UNIVERSITI PUTRA MALAYSIA

EFFECTIVENESS OF MINDFULNESS-BASED COGNITIVE THERAPY IN REDUCING DEPRESSIVE SYMPTOMS AMONG INSTITUTIONALISED PATIENT WITH MAJOR DEPRESSION IN SOKOTO STATE, NIGERIA

MUSA ZULKIFLU ARGUNGU

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By

MUSA ZULKIFLU ARGUNGU

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

February 2021

DEDICATION

I dedicate this to Almighty Allah.

Abstract of the thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the Degree of Doctor of Philosophy

EFFECTIVENESS OF MINDFULNESS-BASED COGNITIVE THERAPY IN REDUCING DEPRESSIVE SYMPTOMS AMONG INSTITUTIONALISED PATIENT WITH MAJOR DEPRESSION IN SOKOTO STATE, NIGERIA.

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February 2021

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Depression is the most common and crippling mental illness, it represent the mental health disorder that has significant repercussions into the lives of its sufferers. The burden and disability resulting from depression is significant, and yet depression is largely left untreated and most patients do not receive proper professional care. The present study aims to evaluate the effectiveness of mindfulness-based cognitive therapy (MBCT) on major depressive disorder (MDD) and explore its impact on depressive symptoms reduction, suicidal ideation, and disability among depressive patients in Nigeria.

This study was conducted as an experimental design with pre-test, post-test, and eight weeks follow-up. One hundred and one participants aged 18-69 years who met DSM-5 criteria for major depressive disorder were recruited through random cluster sampling from two health centres in Sokoto State, Nigeria, and randomly assigned to two groups (experimental and control group). The experimental group underwent mindfulness-based cognitive therapy (MBCT) for depression, while the control group received regular treatment, not any form of psychotherapy. Data was collected at the baseline, immediately after the intervention and 2 months after the intervention, serving as follow-up. General linear model (GLM), repeated measure was applied to assess the effectiveness of the intervention. Data was analyzed with intention-to-treat principle. The SPSS version 22 software was used for analysis and both descriptive and inferential statistics were presented. Treatment effects were measured with the t-tests, ANCOVA and MANCOVA analysis. Test of significance were set at p-value <0.05 and 95% Confidence Interval (CI).

Respondents in the intervention group (MBCT group) showed statistically significance depression score, suicidal ideation and disability [mean = 32.70 (6.35), posttest 1 mean score = 22.50 (6.19), posttest 2 mean score = 18.25 (4.64), F [(2, 34.203); P < 0.001]. Suicide ideation [mean = 18.60 (4.40), posttest 1 mean score = 13.35 (3.35), posttest 2 mean score = 10.90 (2.20), F[(2, 11.700); P < 0.001]. Disability [mean = 19.10 (4.42), posttest 1 mean

score 14.10 (4.25), posttest 2 mean score = 9.3 (2.90), F [(2, 9.393); P < 0.001]. While for the control group, the results showed no statistically significance depression score, suicidal ideation and disability [mean = 29.55 (7.35), posttest 1 mean score = 24.90 (2.97), posttest 2 mean score = 23.60 (3.72), F [(2, 28.224); P < 0.532]. Suicide ideation [mean = 17.95 (4.25), posttest 1 mean score = 19.10 (2.69), posttest 2 mean score = 16.90 (1.83), F[(2, 18.459); P < 0.651]. Disability [mean = 18.00 (4.03), posttest 1 mean score 17.85 (3.66), posttest 2 mean score = 18.25 (4.89), F [(2, 15.909); P < 0.870].

The findings of the present study showed that MBCT is effective in reducing depressive symptoms, suicidal ideation and disability score among depressed patients in Sokoto state, Nigeria. The findings of this study have implications for mental clinics, family therapy centres, and psychiatrists who provide treatment for psychiatric patients. In general, the findings also may have implications on counselling psychology theory and specifically on MBCT. Future studies may be needed to replicate the findings and for generalization.

