Mindfulness Based Cognitive Therapy for Depression among HIV-Infected Individuals

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ABSTRACT

People living with HIV/AIDS are at a higher risk for depression and mostly goes both undiagnosed and untreated. Untreated depression is a grave concern, researches indicate that it can lead to significant distress, functional impairment and can cause psychological suffering along with worse medical outcomes, including immunosuppressive effects. Antiretroviral Therapy (ART) is a widely used and promising treatment strategy for individuals infected with HIV. Studies indicate that treatment of clinical depression can enhance the treatment adherence to ART and recovery from depression is correlated with increased CD4 cell counts. The present study is a preliminary investigation, evaluating the efficacy of MBCT in the management of Depression among HIV infected individuals who are undergoing ART. A total of 10 individuals with HIV infection undergoing ART since 2-3 months who were also diagnosed with clinical depression in a community clinic were recruited for the study. There were 5 drop-outs, and the remaining 5 participants subjected to an 8 week MBCT treatment program for depression. The participants were assessed by Beck Depression Inventory- II (BDI) and Hospital Anxiety Depression Scale (HADS), pre- and post intervention. The assessment scores, pre- and post-intervention, were compared and was found as statistically significant at 0.05 level on both HADS Depression subscale ($z= -2.07$) and BDI ($z=-2.02$). Post- intervention, all 5 participants were interviewed by an independent clinician for depression, and only one person met the ICD-10 diagnostic criteria for depression. The findings of the study indicate a preliminary efficacy of MBCT in treating clinical depression among people infected with HIV.

Keywords: *HIV-AIDS, Mindfulness Based Cognitive Therapy (MBCT), ART*

India has the third largest HIV epidemic in the world. The prevalence of HIV in India was estimated as 0.3% in 2013. This figure equates to 2.1 million people living with HIV (UNAIDS, 2014). It is also observed that, India's HIV epidemic is slowing down, with a 19% decline in new HIV infections, and a 38% decline in AIDS-related deaths between 2005 and 2013 (UNAIDS, 2014). The prevalence of HIV in India varies geographically. The five states with the highest

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HIV prevalence are Nagaland, Mizoram, Manipur, Andhra Pradesh and Karnataka (NACO, 2014).

In India since the year 2004, free ART has been available. At ART clinics, people living with HIV can access testing and counselling, nutritional advice and treatment for HIV and opportunistic infections. CD4 count test in every six months was made mandatory for the patients (NACO, 2013). There are lots of promotional activities to remind people about their testing appointments with the aim of increasing overall attendance (WHO, 2013). However, in 2013, only 36% of adults eligible for ART received treatment, alongside 30% of children (UNAIDS, 2014). The introduction of the WHO (2013) treatment guidelines has increased the access to ART.

The two most prevalent and interfering psychosocial comorbidities of HIV infection are clinical depression and substance use (Berger-Greenstein et al., 2007; Bing et al., 2001; Ruiz Perez et al., 2005). Clinical depression and problematic substance use not only can cause significant distress and functional impairment, but also can interfere with HIV treatment and care; both conditions have consistently been associated with poor antiretroviral therapy (ART) adherence (Catz, Kelly, Bogart, Benotsch, & McAuliffe, 2000; DiMatteo, Lepper, & Croghan, 2000; Lucas, Cheever, Chaisson, & Moore, 2001; Lucas, Gebo, Chaisson, & Moore, 2002; Paterson et al., 2000; Safren et al., 2001).

People living with HIV/AIDS (PHA) not only experience depression at high rates, also frequently goes both undiagnosed and untreated. For PHA, untreated depression is a grave concern, as it can lead to psychological suffering and worse medical outcomes, including immunosuppressive effects and death. Berger-Greenstein and colleagues (2007) reported that over 70% of participants met criteria for major depression among a sample of patients diagnosed with HIV, substance abuse, and psychiatric illness. In a randomized controlled trial among HIV-infected injection drug users during an evaluation of depressive symptoms and symptomatic response in a directly observed ART, improvements in depression over six months found as associated with increases in CD4 cell count and adherence, while worsening in depression was found associated with active drug use and increases in plasma viral RNA levels (Attia et al., 2009; Hull & Montaner, 2011; Springer, Chen, & Altice, 2009).

