

**INFLUENCE OF COGNITIVE BEHAVIORAL THERAPY ON THE PSYCHOSOCIAL
HEALTH OF HIV/AIDS-ASSOCIATED CANCER PATIENTS AT JOS UNIVERSITY
TEACHING HOSPITAL, NIGERIA**

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Abstract

Psychosocial well-being is crucial for individuals facing the dual challenges of HIV/AIDS and cancer, particularly in settings with limited resources like Nigerian University

Teaching Hospitals. This study explores the impact of Cognitive Behavioral Therapy (CBT) on the psychosocial health of patients with HIV/AIDS-associated cancers at Jos University Teaching Hospital. The research employed a true experimental design with 140 participants, dividing them into experimental and control groups. Pre-test and post-test assessments using Ryff's Psychosocial Well-being Scales measured dimensions such as autonomy, environmental mastery, and personal growth. Results indicated significant improvements in autonomy ($p < 0.05$), environmental mastery ($p < 0.05$), and personal growth ($p < 0.05$) among the experimental group post-intervention compared to controls. These findings underscore CBT's efficacy in enhancing psychosocial well-being in patients with HIV/AIDS-associated cancers, suggesting its potential to complement medical treatment and improve overall patient outcomes. Recommendations include integrating counseling services into hospital settings, establishing national counseling centers, and investing in tailored support programs for dual diagnosis patients. Future research should focus on longitudinal studies to further validate these findings and refine therapeutic interventions.

Keywords: Psychosocial Interventions, Cognitive Behavioral Therapy, Environmental Mastery, Personal Growth, HIV/AIDS-Associated Cancers.

Introduction

Psychosocial well-being is a holistic concept that encompasses an individual's mental, emotional, social, and spiritual health. It highlights the interplay between psychological and social factors that contribute to life satisfaction and fulfillment. Key aspects include self-esteem, resilience, emotional regulation, and the quality and quantity of social relationships, which foster a sense of belonging and support (De-Juanas, Bernal-Romero, & Goig, 2020). Spiritual well-being, another vital component, involves seeking meaning, purpose, and transcendence, which can include religious beliefs and personal values. A crucial element of psychosocial well-being is the ability to cope with life's challenges through resilience and adaptive coping skills. Life satisfaction, a subjective measure, considers well-being and the achievement of personal goals.

Research indicates that psychosocial well-being is a multidimensional concept that develops through emotional regulation, personality traits, identity, and life experiences. It can enhance longevity and consciousness (De-Juanas, Bernal-Romero, & Goig, 2020; Kumar, Suar, & Singh, 2020). Beyond positive emotions, a satisfying life involves purpose and direction, aligning actions with personal values and contributing to relationships, meaningful work, and community. Key elements include autonomy, competence, healthy relationships, self-acceptance, personal growth, and a sense of purpose.

In the context of Nigerian University Teaching Hospitals, where HIV/AIDS and cancers are prevalent, understanding the psychosocial aspects of this dual diagnosis is crucial for comprehensive healthcare. Patients with HIV/AIDS-associated cancers need a purpose-filled life, measured by autonomy, environmental mastery, competence, healthy relationships, self-acceptance, personal growth, and purpose. Autonomy refers to the ability of HIV/AIDS patients to make independent decisions. Environmental mastery involves managing external activities to suit personal needs and values. Healthy relationships are essential for psychological health, involving trust, empathy, and support. Self-acceptance means

recognizing and accepting one's strengths and weaknesses. Personal growth involves openness to learning and new experiences, while purpose in life provides direction and meaning.