Keywords**:** Depression; Depressive Disorders; Disability; Mindfulness-Based Cognitive Therapy; Randomized Controlled Trial; Suicide Ideation.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia Sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

KEBERKESANAN TERAPI KOGNITIF BERDASARKAN KESEDARAN DALAM MENGURANGKAN GEJALA KEMURUNGAN DI KALANGAN PESAKIT INSTITUSI DENGAN KEMURUNGAN UTAMA DI NEGERI SOKOTO, NIGERIA.

Oleh

MUSA ZULKIFLU ARGUNGU

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Kemurungan adalah penyakit mental yang paling biasa dan melumpuhkan, ia merupakan gangguan kesihatan mental yang mempunyai kesan yang signifikan terhadap kehidupan penderitanya. Beban dan kecacatan akibat kemurungan adalah penting, namun kemurungan sebahagian besarnya tidak dapat dirawat dan kebanyakan pesakit tidak mendapat rawatan profesional yang betul. Kajian ini bertujuan untuk menilai keberkesanan terapi kognitif berdasarkan kesedaran (MBCT) terhadap gangguan kemurungan utama (MDD) dan meneroka kesannya terhadap pengurangan gejala kemurungan, idea bunuh diri, dan kecacatan di kalangan pesakit depresi di Nigeria.

Kajian ini dilakukan sebagai reka bentuk eksperimen dengan ujian pra, ujian pasca, dan lapan minggu susulan. Seratus satu peserta berusia 18-69 tahun yang memenuhi kriteria DSM-5 untuk gangguan kemurungan utama direkrut melalui pensampelan kelompok secara rawak dari dua pusat kesihatan di Negeri Sokoto, Nigeria, dan ditugaskan secara rawak kepada dua kumpulan (kumpulan eksperimen dan kawalan). Kumpulan eksperimen menjalani terapi kognitif berdasarkan perhatian (MBCT) untuk kemurungan, sementara kumpulan kawalan mendapat rawatan biasa, bukan bentuk psikoterapi. Data dikumpulkan pada garis dasar, segera setelah intervensi dan 2 bulan setelah intervensi, berfungsi sebagai susulan. Model linear umum (GLM), ukuran berulang digunakan untuk menilai keberkesanan intervensi. Data dianalisis dengan prinsip niat-untuk-merawat. Perisian SPSS versi 22 digunakan untuk analisis dan kedua-dua statistik deskriptif dan inferensi dibentangkan. Kesan rawatan diukur dengan ujian-t, analisis ANCOVA dan MANCOVA. Ujian kepentingan ditetapkan pada nilai $p < 0.05$ dan 95% Confidence Interval (CI).

Responden dalam kumpulan intervensi (kumpulan MBCT) menunjukkan statistik skor kemurungan ketara, idea bunuh diri dan kecacatan [min = 32.70 (6.35), ujian pos 1 skor min = 22.50 (6.19), ujian pos 2 skor min = 18.25 (4.64), F [(2, 34.203); $P < 0.001$]. Idea bunuh

diri [min = 18.60 (4.40), ujian pos 1 skor min = 13.35 (3.35), ujian pos 2 skor min = 10.90 (2.20), F [(2, 11,700); P <0.001]. Kecacatan [min = 19.10 (4.42), ujian pos 1 skor min 14.10 (4.25), ujian pos 2 skor min = 9.3 (2.90), F [(2, 9,393); P <0.001]. Sementara untuk kumpulan kawalan, hasilnya tidak menunjukkan skor kemurungan yang signifikan secara statistik, idea bunuh diri dan kecacatan [min = 29.55 (7.35), ujian pos 1 skor min = 24.90 (2.97), ujian pos 2 skor min = 23.60 (3.72), F [(2, 28.224); P <0.532]. Idea bunuh diri [min = 17.95 (4.25), ujian pos 1 skor min = 19.10 (2.69), ujian pos 2 skor min = 16.90 (1.83), F [(2, 18.459); P <0.651]. Kecacatan [min = 18.00 (4.03), ujian pos 1 skor min 17.85 (3.66), ujian pos 2 skor min = 18.25 (4.89), F [(2, 15.909); P <0.870].

