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Effect of acceptance and commitment therapy on psychological well-being and quality of life among individuals living with HIV

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ABSTRACT

Background: Psychiatric issues are notably common among individuals with HIV, heavily impacting the overall quality of life and the success of their treatment. Acceptance and Commitment Therapy (ACT) is a recent cognitive-behavioural therapy that puts great emphasis on psychological flexibility. However, while the model has been extensively studied in clinical settings, research on its application for psychological well-being and quality of life among individuals with HIV remains limited.

Objectives: This study aimed to evaluate the effect of acceptance and commitment therapy on psychological well-being and quality of life among individuals living with HIV.

Materials and methods: A total of 55 individuals with HIV met the inclusion criteria, from which 33 individuals with HIV provided consent to participate in the study. Before the randomization of the groups, 3 participants were dropped out of the study due to relocation from their living facility. The remaining 30 individuals with HIV were selected and assigned to either the experimental group (N=15) or the control group (N=15) through simple randomization using the lottery method in which participants retrieved sequentially numbered opaque sealed envelopes. The quality of life and psychological well-being were assessed using the WHOQOL HIV-BREF and Ryff's psychological well-being scale. The experimental group received Acceptance and Commitment Therapy, while the control group underwent conventional occupational therapy for three months. Data analysis was performed using SPSS version 23.0, with paired and independent t-tests applied.

Results: Post-test scores showed statistically significant improvements in the experimental group than in the control group in both quality of life (p<0.001) and psychological well-being (p<0.001). The results of this study showed that Acceptance and Commitment Therapy was effective in enhancing both quality of life and psychological well-being among individuals with HIV.

Conclusion: The findings indicate that Acceptance and Commitment Therapy effectively enhanced quality of life and psychological well-being of Individuals living with HIV positive following intervention in experimental group.

Introduction

Human immunodeficiency virus (HIV) is a long-term, life-threatening infection that targets the body's immune system by infecting CD4+T cells, which provide immune protection.[1] Psychiatric issues are notably common among individuals with HIV, heavily impacting the overall quality of life and the success of their treatment. Evidence has shown that individuals

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with HIV are at higher risk of developing mental illness, including depression, anxiety, and substance abuse disorders.[2] The chronic nature of HIV, in addition to its stigma, frequently associated with individuals living with HIV, could lead to social isolation and psychological distress.[3] This contributes to the emergence of the risk of poor quality of life and psychological well-being.

The World Health Organization (WHO) defines quality of life as, "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns". Psychological well-being encompasses a sense of a person's emotional resilience, contentment with life, and coping with stress.[4]

The various interventions currently being used to improve the psychological well-being and quality of life among individuals with HIV, such as cognitive behavioural techniques (CBT), life skills training, social skills training, group therapy, mindfulness and relaxation techniques which focus on restructuring or challenging distorted thoughts, stress reduction, skill training, social and vocational support.[5-7] Despite the above-mentioned interventions, acceptance and commitment therapy (ACT), goes beyond symptom reduction and focuses on psychological flexibility. It teaches clients to accept distressing thoughts without trying to change them and align their action with values, which is especially helpful in chronic conditions, where emotional distress is ongoing.[8]

ACT is a recent cognitive-behavioral therapy that puts great emphasis on psychological flexibility. ACT places greater emphasis on the ability to tolerate unpleasant negative experiences-such as sorrow, suffering, and emotional pain-than on suppressing or confronting emotions. ACT aims to promote psychological flexibility by targeting six core competencies: acceptance, defusion, contact with the present moment, self-as-context, values, and committed action. Learning to view ideas as words or mental events rather than as absolute truths or directives that must be obeyed is known as cognitive defusion. Acceptance entails voluntarily embracing challenging feelings, ideas, and physical experiences without attempting to suppress, alter, or manage them. Present moment awareness focuses on being open and curious while fully interacting with the present moment. Self-as-context is the capacity of perspective-taking that enables people to see their experiences without letting them define them.[9-13]

ACT places a strong emphasis on defining one's personal values, or the characteristics of behavior and being that one desires to maintain. Setting objectives and acting in a way that is consistent with one's values while accepting difficulties and setbacks as a necessary part of the process are all components of committed action.[14] ACT is particularly effective in improving psychological well-being in people with chronic illness. By encouraging mindfulness and living in accordance with values, ACT allows people to cope with distress, decrease avoidance behavior, and build resilience to stigma and social pressure. Also, ACT has been shown to improve quality of life by allowing people to engage in valued activities, improve social support, and build a greater sense of purpose in life.[15]

These studies commonly lack objective measures, and adequate sample sizes, and do not assess outcomes like psychological well-being or quality of life together for individuals with HIV positive. This gap underscores the need for empirical evidence to validate the effectiveness of acceptance and commitment therapy in individuals with HIV. This study aims to examine the effectiveness of Acceptance and Commitment Therapy in improving psychological well-being and quality of life.

