Original Article

Effectiveness of Cognitive Behavioural Therapy Based on Spirituality for Risk of HIV in Tanjung Balai

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ABSTRACT

OBJECTIVE: To investigate the effects of spirituality-integrated CBT interventions on individuals identified as at risk for HIV in Tanjung Balai.

METHODOLOGY: This research study was conducted between May and November 2022, utilizing a quantitative research methodology characterized by a quasi-experimental design. Data collection involved using instrument sheets to gather demographic information, a questionnaire designed to assess spirituality, structured implementation modules for CBT, and participant exercise journals. The sample comprised 70 respondents and was allocated into two groups (35 in the intervention group and 35 in the control group). The effectiveness of CBT was assessed through direct training sessions guided by specific modules, while spirituality was quantified by employing the Daily Spiritual Experience Scale (DSES). Data analysis was performed utilizing a dependent t-test.

RESULTS: The analysis utilizing independent t-test statistical methods revealed significant differences in spirituality levels between the HIV/AIDS risk groups in the intervention and control groups post-implementation of CBT, with a p-value of 0.000 ($p < 0.05$). CBT emphasizes understanding the cognitive processes that govern individual perspectives on situations and aids in elucidating the thoughts, feelings, and attitudes that shape behavior.

CONCLUSION: CBT has emerged as a vital nursing intervention, both autonomously and collaboratively, aimed at enhancing self-esteem among individuals at risk for HIV. It is recommended that healthcare providers incorporate CBT strategies into their patient care plans, ensuring that they are tailored to meet the unique needs of individuals at risk to support their mental health and well-being further.

KEYWORDS: Spirituality, Cognitive Behavioral Therapy, HIV risk, Mental health intervention, Spiritual well-being

INTRODUCTION

Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) continues to pose significant public health challenges worldwide, not only due to its physical health implications but also its profound psychological effects [1]. Individuals living with or at risk of HIV/AIDS frequently experience psychological issues such as depression, grief, and suicidal ideation, which can impair their quality of life and adherence to treatment regimens [2]. Addressing these mental health challenges requires a comprehensive approach that integrates psychological and spiritual dimensions [3]. Spirituality, encompassing aspects of the soul, mind, or religious practices, has been shown to play a pivotal role in emotional resilience and overall well-being [4]. It is a multidimensional construct that touches various facets of life, including physical, emotional, and interpersonal domains, providing individuals with a sense of purpose, connection, and peace [3].

Spirituality has also been identified as an essential healing component, complementing medical interventions by fostering optimism and confidence [5]. For individuals at risk of HIV/AIDS, spiritual practices can help mitigate feelings of hopelessness and foster psychological recovery. Despite its recognized benefits, there remains limited exploration of spirituality as a therapeutic focus in addressing psychological challenges in this population [6].

Cognitive Behavioral Therapy (CBT) is a well-established psychotherapy modality that alters maladaptive thought patterns to improve emotional regulation and coping mechanisms [7]. CBT has demonstrated efficacy across various mental health conditions, including depression, anxiety, and stigma reduction, and it has been shown to enhance adherence to medical treatments among people living with HIV/AIDS [8,9]. Moreover, CBT's potential to influence spirituality by reframing negative perceptions and fostering positive behaviors highlights its suitability for addressing the psychological and spiritual needs of individuals at risk of HIV/AIDS [10]. However, while evidence exists for CBT's effectiveness in improving mental health outcomes, there remains a significant gap in its application for enhancing spirituality in this population, particularly within the Indonesian context[11].

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This study aims to address this gap by examining the effectiveness of spirituality-based CBT interventions in enhancing the spiritual well-being of individuals at risk of HIV/AIDS in Tanjung Balai. By investigating this intervention's potential, the study seeks to provide evidence for integrating spirituality-focused CBT into nursing and healthcare practices to improve psychological and spiritual outcomes in vulnerable populations.