Penemuan kajian ini menunjukkan bahawa MBCT berkesan dalam mengurangkan skor gejala kemurungan, idea bunuh diri dan kecacatan di kalangan pesakit tertekan di negara Sokoto, Nigeria. Hasil kajian ini mempunyai implikasi terhadap klinik mental, pusat terapi keluarga, dan psikiatri yang memberikan rawatan kepada pesakit psikiatri. Secara umum, penemuan ini juga mungkin mempunyai implikasi terhadap teori psikologi kaunseling dan khususnya pada MBCT. Kajian masa depan mungkin diperlukan untuk mengulang penemuan dan untuk generalisasi.

Kata kunci: Kemurungan; Gangguan kemurungan; Kecacatan; Terapi Kognitif Berasaskan Kesedaran; Percubaan Terkawal Secara Rawak; Idea Bunuh Diri.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

95% CI	95% Confidence Interval
APMS	Adult Psychiatric Morbidity Survey
ACC	Active Control Condition.
ACT	Acceptance and Commitment Therapy
ANOVA	Analysis Of Variance
APA	American Psychiatric Association
BDI	Beck Depression Inventory.
BSIS	Beck's Suicidal Ideation Scale
CBT	Cognitive Behavior Therapy
CG	Control Group
CT	Controlled Trial.
DALY	Disability Adjusted Life Years
DBT	Dialectical Behavior Therapy
DRAM	Depression Relapse Active Monitoring.
DSM-IV	Diagnostic Statistical Manual of Mental Disorders, 4th Edition
DSM-5	Diagnostic Statistical Manual of Mental Disorders, 5th Edition
EG	Experimental Group
GBD	Global Burden of Disease
GLM	General Linear Model
HDRS	Hamilton Depression Rating Scale
HEP	Health Enhancement Program.
HIV	Human Immune Virus
ID	Intellectual Disability
JKEUPM	Jawatankuasa Etika Universiti Untuk Penyelidikan Melibatkan Manusia

mADM	maintenance Antidepressants Medication.
MANCOVA	Multivariate Analysis of Covariance
MBA	Mindfulness-Based Approaches
MBCT	Mindfulness-Based Cognitive Therapy
MBI	Mindfulness-Based Intervention
MBSR	Mindfulness-Based Stress Reduction
MDD	Major Depressive Disorders
MINI	Mini-International Neuropsychiatric Interview
NAT	Negative Automatic Thought
NICE	National Institute of Health Care Excellence
NIMH	National Institute of Mental Health
PHQ-9	Patients Health Questionnaire
RCT	Randomized Controlled Trial.
SAMHSA	Substance Abuse and Mental Health Services Administration
SCID	Structured Clinical Interview for Depression
SD	Standard Deviation
SDS	Shaheen Disability Scale
SE	Standard Error
SPSS	Statistical Package for the Social Sciences
TAU	Treatment as Usual.
UDUTH	Usman Danfodio University Teaching Hospital
WFMH	World Federation of Mental Health
WHO	World Health Organization
WMH-CIDI	World Mental Health Composite International Diagnostic Interview
YLD	Years of Life with Disabilities

CHAPTER 1

INTRODUCTION

1.1 Background

The theory and treatment of depression have undergone significant changes in the last 40 years (Oei & Dingle, 2008). Two major developments that have emerged include the treatment of depression through medication as well as Cognitive Behavior Therapy (CBT). Based on Beck's cognitive depression treatment, depression is the product of an association between an individual's cognitive weakness and perceived stressor (Beck et al., 1979). Depression is one of the most serious mental health conditions in the world today with a high risk of relapse/recurrence, regardless of treatment modality**.** Segal et al. (2002) postulated Mindfulness-Based Cognitive Therapy due to the high risk of depression relapse.