Materials and methods

Study design

The study employed a randomized controlled trial (RCT) to evaluate the effect of ACT on quality of life and psychological well-being among individuals with HIV. Participants were randomly assigned to experimental or control groups using the lottery method. A single blinding method was used, in which the participants were unaware of their group allocation but the therapist is aware of the group allocation.

Participants

Fifty-five samples were collected from Shelter Trust, a trust for the homeless in Tamil Nadu. Based on the inclusion and exclusion criteria, medically-diagnosed individuals with HIV-positive irrespective of gender, aged 20-40 years with HIV in early and preventable stages and without severe cognitive impairments or psychiatric disorders were identified as eligible. Using simple randomization through the lottery method in which participants retrieved sequentially numbered opaque sealed envelopes , 30 participants were selected and randomly assigned to either the experimental group (N=15) or the control group (N=15). Single blinding was implemented, wherein the participants were unaware of their group allocation.

Instruments

Ryff's psychological well-being scale

The Ryff Psychological Well-Being Scale (PWB) was developed by Carol Ryff in 1989. The 42-item version of the PWB offers insight into individuals' subjective psychological functioning. Each subscale comprises 7 items rated on a Likert scale, typically from 1 (strongly disagree) to 6 (strongly agree), with higher scores indicating greater well-being in that domain. Interpretation involves examining subscale scores individually or computing a total well-being score. Lower scores may reflect diminished functioning or psychological distress in specific areas of life. Reliability of the 42-item version is well-documented, with internal consistency coefficients (Cronbach's alpha) typically

ranging from 0.70 to 0.90 across subscales. Construct validity has been confirmed through correlations with other measures of life satisfaction, depression, and self-esteem.

WHOQOL-HIV BREF

The WHOQOL-HIV BREF is a 31-item instrument developed by the World Health Organization to assess quality of life among individuals living with HIV/AIDS. Items are rated on a 5-point Likert scale, with higher scores reflecting better perceived quality of life. Domain scores are typically transformed to a 4-20 scale for interpretation. The interpretation focuses on identifying strengths and areas of concern in each life domain. It is particularly useful in both clinical assessment and intervention planning for people living with HIV. The WHOQOL-HIV BREF demonstrates excellent reliability, with Cronbach's alpha coefficients generally above 0.70 for all domains. It has strong content, construct, and cross-cultural validity, having been validated in diverse international samples.[16]

Procedure

The experimental group (15 participants) received Acceptance and Commitment Therapy, while the control group (15 participants) underwent conventional occupational therapy. ACT aims to promote psychological flexibility by targeting six core competencies: acceptance, defusion, contact with the present moment, self-as-context, values, and committed action. Intervention includes "leaves on a stream" metaphor, "passengers on a bus" metaphor, silly voices, stigma shield, which was given with proper instruction to the individuals with HIV The final stage involves assessing the effectiveness of the intervention. The control group received conventional occupational therapy, incorporating Medication Adherence Training, Physical Activity and Exercise Therapy, Nutritional Education Workshops, Sleep Hygiene Training, Energy Conservation Training. The study duration was 3 months, three days per week, 30 sessions, and 45 minutes per session which were equally provided for the control group and the experimental group. Following that, standardized assessment procedures and validated outcome measures (WHOQOL HIV -BREF and Ryff's psychological well-being scale) were used for both the control group and the experimental group to reduce assessment bias. outcome assessments were conducted by trained independent assessor who was blinded to group allocation (Figure 1).