Mindfulness-Based Stress Reduction (MBSR) has been used to improve quality of life and enhance outcomes among many groups. Recent studies indicate that MBSR may enhance immune function in PHA. Mindfulness-Based Cognitive Therapy (MBCT), an 8-week skills-based group intervention, combines MBSR with Cognitive Therapy to prevent depressive relapse. There are number of research evidences suggesting that MBCT may be an effective means of treating depression (Hofmann, et al., 2010; Kuyken & Williams, 2012). Research studies showed that MBCT could reduce self reported distress, and improve quality of life and healthier HIV biomarkers, indicating its effectiveness for the psychological treatment of HIV/AIDS (Gonzalez- Gazia et al., 2013; Rodriguez, T., 2014).

METHOD

Aim

The aim of the present study is to evaluate the efficacy of MBCT in the management of Depression among HIV infected individuals who are undergoing ART.

Participants

The sample consisted of clients selected from the General Hospital who were diagnosed by a consultant psychiatrist and clinical psychologist as having mild or moderate depressive episodes according to the International Classification of Diseases-10 (ICD-10) criteria. Clients with co-morbid psychiatric conditions were excluded from the study. 10 participants were recruited to the study as referred by the consultant Psychiatrist. Seven of the participants were males and three females. The mean age of the sample was 32.5 years (range = 24- 45 years) and the mean duration of illness was 6 years (range = 4-8 years). All ten participants were ART for HIV since last 2-3 months. Of the ten patients four were married and six were single. All the clients had formal education, and all were of middle socioeconomic status, living in a urban locality currently not working. The participants were not not under any psychiatrc medications for the mood problems.

Design

A single group pre-post test design was used in the study to examine the outcome of MBCT with regards to reducing symptoms of depression among HIV infected individuals. Figure 1 shows the study design.
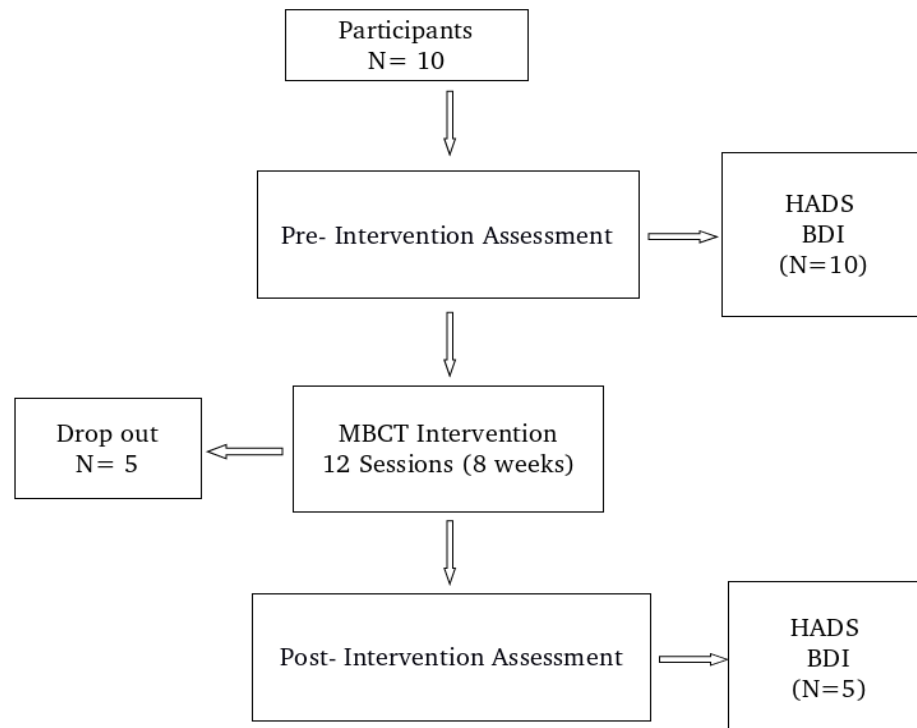
Tools

A Sociodemographic and Clinical Data Sheet was used to obtain information on the demographic and clinical history. The Hospital Anxiety Depression Scale (HADS) and Beck Depression Inventory-II (BDI) was used in quantifying Depression and anxiety experienced by the patient.