METHODOLOGY

Study Design

This quasi-experimental research uses a quantitative methodology with an equivalent control group design. This design enables researchers to compare the experimental group with a closely matched control group on relevant variables, controlling for external factors that may affect outcomes and enhancing the validity of research findings.

Population and Sample

The research was conducted in the Tanjung Balai area, which is characterized by notably high HIV prevalence, attributed to its geographical proximity to three neighboring countries. Data collection for this study was carried out over a period spanning from May to November 2022. The study employed a nonprobability sampling approach, precisely the consecutive sampling method. The target population consisted of patients who were selected through purposive sampling based on clearly defined inclusion criteria: 1) individuals residing near sex workers, 2) families affected by HIV/AIDS, and 3) sex workers themselves. This methodological framework ensured the sample accurately represented the population of interest within the specified context.

Instrument

This study investigates the spiritual well-being (SWB) concept, which is assessed using the Spiritual Well-Being Scale (SWBS). The SWBS is a psychometrically developed tool that serves as a general indicator of an individual's subjective state of well-being. It comprehensively evaluates the spiritual quality of life, conceptualized through religious and existential dimensions [12].

The scale's reliability is evidenced by its high coefficients, recorded at .93, .99, .99, and .82, which indicate strong consistency in measuring SWB. Furthermore, the SWBS demonstrates favorable face validity, effectively capturing the essence of spiritual well-being as perceived by individuals. The SWBS correlates positively with various psychological constructs, including a positive self-concept, life purpose, physical health, and emotional adjustment [12]. Specifically, the SWB score is a quantitative measure of perceived overall well-being. Items on the SWB are evaluated using a Likert scale ranging from 1 to 6, where higher scores signify enhanced perceptions of well-being. The interpretation of scores reveals that a total of 20 to 40 indicates low overall SWB, scores between 41 and 99 suggest moderate SWB and scores between 100 and 120 reflect a high level of SWB [12].

Data Collection and Analysis

The researcher established a temporal agreement with the intervention group participants to deliver CBT interventions through Focus Group Discussions (FGD) across five sessions over five months, totaling seven meetings. Sessions one, four, and five comprised two meetings, while sessions two and three comprised three meetings for each [11]. Each meeting lasted 30 to 60 minutes.

Session 1 involved assessment and problem formulation, during which the fundamentals of cognitive-behavioral therapy were introduced to the participants.

Session 2 focused on the application of cognitive therapy interventions, explicitly targeting the evaluation of participants' automatic negative thoughts related to spirituality.

Session 3 pertained to the application of behavioral therapy interventions, which included the assessment of participants' diaries and reflective exercises, alongside a review of any persistent automatic negative thoughts [7].

Session 4 served as an evaluation of both cognitive and behavioral therapy applications, with activities including the assessment of diaries/exercises, the review of negative automatic thoughts and behaviors, and an evaluation of participants' progress and developmental milestones within the therapeutic process.

Session 5 centred on preventing relapse, wherein activities included a thorough examination of negative automatic thoughts and behaviors alongside a discourse on the significance of cognitive-behavioral therapy in conjunction with other therapeutic modalities [13].

Following the completion of the intervention phase, the researchers evaluated the therapy's implementation within the intervention and control groups. After the seven meetings conducted over five months in both groups, a post-test was administered to ascertain any spiritual changes, utilizing the SWBS questionnaire [12].

The data analysis was conducted utilizing a dependent samples t-test, specifically designed to compare the means of two related groups. This statistical method allows researchers to determine whether there is a significant difference between the means of these paired observations, thus facilitating a deeper understanding of the underlying patterns within the dataset [14].

Ethical Statement

Before participating in the study, all participants provided informed consent. Ethical approval was obtained under 428/KEP/USU/202.

