compared with the general population. *European Journal of Cancer Care, 19*, 522-529.

Institute of Medicine (2007). Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs. Washington, DC: The National Academies Press.

Kissane, D. W., Bloch, S., Smith, G. C., Miach, P., Clarke, D. M., Ikin, J., ⋯ Love, A. (2003). Cognitive-existential group psychotherapy for women with primary breast cancer: a randomised controlled trial. *Psycho-Oncology, 12,* 532 – 546. doi: 10.1002/pon.68

Kumar Tyagi, N., & Dhesy-Thind, S. (2018). *Clinical practice guidelines in breast cancer. Current Oncology, 25,* 151.-160*.* doi:10.3747/co.25.3729

Lee, H., Lim, Y., Yoo, M. S., & Kim, Y. (2011). Effects of a nurseled cognitive behavior therapy on fatigue and quality of life patients with breast cancer undergoing radiotherapy: An exploratory study. *Cancer Nursing, 34(6),* 22 – 30.

Loquai, C., Scheurich, V., Syring, N., Schmidtmann, I., Rietz, S., Werner, A., et al. (2013). Screening for distress in routine oncological care—a survey in 520 melanoma patients. PLoS ONE 8(7): e66800. https://doi.org/10.1371/journal.pone.0066800

Massie, M. J. (2004). Prevalence of depression in patients with cancer. Journal of the National Cancer Institute Monograph, 32, 57 – 71.

Morounke, S. G., Ayorinde, J. B., Benedict, A. O., Adedayo, F. F., Adewale, F. O., Iyapo Oluwadamilare, I., ⋯ Sokunle, S.S. (2017) Epidemiology and Incidence of Common Cancers in Nigeria. J Cancer Biol Res 5(3): 1105

National Comprehensive Cancer Network (2014). Clinical Practice Guideline in Oncology Cancer-Related Fatigue Version Ⅰ. Retrieved from http://www.nccn.org/ professionals/physician_gls/pdf/fatigue.

National Comprehensive Cancer Network (2016). Clinical Practice Guidelines in Oncology, Distress Management, Version 1. Retrieved from https://www.nccn.org/professionals/physician_gls/pdf/distress.pdf

Practicum Psychologia 10(1), 29-48
©The Author(s) 2020
http://journals.aphriapub.com/index.php.pp
ISSN: 2006-6640

Paiva, C. E., & Paiva, B. S (2013). Prevalence, predictors, and prognostic impact of fatigue among Brazilian outpatients with advanced cancers. *Support Care Cancer 21(4),* 1053 – 1060. doi:10.1007/s00520012-1625-2.

Qiu, J., Chen, W., Gao, X., Xu, Y., Tong, H., Yang, M., ⋯ Xiao, Z. (2013). A randomized controlled trial of group cognitive behavioral therapy for Chinese breast cancer patients with major depression. *Journal of Psychosomatic Obstetrics Gynaecology, Early Online*, 1 – 8. doi: 10.3109/0167482X.2013.766791

Reddick, B. K., Nanda, J. P., Campbell, L., Ryman, D. G., & Gaston-Johansson, F. (2005). Examining the influence of coping with pain on depression, anxiety, and fatigue among women with breast cancer. J *Psychosocial Oncology, 23,* 137 – 157.

Sekse, R. J., Hufthammer, K. O., & Vika, M. E. (2015). Fatigue and quality of life in women treated for various types of gynaecological cancers: a cross-sectional study. *Journal of Clinical Nursing, 24(3-4),* 546 – 555. doi:10.1111/ jocn.12647.

Smets, E. M., Garssen, B., & Bonke, B. (1995). The Multidimensional Fatigue Inventory (MFI) psychometric qualities of an instrument to assess fatigue. *Journal of Psychosomatic Research, 39*, 315-25.

Thalén-Lindström, A. (2014). Screening and assessment of distress, anxiety, and depression in cancer patients. Digital comprehensive summaries of Uppsala Dissertations from the Faculty of Medicine 1006. 75 pp. Uppsala: Acta Universitatis Upsaliensis. ISBN 978-91554-8965-6.

Traeger, L., Greer, J. A., & Fernandez-Robles, C. (2012). Evidence-based treatment of anxiety in patients with Cancer. *Journal of Clinical Oncology, 30(11),* 1197 – 205

Vodermaier, A., Linden, W., & Siu, C. (2009). Screening for Emotional Distress in Cancer Patients: A Systematic Review of Assessment Instruments. *Journal of the National Cancer Institute, 101*, 1464 – 1488. doi: 10.1093/jnci/djp336

Walker, J., Postma, K., Gillian, S., Rush, R., Coyle, B., Strong, V., & Sharpe, M. (2007). Performance of the hospital anxiety and depression scale as a screening tool for major depressive disorder in cancer patients. *Journal of Psychosomatic Research 63*, 83-91. doi: 10.1016/j/jpsychores.2007.01.009

Weber, D., & O' Brien, K. (2017). Cancer and Cancer-Related Fatigue and the Interrelationships with Depression, Stress, and Inflammation. *Journal of Evidence-Based Complementary & Alternative Medicine, 22(3),* 502-512. doi: 10.1177/2156587216676122.

Weis, J. (2011). Cancer-related fatigue: prevalence, assessment and treatment strategies. *Expert Rev Pharmacoecon Outcomes Research,* 11, 441-446.

Weis, J., Arraras, J. I., Conroy, T., et al. (2013) Development of an EORTC quality of life phase III module measuring cancer‐related fatigue (EORTC QLQ‐FA13). *Psycho-oncology, 22*, 1002‐1007.

Wu, P., Chen, S., Huang, W., Chang, S., & Hsu, M. (2018). Effects of a psycho-educational intervention in patients with breast cancer undergoing chemotherapy. *The Journal of Nursing Research, 00(0),* 1-14.

Yellen, S. B., Cella, D., Webster, K., Blendowski, C., & Kaplan, E. (1997). Measuring fatigue and other anemia‐related symptoms with the Functional Assessment of Cancer Therapy (FACT) measurement system. *Journal of Pain and Symptom Management, 13*, 63‐74.

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatr Scand, 67,* 361-70. DOI: 10.1111/j.1600-0447.1983.tb09716.x.