Procedure

The patients were assessed on HADS and BDI pre- & post- intervention a by an independent rater. Therapeutic program : The therapeutic program consisted of 8 sessions for each client over a period of eight weeks. The sessions were conducted individually, every treatment had the same format. Each session lasted for approximately 90-120 minutes. The treatment followed the Mindfulness Based Cognitive Therapy (MBCT) Implementation Resources by Kuyken et al., (2012).

Dropout: **T**hough 10 individuals were recruited for the program, five of them did not complete the program due to various reasons. One person met with an accident and passed away, while three of them shifted to different cities for treatment and care. One person did not show up after the first session at all, discontinued ART as well.

Analysis

Statistical analysis was carried out on the five patients. The Wilcoxon signed-rank test was used to analyse the data. The pre-treatment HADS & BDI scores were compared with post-treatment scores to evaluate the outcome of MBCT intervention. For analyzing the data GNU PSPP statistical software version 0.7.9. was used.

Apart from that clinically significant changes (50% and above) based on pre- & post-therapy was used to assess the efficacy of the therapeutic intervention. The percentage of change between pre- and post-therapy points was calculated using the following Blanchard and Schwartz (1988) formula.

$$\frac{\text{Pre Score} - \text{Post Score}}{\text{Pre Score}} \times 100 = \text{Therapeutic Change}$$

and

$$\frac{\text{Pre Score} - \text{Follow-up Score}}{\text{Pre Score}} \times 100 = \text{Therapeutic Change}$$

RESULTS AND DISCUSSION

The aim of the present study was to evaluate the efficacy of MBCT in the management of Depression among HIV infected individuals who are undergoing ART.

Table 1 shows the pre- & post intervention assessment scores on HADS & BDI with improvement percentage for five patients who completed the treatment.

Table 1

Sl. No	HADS- D pre	HADS-D post	IP	HADS-A pre	HADS- A post	IP	BDI pre	BDI post	IP
1	13	6	53.84*	8	6	50*	24	10	58.33*
2	15	7	53.33*	10	6	40	28	12	57.14*
3	14	6	57.14*	5	5	0	22	11	50*
4	16	8	50*	9	3	66.67*	32	14	56.25*
5	16	9	43.75	11	5	54.55*	30	18	40

IP: improvement percentage (in %); * clinically significant ; HADS- D: Hospital Anxiety Depression Scale- Depression sub-scale; HADS- D: Hospital Anxiety Depression Scale- Anxiety subscale; BDI- Beck Depression Inventory- II.

The comparison of pre and post intervention mean scores on HADS-D , HADS- A & BDI scores using Wilcoxon Signed Rank Test is shown in Table 2.

Table 2

Measure	z	p
HADS -D	-2.07	0.04*
HADS- A	-1.84	0.07
BDI	-2.02	0.04*

HADS- D: Hospital Anxiety Depression Scale- Depression subscale;
HADS- D: Hospital Anxiety Depression Scale- Anxiety subscale;
BDI- Beck Depression Inventory- II; * : significant at 0.05 level

After completion of the intervention, clinical interview by the referred psychiatrist indicated significant improvement in four individuals and they did not meet the diagnostic criteria for depression anymore, where as one person still met with the diagnostic requirements for depression. The analysis of the results for individual cases suggests that on HADS-D, improvement was observed in the reported level of depression at the completion of intervention among all the clients, in which four participants showed clinically significant change on this measure. While on HADS-A, the improvement in scores was observed among only four in which three had a clinically significant improvement. While, on BDI, there was improvement in the reported depression levels of all five participants at post intervention while only four of them had clinically significant change.

Analysis of results on all three measures revealed that MBCT was effective in bringing about statistically significant reduction in depression among HIV infected individuals who was undergoing ART.