Depression is one of the most common psychiatric disorders in the overall population, and one of the key causes of morbidity worldwide. Almost 350 million people are presently assumed to be affected by depression, and these illnesses currently represent one of the foremost causes of disabilities in the world (World Federation of Mental Health, 2012; WHO, 2015). Almost 50% of these people are from the South-East Asia Region, and the Western Pacific Region, with India and China, has larger populations (WHO, 2015). The prevalence differs by region, from a low of 2.6% amongst males in the Pacific Region to 5.9% amongst females in the African Region (WHO, 2014). In a survey conducted in 17 countries recorded that 1 in every 20 people is having an episode of depression in the past years (WFMH, 2012). The high prevalence of depression has headed to it being labelled the "common cold" of mental disorder (Weiten, 2004).

Studies suggest that depression is a huge problem for societies due to the direct costs of health care and a source of disability. Also, the prevalence of disability caused by depression is on the rise, and it causes much distress and psychosocial disability (Judd & Akiskal, 2000; NICE, 2009) which reported that depression was the fourth leading cause of disability worldwide, and will become the second leading above all non-infectious diseases after ischemic heart disease by 2020 (Kaplan & Laing, 2004; Murry, Lopez, & WHO, 1996). Further to that, depressive disorder is among the most significant causes of death and disability worldwide in both developing and developed countries (Geddes et al., 2003). Also, the study indicates that by the year 2020, clinical depression will be the second greatest international health burden (behind chronic heart disease) when measured by incidences of death, disability, or incapacity to work and medical resources used (Blackburn & Moorhead, 2000).

There also appears to be gender differences; according to WHO (2014), depression is more common in women who account for (5.1%) than men (3.6%). The prevalence of men and women who experience depression is increasing, but more women than men are

likely to be with depression at all ages. Kessler et al. (1993) reported that women are twice as likely to experience the negative effects of depression. The studies explored certain biological, societal, and cultural factors that are unique to women for developing depression. Women are two times as likely to report a lifetime history of major depressive disorders (MDD), but they do not have a higher risk than men of either chronic or recurrent depression (Grigoriadis & Robinson, 2007; Kessler et al., 1993, 2005). However, this gender difference appears to be reduced as a result of the overall development worldwide in terms of education and finance (Seedat et al., 2009).

Furthermore, depression brings with it a substantial risk for relapse (WHO, 2013). Individuals who have experienced an episode of depression are 35% more likely to suffer from relapse/recurrence in the next 15 years of their lives (WHO, 2013) even when treated successfully, relapse/recurrence are common and frequently carries huge social cost (Kessing et al., 2004; Mintz et al., 1992; Scott et al., 2003). The finding suggests that the biggest predictor of relapse is a prior diagnosis of major depression (Hardeveld et al., 2010).

One of the most severe consequences of depression is a suicide, where up to 1 million depressed individuals commit suicide annually as a result of depression and are the second leading cause of death in 15–29-year- olds globally (WHO, 2013). A meta-analysis conducted showed that individuals suffering from mood disorders such as depression had an 8.6% higher chance of committing suicide compared to non-depressed populations (Bostwick & Pankratz, 2000). They were mirroring the gender described above ratios, twice as many females attempted suicide as a result of depression (Bostwick & Pankratz, 2000). A review showed that males were 20.9 times more likely, and females 27 times more likely to attempt suicide (Osby et al., 2001).

1.2 Statement of the Problem

Recent analyses done by WHO (2010) show that neuropsychiatric conditions, which included a selection of these disorders, had an aggregate point prevalence of about 10% for adults (GBD, 2000). About 450 million people were estimated to be suffering from neuropsychiatric conditions. These conditions included unipolar depressive disorders, bipolar affective disorder, schizophrenia, epilepsy, alcohol, and selected drug use disorders, Alzheimer's and other dementias, post-traumatic stress disorder, obsessive and compulsive disorder, panic disorder, and primary insomnia.