In Nigeria, managing HIV/AIDS-associated cancers is challenging due to limited resources and inadequate public health infrastructure. Programs like PEPFAR and Global Funds have improved HIV/AIDS care, but similar interventions for cancer are lacking. Cognitive Behavioral Therapy (CBT) is essential to improve the psychosocial well-being of these patients by addressing life-threatening psychosocial issues. CBT helps patients understand and change destructive thought patterns, improving emotional regulation and coping strategies. It challenges negative thoughts, promoting healthier thinking patterns and enhancing psychosocial well-being (De-Juanas, Bernal-Romero, & Goig, 2020). Despite the challenges, multidisciplinary teams are crucial in providing comprehensive care, though roles like counselors are often neglected.

The HIV/AIDS pandemic, particularly in sub-Saharan Africa, remains a significant issue, with high infection rates and related deaths. UNAIDS aims to achieve zero new infections and AIDS-related deaths by 2030. Effective management and awareness are critical, especially in high-burden countries like Nigeria. Psychosocial well-being is a comprehensive concept crucial for individuals, especially those with complex health conditions like HIV/AIDS and cancer. Cognitive Behavioral Therapy plays a vital role in enhancing their well-being by addressing negative thoughts and promoting positive coping strategies.

Aim and Objectives of The Study

The objective of this study is to evaluate the impact of Cognitive Behavioral Therapy (CBT) on the psychosocial well-being of patients with HIV/AIDS-associated cancers at Jos University Teaching Hospital, Plateau State, Nigeria. The specific objectives are as follows:

1. To analyze the pretest and posttest mean scores of autonomy among patients with HIV/AIDS-associated cancers in the experimental and control groups at Jos University Teaching Hospital.
2. To evaluate the pretest and posttest mean scores of environmental mastery competency among patients with HIV/AIDS-associated cancers in the experimental and control groups.
3. To assess the pretest and posttest mean scores of personal growth among patients with HIV/AIDS-associated cancers in the experimental and control groups.

Research questions

This study was guided by the following research inquiries:

1. What are the pretest and posttest mean scores for autonomy among patients diagnosed with HIV/AIDS-associated cancers in both the experimental and control groups at Jos University Teaching Hospital, Plateau State?
2. What are the pretest and posttest mean scores for environmental mastery competency among patients diagnosed with HIV/AIDS-associated cancers in the experimental and control groups?
3. What are the pretest and posttest mean scores for personal growth among patients diagnosed with HIV/AIDS-associated cancer in the experimental and control groups?

Hypotheses

The study tested the following hypotheses at a significance level of 0.5:

1. There is no statistically significant difference between the posttest mean scores for autonomy among patients diagnosed with HIV/AIDS-associated cancers in the experimental and control groups.
2. There is no statistically significant difference between the posttest mean scores for environmental mastery competency among patients diagnosed with HIV/AIDS-associated cancers in the experimental and control groups.

Methodology

This study employed a true experimental design to investigate the Influence of Cognitive Behavioral Therapy on the Psychosocial Health of HIV/AIDS-Associated Cancer Patients at Jos University Teaching Hospital, Nigeria. True experimental design was chosen for its ability to establish causal relationships between variables by incorporating essential elements such as independent and dependent variables, pretesting and post-testing, as well as experimental and control groups. The experimental group received CBT sessions tailored to address psychosocial challenges, while the control group did not receive any specific treatment during the intervention period.

The population for this study consisted of 140 patients diagnosed with HIV/AIDS-associated cancers at Jos University Teaching Hospital. This institution was selected due to its extensive experience in HIV/AIDS treatment and the large number of patients available for study. A purposive sampling technique was employed to select 140 willing participants who met the study's criteria. Patients were identified and approached during their routine clinical visits, ensuring representation from both experimental and control groups through a randomized assignment process using a lottery method. Each group comprised 70 patients, ensuring balanced representation across treatment conditions.

Data collection was facilitated using Ryff's Psychosocial Wellbeing Scales (PWB), 42-item version, which provided a comprehensive assessment across multiple dimensions of psychosocial wellbeing relevant to the study's objectives. The instrument was adapted and validated through expert review involving specialists in counseling, psychology, and research methodology from the University of Jos. Their feedback ensured the instrument's content validity, focusing on clarity, relevance, and coverage of psychosocial aspects pertinent to the study.