In conclusion, the findings of this investigation indicate that MBCT can be an effective intervention in the management of depression among HIV infected individuals. The findings are in consistent with the previous studies (Gonzalez- Gazia et al., 2013; Rodriguez, T., 2014) indicating the efficacy ob MBCT.

The study has some significant implications. This is the first study to be carried out in India, which has adopted MBCT in the management of HIV infected patients with Depression undergoing ART. The significant reduction in depressive symptoms that occurred in the patients following the intervention point towards the efficacy of MBCT.

The small sample size is a significant limitation of the present study, as it does not allow for rigorous analysis of data and generalization of results. The inclusion of a control group would have strengthened the study. The absence of a follow-up is another limitation, as it would provide information on the maintenance of treatment gains. Future research should be conducted with larger samples, longer follow-up and control groups to establish and generalize the efficacy of this program.

REFERENCES

Amico, K.R., Harman, J.J., & Johnson, B.T. (2006). Efficacy of antiretroviral therapy adherenceinterventions: A research synthesis of trials, 1996 to 2004. *Journal of Acquired Immune Deficiency Syndromes, 41*, 285-297.

Amir, L. (1997). HIV infection in pregnant women in South Australia. *Medical Journal of Australia, 166*, 470-472.

Bansberg, D.R. (2006). Less than 95% adherence to nonnucleoside reverse-transcriptase inhibitor therapy can lead to viral suppression. *Clinical Infectious Diseases, 43*, 942-944.

Bartlett J.A. (2002). Addressing the challenges of adherence. *Journal of Acquired Immune Deficiency Syndromes, 29*, S2-S10.

Centers for Disease Control and Prevention (CDC) (2006). Epidemiology of HIV/AIDS – United States, 1981-2005. *Morbidity and Mortality Weekly Report, 55*, 589-592.

Chiesa, A., & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: Asystematic review and meta-analysis. *Psychiatry Review, 187*, 441–453.

Clark, D.M., Ball, S., & Pape, D. (1991). An experimental investigation of thought suppression,*Behaviour Research and Therapy, 29*, 253–257.

Coelho, H. F., Canter, P. H., & Ernst, E. (2007). Mindfulness-based cognitive therapy: Evaluating current evidence and informing future research. *Journal of Consulting and Clinical Psychology, 75*, 1000-1005.

Crum, N.F., Riffenburgh, R.H., Wegner, S., Agan, B.K., Tasker, S.A., Spooner, K.M., et al. (2006).Comparisons of causes of death and mortality rates among HIV- infected persons: analysis of thepre-, early, and late HAART (highly active antiretroviral therapy) eras. *Journal of Acquired Immune Deficiency Syndromes, 41*,194-200.

Forman, E.M., Butryn, M., Hoffman, K.L., & Herbert, J.D. (2009). An open trial of an acceptance-based behavioral treatment for weight loss. *Cognitive Behavioral Practice, 16*, 223-235.

Gonzalez- Garcia, M., Ferrer, M. J., Borras, X., Munoz- Moreno, J. A., Miranda, C., Puig, J. et al., (2013). Effectiveness of Mindfulness- Based Cognitive Therapy on the Quality of Life, Emotional Status, ans CD4 Cell Count of Patients Aging with HIV Infection. *AIDS and Behavior 18*(4), 676-685. Abstract retrieved from NCBI- PubMed database.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consultant Clinical Psychology, 78*, 169-183.

Johnson, M.O., Charlebois, E., Morin, S.F., Catz, S.L., Goldstein, R.B., Remien, R.H., et al. (2005). Perceived adverse effects of antiretroviral therapy. *Journal of Pain Symptom Management, 29*, 193-205.

Jones, D.L., Ishii, M., LaPerriere, A., Stanley, H., Antoni, M., Ironson, G., et al. (2003). Influencing medication adherence among women with AIDS. *AIDS Care, 15*, 463-474.