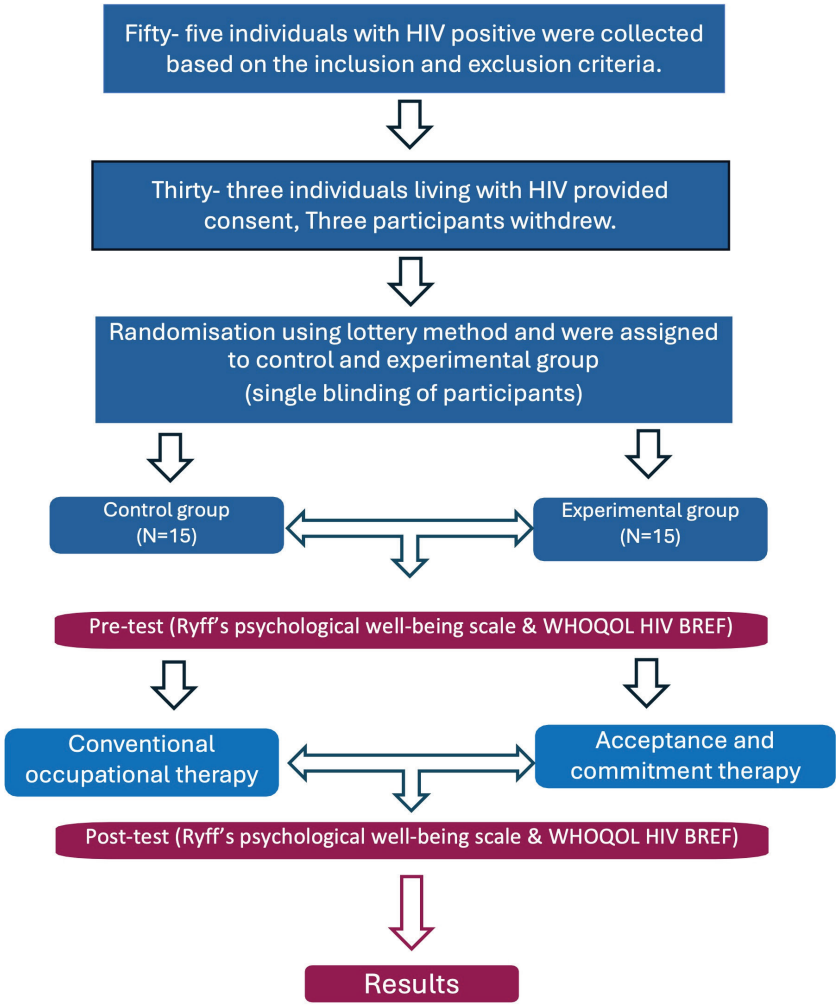

Figure 1. Consort diagram of the study.

Data analysis

Descriptive statistics (means, standard deviations, frequencies, and percentages) were used to summarize demographic and baseline data. Data were analysed according to a per-protocol approach, as no missing data or dropouts were observed during the study period Normality of the data was checked by using the Shapiro Wilk test. As the data were normally distributed, inferential statistics appropriate for a randomized control trial design is applied. Participants were randomly allocated to experimental and control groups using the lottery method. Paired T-tests were used to compare pre- and post-intervention scores within groups, and independent t-tests were used to assess differences between groups. A 95% confidence interval was used in this study to estimate the precision of the observed effects. All statistical analyses were conducted using a significance level of $p<0.05$; results with $p<0.05$ were considered statistically significant, and those with $p<0.01$ were considered highly significant. The statistical analysis was done with the help of SPSS version 23.

Results

Table 1 shows the baseline comparison between the control and experimental groups on demographic variables. All participants were individuals living with HIV. The mean age and gender distribution were comparable between the groups, with no statistically significant differences ($p>0.05$), indicating that both groups were homogeneous at the start of the study. hence, the baseline demographics were similar for control group and experimental group.

Table 1. Baseline comparison of groups on demographics.

Serial No.	Demographic variables	Class	Number of respondents in group (%)	
			Control	Experimental
1	Age (years)	20-25	6 (40.0)	6 (40.0)
		26-30	3 (20.0)	3 (20.0)
		31-35	2 (13.3)	4 (26.7)
		36-40	4 (26.7)	2 (13.3)
2	Gender	Female	10 (66.7)	10 (66.7)
		Male	5 (33.3)	5 (33.3)

Table 2 presents the statistical analysis of the Comparison of QOL and psychological well-being scores between pre-test and post-tests in control group. In the control group, the mean QoL score increased slightly from 7.26 to 9.51 (t=-27.11, $p=0.017$) and the mean psychological well-being score also increased from 19.38 to 22.75 (t=-22.18, $p=0.0014$), indicating a statistically significant improvement following conventional occupational therapy. These findings were supported by a study done by Ruby Aikat *et al*. explored how occupational therapy affects the quality of life (QOL) for individuals living with HIV, their understanding of the condition, and the knowledge possessed by occupational therapists.[17]

Table 2. Comparison of QOL and psychological Well -being scores between pre and post-tests in control group (Paired t test).