In the African region, close to 30 million people are suffering from depression. Nigeria was ranked the most depressed in Africa; this was the inference contained in the latest statistics released by the WHO (2017), which shows that Nigeria has 7,079,815 sufferers of depression that is 3.9% of the entire population, making Nigeria, according to the current prevalence rate, the most depressed country in Africa. In Nigeria, 28.5% of those attending a primary care setting in an urban area were found to have psychiatric morbidity (Gujere et al., 1992; Ohaeri et al., 1994; Omokhodion et al., 2003). Also, in Nigeria, a study found that depression was higher in rural areas than in urban areas

(Roman et al., 2007). Nigerian women, like women in other countries, have found to be twice prone to depression than men at all ages and during their lifetime (Abiodun et al., 1993; Cleon et al., 1981).

Depression as a source of disability and impairment leads to many personal and social burdens for depressed individuals (Glied & Kofman, 1995). Adverse effects of depression impact not only the afflicted individuals but also their relationship with spouse and family, which leads to marital dissatisfaction between couples. The depressed individual and non-depressed individual experienced less satisfaction with their relationship due to less communication and interaction as well as dysfunctional thinking and behaviour (Schmaling & Jacobson, 1990). According to Global Burden of Disease (GBD; 2015), the African region accounts for 731 per every 100,000 population. Nigeria has the highest number of people with disabilities due to depression, with over 1.2 million affected.

In the general population of Nigeria, the rate of lifetime prevalence of suicide attempts is 9.7 per 100,000 (WHO, 2015). The strong religious and cultural prohibitions against suicide in Nigeria could have played a significant role in the survey conducted and led to under-reporting it so that the actual suicide attempt rates could be much higher. That is why Nigeria was ranked third in Africa for suicide despite being the first in depression. Depression and schizophrenia are responsible for 60% of all suicides, and no population was found to be free of schizophrenia and depression in a landmark WHO study conducted in developing and developed countries (WHO, 2010).

Currently, in Nigeria, the most commonly administered treatment for depression is medication (Busari, 2015). However, there are some concerns regarding the use of medication, which includes unpleasant side-effects, premature termination, a high rate of relapse, and possible health risks for some with acute medical problems. Finally, and the most important are some personal stigma and cultural taboos when taking medication for the treatment of depression (Dejman et al., 2009; Dejman, 2010).

In line with the above information about the problems of medication for the treatment of depression, there is a need to examine psychotherapeutic intervention, which has a few problems and little or no side-effects for the treatment of depression. Based on the literature review, there is a lack of knowledge concerning the use of psychotherapeutic intervention among psychiatry patients with depression in Nigeria. Furthermore, while there is a large number of empirical support for Mindfulness-Based Cognitive Therapy (MBCT) as an effective intervention for the treatment of depression (Baer, 2006; Busari, 2015), there is no record to show the use of this approach for the treatment of depression among psychiatry patients in Nigeria. Therefore, more research needed on MBCT in Nigeria because it is the most populous country in Africa and also has the highest number of depressed patients in Africa. Hence, this study aims to determine the effectiveness of mindfulness-based cognitive therapy on depressive patients in Nigeria.

Secondly, the majority of the psychotherapeutic studies focus on anxiety and other physical health-related problems such as HIV and cancer; depressive patients were less explored (Andersson, 2014; Genaabadi, 2010). Thirdly, no RCT studies have previously undertaken in African countries, specifically Nigeria, which has the highest number of depressive patients than any other country in Africa (Cuijpers et al., 2016). Fourthly, lack of any psychotherapeutic treatment for depression and prevention of suicide ideation in Nigeria (Dewa, 2002). Finally, there is a need to evaluate the effectiveness of MBCT on depressive symptoms and relapse prevention among depressed patients in Nigeria. Therefore, this study was conducted to address such gaps. The current research was done among depressed patients in Nigeria to answer the following questions:

1.3 Research Questions

The present research aims to answer the following questions

1. What is the relationship between the socio-demography of respondents and the depression?

2. What is the effectiveness of an MBCT on the treatment outcome of depression after the intervention?

3. What is the effect of MBCT on the symptom of relapse among patients with depression after the intervention?

4. What is the effect of MBCT on reducing suicidal ideation?

5. What is the effect of MBCT on depressed patients with a disability?

1.4 Research Purpose

The purpose of this study is to evaluate the effect of mindfulness-based cognitive therapy on the management of depressed patients in Nigeria. The Mindfulness-Based Cognitive Therapy (MBCT) for Depression Management program is a manualized treatment protocol that can be administered to depressed patients in a small group setting. The theoretical underpinnings of the manual were described in the literature review, and the session content was described in the method section. A copy of the manual that was used during the implementation stage of this study was available on appendix F. The program relies heavily on the programs designed by Segal et al. (2002, 2013). It was hoped that this study would aid in the development of an effective, time-limited treatment intervention for patients with depression. The purpose of this study is to examine the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) on the Management of Depression among the Psychiatric Patients in Nigeria.

1.5 Objectives

1.5.1 Main Objective

To examine the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) on the Management of Depression among the Psychiatric Patients in Nigeria.

1.5.2 Specific Objectives

1. To determine the relationship between the socio-demography of respondents and depression level

2. To evaluate the effectiveness of an MBCT on the treatment outcome of depression level after the intervention.

3. To evaluate the effect of MBCT on the prevention of relapse among patients with depression after the intervention.
4. To determine the effect of MBCT on reducing suicidal ideation.

5. To determine the effectiveness of MBCT on depressed patients with mental disabilities.

1.6 Significance of the Study#

Mindfulness-based cognitive therapy is a non-pharmacological therapy. The purpose of the current study is to determine the effectiveness of mindfulness-based cognitive therapy on the management of depression among depressed patients in Nigeria. This study will significantly reduce the burden for the affected individuals, their families, and society in general. Medical treatment and prevention programs are vital to focus on an individual risk and resilience factors, family and community risk and resilience variables that have been developed, including the development and maintenance of depression (Clarke et al., 2003).

The use of electro-shocks for a decrease of depression in medical treatment leads to side effects and other disadvantages, while MBCT and other psychotherapy have an essential benefit for them, although it is time-consuming (Kocovski & MacKenzie, 2016). Most anxiety and depression treatment include general skills-building strategies such as self-monitoring, psycho-education, problem-solving, social skills training, and reward plans thus; MBCT would be expected to produce positive change in cognitive processing, including decreasing negative automatic thoughts, maladaptive attitudes and assumptions and decreased threat interpretations (Chen et al., 2006).

The research purpose is to emphasize psychotherapy and alternative medicine method to treat a mental health problem. In Nigeria, depression has attracted more and more attention in the past decade as a very significant public health problem. Depression in Nigeria is a serious problem, and it has the highest number of depressed patients in Africa, based on reviews, this study hopes to address this problem and contributes towards reducing the depression in Nigeria.

Finding of this study may assist health practitioners in gaining more information about the effectiveness of MBCT on the management of depression and contribute towards the development of educational and preventive measures and community interventions. Promoting awareness and practices of MBCT is of paramount importance for early detection and prevention of relapse; therefore, the findings may help nurses (psychiatrist nurses) in designing and providing health education programs for depressed patients and also assist policymakers in designing and incorporate MBCT program in the treatment of depression. The findings may also contribute to the body of knowledge and inform further research.

1.7 Definition of Variables

In this section, the terms are conceptually and operationally defined.

1.7.1 Mindfulness-Based Cognitive Therapy

***Conceptual definition of MBCT*:** Conceptual definitions of mindfulness include the development of attention and awareness of present moment experience with a stance of nonjudgmental receptivity to that experience (Segal et al., 2002).

***Operational definition of MBCT**:* Is a program which was arranged in a session of two hours and fifteen minutes per week for eight weeks of the treatment period.