Reliability of the instrument was assessed using the test-retest method, demonstrating a stable coefficient of 0.834 for the PWB scale items. This involved administering the questionnaire twice to a sample of patients with similar characteristics from another hospital, ensuring consistent measurement of psychosocial wellbeing over time. Ethical clearance was obtained from the University of Jos and Jos University Teaching Hospital before commencing data collection. Patients were informed about the study's purpose, procedures, and their rights before obtaining voluntary consent. Research assistants, trained in counseling psychology, facilitated the administration of pre-test and post-test questionnaires in both experimental and control groups. Their training included ethical considerations, instrument administration, and rapport-building techniques to ensure participants' comfort and willingness to engage in the study.

The pre-test questionnaire was administered to both groups to establish baseline psychosocial wellbeing scores before any intervention. Following this, the experimental group underwent CBT sessions conducted weekly for 60 minutes over a specified period, while the control group received placebo treatment related to general health counseling. Post-test questionnaires were administered immediately after the intervention period to assess changes in psychosocial wellbeing scores among participants.

Data analysis involved descriptive statistics, including means and standard deviations, to examine differences in psychosocial wellbeing scores pre- and post-intervention within each group. Inferential statistics, specifically independent sample t-tests, were used to determine the significance of differences between the experimental and control groups for each hypothesis tested. This methodological approach ensured rigorous data collection and analysis, allowing for valid conclusions regarding the effects of CBT on the psychosocial wellbeing of patients with HIV/AIDS-associated cancers.

Results and Discussion

Research Question One: What are the pretest and posttest mean scores for autonomy among patients diagnosed with HIV/AIDS-associated cancers in both the experimental and control groups at Jos University Teaching Hospital, Plateau State?

Table 1: The Results of the Pretest and Posttest Autonomy Scores of the Experimental and Control groups

Group	Pre-test			Post-test		Mean Gain	$\bar{x}$ - difference
	N	Mean	SD	Mean	SD		
Experimental	70	13.77	3.93	25.49	2.18	11.63	9.83
Control	70	13.34	3.66	15.14	2.99	1.8	

Table 1 reveals the pre-test and post-test autonomy mean score of patients diagnosed with HIV/AIDS associated cancers in the experimental and control groups. In the experimental group the post-test autonomy mean score was 25.49 and standard deviation of 2.18, higher than the pre-test mean score of 13.77 and standard deviation of 3.93 with a mean gain of 11.63, indicating that there was increase in the autonomy of patients diagnosed with HIV/AIDS associated cancers after treatment. Also, for the control group the mean score was 13.34 and a standard deviation of 3.66 in the pretest. The post-test mean score of patients was 15.14 and a standard deviation of 2.99 with a mean gain of 1.8. The findings show that patients in the experimental group had a higher autonomy mean score (25.49) after treatment using cognitive behavioural therapy than those in the control group (15.14) who were not given treatment with a mean difference of 9.83. This means that at the pre-test the patients in both groups had low autonomy, but after the intervention there was an improvement in the autonomy of the experimental group over that of the control. This indicates that cognitive behavioural therapy improves the autonomy of patients diagnosed with HIV/AIDS associated cancers in Jos University Teaching Hospital, Plateau State.

Research Question Two: What are the pretest and posttest mean scores for environmental mastery competency among patients diagnosed with HIV/AIDS-associated cancers in the experimental and control groups?