RESULTS

Table I presents a comprehensive overview of the changes observed in various CBT items among the intervention group following their participation in CBT therapy. Notable increases were documented in several key areas, including appearance evaluation, which exhibited a significant rise of 60%. The item related to appearance orientation demonstrated an even more substantial increase of 68.6%. Furthermore, improvements were noted in fitness evaluation, with a 28.6% increase, and in fitness orientation, which rose by 71.4%. Additionally, health evaluation showed an increase of 65.7%, while health orientation experienced the highest growth at 74.3%. These results underscore the positive impact of CBT therapy on individuals' perceptions and orientations regarding their appearance, fitness, and health.

Table II presents the calculated mean difference values observed between the intervention and control groups. The mean difference for the intervention group is recorded at -0.8, while the control group exhibits a mean difference of -0.771. These values indicate relatively modest differences between the two groups. Furthermore, the statistical significance of these findings is underscored by a p-value of 0.000, suggesting that the results are highly significant and

Table I: Distribution of Frequency and Percentage of Meaning Spiritual, Before and After CBT Therapy for Groups at Risk of Exposure to HIV/AIDS in Tanjung Balai (n= 70)

Dimension of Spiritual	Intervention				Control			
	Pre		Post		Pre		Post	
	f	%	f	%	f	%	f	%
Meaning								
Positive	10	28,6	21	60	9	25,7	27	77,1
Negative	25	71,4	14	40	26	74,3	8	22,9
Total	35	100	35	100	35	100	35	100
Purpose and fulfilment in life								
Positive	8	22	24	68,6	11	31,4	21	60
Negative	27	77,1	11	31.4	24	68,6	14	40
Total	35	100	35	100	35	100	35	100
Hope/will to live								
Positive	9	25,7	22	28,6	8	22,9	23	65,7
Negative	26	74,3	13	71,6	27	77,1	12	34,3
Total	35	100	35	100	35	100	35	100
Believe								
Positive	6	17,1	25	71,4	7	20	29	82,9
Negative	29	82,9	10	28,6	28	80	6	17,1
Total	35	100	35	100	35	100	35	100
Faith								
Positive	7	20	23	65,7	13	37,1	11	31,4
Negative	28	80	12	34,3	22	62,9	24	63,6
Total	35	100	35	100	35	100	35	100
Oriented of God, human, environment, self								
Positive	9	25,7	26	74,3	12	34,3	27	77,1
Negative	26	74,3	9	25,7	23	65,7	8	22,9
Total	35	100	35	100	35	100	35	100

Table II: Spirituality after Cognitive Behavioural Therapy (n= 70)

Variable	Intervention Group			Control Group		
	Different Mean	t	Sig	Different Mean	t	Sig
Spirituality	-0,8	-11,662	0,003	0,771	-10,712	0,000

not attributable to chance.

The data presented in **Table III** show that the mean difference in spirituality between the two groups is -0.914, with a standard deviation of ±0.048. This result is statistically significant, with a p-value of 0.000, indicating that the differences observed following the administration of CBT are not due to random chance.

Table III: Different Spirituality of Intervention and Control Group after CBT (n= 70)

Variable	Different Mean ± Mean	t	Sig
Spirituality	-0,914 ± 0,048	-19,044	0,000

DISCUSSION

Individuals at risk of HIV/AIDS encounter a multitude of challenges that span physical, psychological, social, and spiritual domains [2]. Among these, psychological issues such as phobias are particularly prevalent. Unresolved psychological stressors can weaken the immune system, accelerating the progression of opportunistic infections [15]. Addressing these challenges necessitates an integrative approach, wherein spirituality and mental health interventions play a critical role [5]. Spirituality, an abstract and subjective concept, is often associated with faith in a higher power or pursuing meaning and purpose in life [8].

Spiritual care, defined as "care that affirms the individual's unique worth based on unconditional love and influenced by their spiritual beliefs, cultural background, and physical circumstances," has become increasingly recognized as a vital component of holistic healthcare [3]. Patients frequently experience emotional and social distress alongside physical ailments, including hopelessness, anxiety, fear, stress, loneliness, and a loss of meaning in life. These issues can be exacerbated in healthcare settings where patients cannot engage in familiar spiritual practices, further impacting their SWB [9,16]. Consequently, integrating spiritual care into nursing practice is essential for addressing patients' emotional, spiritual, and physical needs [9].