1.7.2 Depression

Conceptual definition of depression: Depression disorder is an illness that involves the body, mood, and thoughts (NIMH, 2006). According to DSM-IV (1994) criteria for diagnosing Major Depression Episode, Five (or more) of the following symptoms must have been present during the same two-week period and represent a change from previous functioning. At least one of the symptoms is either (1) depressed mood (2) loss of loss or pleasure.

1. Depressed mood most of the day, nearly every day.

2. Markedly diminished interest or pleasure in all, or almost activities most of the day, nearly every day.

3. Significant weight loss when not dieting or weight gain, or decrease or increase in appetite.

4. Insomnia or hypersomnia

5. Psychomotor agitation or retardation.

6. Fatigue or loss of energy

7. Feelings of worthlessness or excessive or inappropriate guilt.

8. Diminished ability to think or concentrate, or indecisiveness.

9. Recurrent thoughts of death or suicide.

Operational definition of depression: in the present study, depression refers to the sum score of 21 items from the Beck Depression Inventory, Second Version (BDI-II).

1.7.3 Suicidal ideation

Conceptual definition of Suicidal Ideation*:* Suicidal ideation is a term used by mental health professionals to describe suicidal thoughts and feelings (without suicidal actions). For example, people experiencing suicidal ideation commonly report that they feel worthless, that life is not worth living, and that the world would be better off without them (Gliatto & Rai, 1999).

Operational definition of suicidal ideation: In the present study, suicidal ideation refers to the sum score of 19 items from the Beck Scale for Suicide Ideation (Beck & Steer, 1991).

1.7.4 Disability

Conceptual definition of mental disability: The term 'disability' is used when mental illness significantly interferes with the performance of major life activities, such as learning, working, and communicating, among others (Sheehan, 1982).
Operational definition of mental disability: in the present study, disability refers to the sum score of 3 items from the Sheehan Disability Scale.

1.8 Research Hypotheses

1. The MBCT intervention program is effective in reducing depression level amongst depressed patients in Sokoto.

2. The MBCT intervention program is effective in preventing depression relapse amongst depressed patients in Sokoto

3. The MBCT intervention program is effective in reducing suicidal ideation scores amongst depressed patients in Sokoto

4. The MBCT intervention program is effective in reducing mental disability scores amongst depressed patients in Sokoto

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BIODATA OF STUDENT

Zulkiflu Musa Argungu hails from Argungu Kebbi State in Nigeria, West Africa. He was born into a family of eighteen in the ancient city of Argungu in northern Nigeria. He had his primary education at Merawa Model Primary School Argungu then, now Muhammadu Mera Model Primary School Argungu and secondary school at Kanta Unity College Argungu, Kebbi State. He obtained his nursing certificate from School of Nursing, Usman Danfodio University Teaching Hospital, Sokoto (UDUTH), and Bachelor of Nursing Sciences (BNSc) from high and prestigious Ahmadu Bello University (ABU), Zaria, Nigeria. After his studies, he proceeded to one year mandatory National Youth Service Corps (NYSC: 2011/2012 Batch) in Sokoto State, Nigeria, he further gained admission in 2013 at School of Nursing, Faculty of Medicine, University of Ghana, Ghana for his Master Degree (MSc) and graduated in 2014.

Zulkiflu gained admission in September intake 2017 at the Department of Nursing and Rehabilitation, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, to study PhD in Mental Health Nursing under the supervisor of Prof. Soh Kim Lam, "*the awesome, humble, congenial and always smile-working Supervisor ever'.* Her interest in the field of Nursing and Rehabilitation drew the Zulkiflu's attention to work under her supervision. Currently, he is working as a lecturer in the Department of Nursing Sciences, College of Health Science, Usman Danfodio University, Sokoto, Nigeria.

LIST OF PUBLICATIONS

Musa, A. Z., Soh, K. L., Mukhtar, F., Soh, K. Y., Olalekan, O. T., & Soh, K. G. (2020). Effectiveness of Mindfulness-Based Cognitive Therapy on the Management of Depressive Disorder: Systematic Review. *International Journal of Africa Nursing Sciences,* 100200. DOI: 10.1016/j.ijans.2020.100200

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