Table 2: The Results of the Pretest and Posttest Environmental Mastery Competence Mean of the Experimental and the Control Group

Group	Pre-test			Post-test		Mean Gain	$\bar{x}$ - difference
	N	Mean	SD	Mean	SD		
Experimental	70	13.80	2.69	24.91	2.17	11.11	8.74
Control	70	13.17	2.80	15.54	3.35	2.37	

Table 2 reveals the pre-test and post-test environmental mastery competency mean score of patients diagnosed with HIV/AID associated cancers in the experimental and control groups. In the experimental group the post-test environmental mastery competency mean score was 25.49 and standard deviation of 2.18, higher than the pre-test mean score of 13.77 and standard deviation of 3.93 with a mean gain of 11.11, indicating that there was increase in the environmental mastery competency of patients after treatment. Furthermore, for the control group the mean score was 13.17 and a standard deviation of 2.80 in the pretest. The post-test mean score of patients was 15.54 and a standard deviation of 3.35. The findings indicate that patients in the experimental group had a higher mean score (24.91) after treatment using cognitive behavioural therapy than those in the control group (15.54) who were not given treatment with a mean difference of 8.74. This implies that at the pre-test the patients in both groups had a low environmental mastery competency, but after the intervention there was an improvement in the environmental mastery competency of the patients in the experimental group than the control group. This indicates that cognitive behavioural therapy improves the environmental mastery competency of patients diagnosed with HIV/AID associated cancers in Jos University Teaching Hospital, Plateau State

Research Question Three: What are the pretest and posttest mean scores for personal growth among patients diagnosed with HIV/AIDS-associated cancer in the experimental and control groups?

Table 3: Results of the Pretest and Posttest Personal Growth Mean Scores of the Experimental and Control Groups

Group	Pre-test			Post-test		Mean Gain	$\bar{x}$ - difference
	N	Mean	SD	Mean	SD		
Experimental	70	14.71	3.99	24.59	2.71	9.88	6.98
Control	70	13.96	4.08	16.86	2.85	2.9	

Table 3 reveals the pre-test and post-test personal growth mean score of patients diagnosed with HIV/AID associated cancers in the experimental and control groups. In the experimental group the post-test personal growth mean score was 24.59 and standard deviation of 2.71,

higher than the pre-test mean score of 14.71 and standard deviation of 3.99 with a mean gain of 9.88, indicating that there was increase in the personal growth of patients after treatment. Also, for the control group the mean score was 13.96 and a standard deviation of 4.08 at the pretest. The post-test mean score of patients was 16.86 and a standard deviation of 2.85. The findings show that patients in the experimental group had a higher mean score (24.59) after treatment using cognitive behavioural therapy than those in the control group (16.86) who were not given treatment with a mean difference of 6.98. This means that at the pre-test the patients in both groups had a low personal growth mean score, but after the intervention, there was an improvement in the personal growth of the patients in the experimental group than the control group. This implies that cognitive behavioural therapy improves the personal growth of patients diagnosed with HIV/AIDS associated cancers in Jos University Teaching Hospital, Plateau State

Hypothesis Testing

Hypothesis One: There is no statistically significant difference between the posttest mean scores for autonomy among patients diagnosed with HIV/AIDS-associated cancers in the experimental and control groups.

Table 4: Results of the t-test Analysis on the Posttest Autonomy Mean Scores between the Experimental and Control Groups

Group	N	Mean	SD	Df	t	p-value	Decision
Experimental	70	25.49	2.18	138	23.39	0.000	Significant
Control	70	15.14	2.99				

Table 4 shows the summary of t-test result on the difference between the posttest autonomy mean score of patients diagnosed with (HIV/AIDS) associated cancers in the experimental and control groups. In the experimental group, the posttest autonomy mean scores is 25.49, with a standard deviation of 2.18, while the control group had a mean scores 15.14, and a standard deviation of 2.99. The result also shows $t(138) = 23.39$ $p < 0.05$. Since the p-value of 0.000 is less than the 0.05 level of significance, the null hypothesis was rejected. This implies that there is a significant difference between the posttest autonomy mean score of patients diagnosed with (HIV/AIDS) associated cancer in the experimental and control groups. Therefore, Cognitive Behavior Therapy improves autonomy of patients diagnosed with (HIV/AIDS) associated cancers in Jos University Teaching Hospital, Plateau State.