CBT is a psychotherapeutic approach grounded in the premise that maladaptive thoughts and behaviors significantly influence emotional well-being and can exacerbate physical and psychological conditions [13]. CBT employs structured, problem-focused interventions designed to modify irrational cognitions and cognitive distortions, thereby reducing psychopathology and fostering adaptive behaviors [7]. According to Beck's cognitive theory, cognitive distortions such as magnification, dichotomous thinking, and overgeneralization contribute to adverse emotional and behavioral outcomes [7,15]. In the context of individuals at risk of HIV/AIDS, magnification often manifests as an exaggerated fear of mortality, necessitating targeted interventions such as cognitive restructuring and relaxation techniques to mitigate these distortions [15].

The implementation of CBT for modifying maladaptive behaviors follows several critical stages: 1) Goal Setting: Establish therapy goals with the patient to ensure alignment and focus on overcoming negative thoughts and behaviors. 2) Relaxation Techniques: Introducing breathing exercises to help patients manage anxiety and maintain calmness in stressful situations. Breathing relaxation techniques enable patients to engage their diaphragmatic breathing, facilitating a relaxed state that can be employed during episodes of anxiety. 3) Cognitive Restructuring: Educating patients on identifying cognitive distortions, such as automatic negative thoughts and logical fallacies, and replacing them with adaptive thought patterns [11,17].

For individuals at risk of HIV/AIDS, enhancing SWB is as critical as addressing psychological issues [5]. Spirituality is closely intertwined with health, and fostering spiritual resilience can alleviate fears of death and improve coping strategies [12]. CBT's capacity to integrate cognitive and behavioral modifications with spiritual interventions makes it a practical approach for addressing thanatophobia and other anxiety-related conditions. By transforming maladaptive thoughts and behaviors into positive attitudes and actions, patients are better equipped to resolve challenges effectively and promptly [12].

However, this study highlights certain limitations. The implementation of CBT therapy could have been improved by logistical challenges, such as difficulties in gathering participants due to the geographical dispersion of respondents and the prolonged introductory phase required to build trust among participants, which took approximately three months [18]. These barriers underscore the need for innovative strategies to facilitate CBT delivery in dispersed and underserved populations.

In conclusion, the findings underscore the potential of CBT to improve both SWB and psychological outcomes among individuals at risk of HIV/AIDS. Future interventions should consider tailoring CBT approaches to address logistical challenges and integrating spirituality as a core component to optimize outcomes.

CONCLUSION

In conclusion, the findings indicate a statistically significant difference in the level of spirituality among HIV patients when comparing their states before and after the application of CBT. Nursing professionals must offer consistent counseling to HIV/AIDS patients,

encouraging them to engage in CBT whenever they encounter difficulties related to their condition. Furthermore, it is recommended that future research endeavors explore additional strategies aimed at addressing the mental health challenges faced by individuals at risk of HIV/AIDS.

This study underscores the efficacy of CBT as an intervention that fundamentally transforms patients' negative thought patterns and behaviors, facilitating their progression toward more constructive and positive mental states. Moreover, CBT has proven effective in reframing detrimental thoughts, beliefs, and emotional responses, thereby promoting a more optimistic outlook among individuals undergoing treatment.

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Data Sharing Statement: The corresponding author can provide the data proving the findings of this study on request. Privacy or ethical restrictions bound us from sharing the data publicly.

AUTHOR CONTRIBUTION

Sitepu NF: Formulated the initial concept, developed the theoretical framework, and conducted computational analyses.

Sembiring BKF: Validated the analytical methods, prompted further investigation into a specific aspect, and supervised the interpretation of the findings.

All authors involved in this research significantly contributed to the study's implementation, encompassing tasks such as proposal formulation, journal identification, data collection, and data analysis. Collectively, the authors discussed the results and collaborated on preparing the final manuscript.

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