Kuyken, W., Byford, S., Taylor, R. S., Watkins, E., Holden, E., White, K., ... Teasdale, J. D. (2008). Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *Journal of Consulting and Clinical Psychology, 76*, 966–978.

Kuyken, W., & Williams, M. (2012). Mindfulness-Based Cognitive Therapy (MBCT) Implementation Resources. Oxford University. Retrieved from http://mindfulnessteachersuk.org.uk/pdf/MBCTImplementationResources.pdf

Madru, N. (2003). Stigma and HIV: Does the Social Response Affect the Natural Course of the Epidemic? *Journal of the Association of Nurses in AIDS care, 14*, 39-48.

Malcolm, S.E., Ng, J.J., Rosen, R.K., & Stone, V.E. (2003). An examination of HIV/AIDS patients who have excellent adherence to HAART. *AIDS Care, 15*, 251-261.

Mocroft, A., Ledergerber, B., Katlama, C., Kirk, O., Reiss, P., d'Arminio, M.A., et al. (2003). Decline in the AIDS and death rates in the EuroSIDA study: an observational study. *Lancet, 362*, 22-29.

NACO. (2014). Annual Report 2013-14. Retrieved from http://www.naco.gov.in/upload/2014%20mslns/NACO_English%202013-14.pdf

Paterson, D.L., Swindells, S., Mohr, J., Brester, M., Vergis, E.N., Squier, C., et al. (2000). Adherence to protease inhibitor therapy and outcomes in patients with HIV infection. *Annals of Internal Medicine, 133*, 21–30.

Rodriguez, T. (2014). The Role of Acceptance and Mindfulness in People Living With HIV/AIDs: A Meta-Analysis. (Electronic Thesis or Dissertation). Retrieved from https://etd.ohiolink.edu/!etd.send_file?accession=bgsu1404401086&disposition=inline

SAMHSA's National Registry of Evidence-based Programs and practices. (2012). Mindfulness-Based Cognitive Therapy An Informational Resource. Comparative Effectiveness Research Series.
Retrieved from http://www.nrepp.samhsa.gov/pdfs/MBCT_Booklet_Final.pdf

Schuster, M.A., Collins, R., Cunningham, W.E., Morton, S.C., Zierler, S., Wong, M., et al. (2005).Perceived discrimination in clinical care in a nationally representative sample of HIV-infected adults receiving health care. *Journal of General Internal Medicine, 20*, 807-813.

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). Mindfulness-based cognitive therapy fordepression: A new approach to preventing relapse. New York: The Guilford Press.

Simoni, J.M., Pearson, C.R., Pantalone, D.W., Marks, G., & Crepaz, N. (2006). Efficacy of interventions in improving highly active antiretroviral therapy adherence and HIV-1 RNA viral load: A meta- analytic review of randomized controlled trials. *Journal of Acquired Immune Deficiency Syndromes, 43*, S23-S35.

Taylor, S.E., Kemeny, M.E., Reed, G.M., Bower, J.E., & Gruenewald, T.L. (2000). Psychological Resources, Positive Illusions, and Health. *American Psychologist,55*, 99-109.

The Gap Report (2014). UNAIDS. Retrieved from http://www.unaids.org/sites/default/files/en/media/unaids/contentassets/documents/unaids publication/2014/UNAIDS_Gap_report_en.pdf

Thompson, R.J., Gil, K.M., Abrams, M.R., & Phillips, G. (1992). Stress, coping, and psychological adjustment of adults with sickle cell disease. *Journal of Consulting and Clinical Psychology, 60*, 433-440.

Weaver, K.E., Llabre, M.M., Duran, R.E., Antoni, M.H., Ironson, G., Penedo, F.J., et al. (2005). A stress and coping model of medication adherence and viral load in HIV positive men and women on highly active antiretroviral therapy (HAART). *Health Psychology, 24*, 385-392.

WHO. (2013). Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Retrived from http://www.who.int/hiv/pub/guidelines/arv2013/download/en/

WHO. (2013). Global update on HIV treatment 2013: Results, impact and opportunities. Retrieved from http://apps.who.int/iris/bitstream/10665/85326/1/9789241505734_eng.pdf