Hypothesis Two: There is no significant difference between the posttest environmental mastery competence mean scores of patients diagnosed with (HIV/AIDS) associated cancers in the experimental and control groups.

Table 5: There is no statistically significant difference between the posttest mean scores for environmental mastery competency among patients diagnosed with HIV/AIDS-associated cancers in the experimental and control groups.

Group	N	Mean	SD	Df	t	p-value	Decision
Experimental	70	24.91	2.17	138	19.65	0.000	Significant
Control	70	15.54	3.35				

Table 5 shows the summary of t-test result on the difference between the posttest environmental mastery competence mean score of patients diagnosed with (HIV/AIDS) associated cancers in the experimental and control groups. In the experimental the posttest environmental mastery competence mean scores is 24.91, with a standard deviation of 2.17, while the control group had a mean scores 15.54, and a standard deviation of 3.35. The result also shows $t(138) = 19.65$ $p < 0.05$. Since the p-value of 0.000 is less than the 0.05 level of significance, the null hypothesis was rejected. It was concluded that, there is a significant difference between the posttest environmental mastery competence mean score of patients diagnosed with (HIV/AIDS) associated cancer in the experiential and control groups. This implies that cognitive behavior therapy improves environmental mastery competence of patients diagnosed with (HIV/AIDS)associated cancers in Jos University Teaching Hospital, Plateau State.

Conclusion

Based on the observations gathered during the implementation of Cognitive Behavioural Therapy (CBT) for patients diagnosed with HIV/AIDS-associated cancers, it is evident that this therapeutic approach significantly enhances psychosocial wellbeing. While outcomes varied among individuals, CBT provided patients with opportunities to identify and leverage their strengths and weaknesses as they navigate life's challenges. The therapy effectively addresses psychological distress, potentially reducing anxiety and depression levels, thus contributing to enhanced quality of life and increased longevity for these patients.

The findings suggest that CBT is a robust, evidence-based intervention that empowers patients to persevere through adversities associated with chronic illnesses. By improving patients' psychological resilience, CBT may also support better medication adherence and disease management. This holistic approach not only enhances medical outcomes but also fosters social and emotional wellbeing among individuals grappling with the dual burden of HIV/AIDS and cancer.

RECOMMENDATIONS

Based on the study findings, the following recommendations are made:

1. Hospitals should integrate guidance counselors into medical teams to develop specialized intervention programs for patients with terminal illnesses like HIV/AIDS-associated cancers. These programs should focus on enhancing psychosocial support alongside medical treatment to improve overall patient outcomes.
2. The Ministry of Health, in partnership with the Counseling Association of Nigeria, should establish comprehensive counseling centers nationwide dedicated to patients with HIV/AIDS-associated cancers. These centers, with branches in all states, should provide accessible counseling services, psychological support, and education on coping strategies tailored to the dual challenges of these illnesses.
3. Government and non-governmental organizations should collaborate on initiatives specifically targeting patients with dual terminal conditions, such as cancer and

HIV/AIDS. These initiatives could include funding for medical expenses, community awareness campaigns to reduce stigma, and programs aimed at improving holistic care and support services for affected individuals and their families.

4. Hospitals and healthcare providers should implement ongoing training programs for medical staff and counselors on best practices for managing the psychosocial needs of patients with dual diagnoses. This training should emphasize empathy, effective communication, and collaborative care approaches.
5. Research institutions and funding agencies should prioritize studies investigating the long-term effects of cognitive behavioral therapy (CBT) and other psychosocial interventions on patients with HIV/AIDS-associated cancers. This research can provide evidence-based insights to refine treatment protocols and improve patient outcomes.

Implementing these recommendations can contribute to enhancing the quality of life, psychological well-being, and overall health outcomes for patients facing the complex challenges of dual terminal illnesses like HIV/AIDS-associated cancers.

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