Serial No.	Variable		N	Mean	SD	T value	95% CI	Df	*p* value
1	QOL	Pre-test	15	7.26	0.548	-2.711	(-4.022)-(-0.469)	14	0.017*
		Post-test	15	9.51	3.079				
2	Well-being	Pre-test	15	19.38	1.055	-2.814	(-5.94)-(-0.802)	14	0.014*
		Post-test	15	22.75	4.422				

Note: ***significant at 1% level, *significant at 5% level.*

Table 3 presents statistical analysis of comparison of QOL and psychological Well-being scores between pre-test and post-tests in experimental group. The experimental group, which received Acceptance and Commitment Therapy alongside conventional OT, demonstrating a more pronounced improvement in QOL scores from 7.42 to 17.89 (t=-24.010, $p<0.001$) and psychological well-being scores from 19.76 to 47.94 (t=-22.902, $p<0.001$), indicated a highly significant change. This aligns with previous findings on ACT's adaptability and effectiveness across diverse populations.

Table 3. Comparison of QOL and psychological Well -being scores between pre and post-tests in experimental group (Paired t test).

Serial No.	Variable		N	Mean	SD	T value	95% CI	Df	*p* value
1	QOL	Pre-test	15	7.42	0.571	-24.010	(-11.4) - (-9.53)	14	0.000*
		Post-test	15	17.89	1.344				
2	Well-being	Pre-test	15	19.76	0.906	-22.902	(-30-818) - (-25.54)	14	0.000*
		Post-test	15	47.94	4.655				

Note: ***significant at 1% level, *significant at 5% level.*

Table 4 displays the statistical analysis of comparison of post-test level QOL and Psychological well-being scores between control and experimental groups. A statistically significant difference was observed for both QoL (t=-9.241, *p*=0.017) and psychological well-being (t=-15.195, *p*=0.014), with the experimental group performing better.

Table 4. Comparison of post-test level QOL and well-being scores between control and experimental groups (Independent t test).

Serial No.	Variable		N	Mean	SD	T value	95% CI	Df	*p* value
1	QOL	Control	15	9.87	3.079	-9.241	(-9.794) - (-6.24)	28	0.000*
		Experimental	15	17.89	1.344				
2	Well-being	Control	15	22.75	4.422	-15.195	(-28.585) - (-21.794)	28	0.000*

Note: ***significant at 1% level, *significant at 5% level.*

Discussion

ACT places greater emphasis on the ability to tolerate unpleasant negative experiences-such as sorrow, suffering, and emotional pain-than on suppressing or confronting emotions. These strategies may have improved their mental health, self-confidence, and ability to bounce back from challenges, leading to better QoL and psychological well-being.

This is supported by prior studies, Zahra Eskafi-Sabet *et al*. evaluated the effectiveness of acceptance and commitment group therapy on the severity of the disease, quality of life, and mental well-being in irritable bowel syndrome (IBS)patients.[18] Ghodsieh Ebrahimpour *et al*. gauged the impact of ACT on the psychological well-being, quality of life, and levels of depression in individuals with epilepsy.[19]

Although these studies involved different populations, they emphasize ACT's capacity to foster psychological flexibility. These findings suggest that while conventional OT is beneficial, the Acceptance and Commitment Therapy had a greater impact on psychological well-being and quality of life.

This study found that Acceptance and Commitment Therapy significantly improved both quality of life and psychological well-being among individuals with HIV with greater gains than conventional interventions. These findings highlight ACT's role in enhancing psychological flexibility, which supports better psychological well-being and overall quality of life. Future research could explore its long-term impact, adaptability across settings, and use with other palliative conditions.

Limitations

This study only targeted people living with HIV between the ages of 20 and 40 years. This reduces the generalizability of the study results to people who are younger and older. Additionally, the small sample size reduces the power of the study and the ability to generalize the results to the larger population of people living with HIV. Additionally, both outcome variables are measured using self-administered questionnaires that may be prone to response bias, social desirability bias, and individual subjective interpretation of their psychological well-being.

Conclusion

This study demonstrated that integrating the Acceptance and Commitment Therapy into occupational therapy enhanced psychological well-being and quality of life among individuals living with HIV. The positive outcomes in psychological well-being and quality of life, in the experimental group highlight ACT's effectiveness, reinforcing its value in improving psychological flexibility.

Ethical approval

This study was approved by the institution scientific review board (ISRB) of Saveetha College of Occupational Therapy with reference no. of SCOT/ ISRB/014/2025.

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Conflict of interest

The authors declare no conflict of interest.

CRediT authorship contribution statement

Punitha P: conceptualization, methodology, supervision, writing: review and edit; **Santhiya M:** investigation, data collection, formal analysis, writing: original draft, review and edit.

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