

Effectiveness Of a Holistic Intervention Module on Self-Esteem Among HIV Positive Persons: A Quasi-Experimental Study

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Abstract—HIV/AIDS is a chronic condition that affects not only the physical health of an individual but also the psychological dimensions of well-being, particularly self-esteem. This study assessed the effectiveness of a holistic intervention module on self-esteem among HIV positive persons attending a selected AIDS centre in Bangalore. A quasi-experimental, two-group pre-test post-test design was adopted. Sixty HIV positive persons (30 experimental, 30 control) were selected by convenience sampling. Self-esteem was measured using the standardized Rosenberg Self-Esteem Scale. The experimental group received a structured holistic intervention module, while the control group received no intervention. Post-test mean self-esteem score in the experimental group (21.60 ± 3.06) was significantly higher than in the control group (16.90 ± 4.88), $t = 3.86$, $p = 0.001$. Within the experimental group, the post-test score was significantly higher than the pre-test score ($t = 13.55$, $p = 0.001$), whereas the control group showed no significant pre-post change ($t = 1.91$, $p = 0.066$). No significant association was found between pre-test self-esteem scores and selected demographic variables. The findings indicate that a structured holistic intervention module is effective in improving self-esteem among HIV positive persons and can be incorporated into routine holistic nursing care.

Index Terms—Holistic intervention, HIV/AIDS, Quasi-experimental study, Rosenberg self-esteem scale, Self-esteem.

I. INTRODUCTION

The disease caused by the Human Immunodeficiency Virus (HIV), which progresses to acquired immunodeficiency syndrome (AIDS), continues to have no definitive cure even after more than two decades since it was first identified. While a wide range of conventional antiretroviral medications (ARV) are available to manage HIV/AIDS, concerns

regarding their side effects persist, prompting many patients to seek complementary and alternative medicine (CAM) as an adjunct therapy. Surveys indicate that more than 70% of HIV-positive individuals have turned to some form of alternative medicine, most commonly alongside standard Western treatment, in what is described as “integrative” medicine. The goals of these adjunct therapies are to strengthen the immune system, relieve symptoms and drug side effects, and improve overall quality of life [1].

According to National AIDS Control Organization estimates, India recorded a 57% reduction in new adult HIV infections between 2000 and 2011, yet an estimated 2.08 million people were still living with HIV in 2011 [2]. Holistic therapy, unlike the mechanistic and reductionist approach of conventional Western medicine, addresses the body, mind, and spirit as an integrated whole and emphasizes prevention over cure [3]. It assumes that emotions, attitudes, and lifestyle are principal contributors to health, and that healing is fundamentally self-healing, requiring the individual to become an active participant in their own wellness [4].

HIV-positive persons frequently experience disturbances in self-esteem as a consequence of the stigma, uncertainty, and psychosocial burden associated with the illness. The investigators observed that holistic intervention could substantially benefit HIV-positive persons in improving self-esteem, which formed the basis for undertaking the present study.

II. CONCEPTUAL FRAMEWORK

The study was guided by a modified holistic wellness model. A conceptual framework is a theoretical approach to the study of a problem that emphasizes the

selection, arrangement, and classification of its concepts, and it helps the researcher determine what data need to be collected and gives direction to the research process [5]. The holistic model of health, first proposed by Jan Smuts in 1926 in *Holism and Evolution*, describes nature as forming wholes that are greater than the sum of their parts through creative evolution [6].

While some wellness models identify as few as three dimensions and others as many as ten or eleven, the present framework focuses on dimensions most frequently cited in the wellness literature: mind (self-esteem), recognized as an integrated and coherent whole. Wellness, in this framework, is defined as a state in which a person is centered in themselves and functioning at an optimum level—happy, healthy, and whole—engaged and able to create meaning and purpose in life [7]. To improve the mind dimension (self-esteem), the model proposes that a person should build self-awareness, adopt a positive outlook, manage feelings, practice self-acceptance, and develop effective coping skills.

III. REVIEW OF LITERATURE

Literature relevant to the present study was organized under two broad headings: studies related to self-esteem among HIV-positive persons, and studies related to holistic approaches to HIV/AIDS care.

A. Studies Related to Self-Esteem and HIV

Webel and Okonsky assessed the psychometric properties of a Symptom Management Self-Efficacy Scale for women living with HIV/AIDS and found it to be a reliable and valid instrument for measuring self-efficacy of symptom-management behavior [8]. McGovern, Guida, and Corey followed 41 clients in a therapeutic community nursing program and found significant linear increases in total self-esteem, CD-4 cell count, body weight, and number of close friends over the course of treatment [9].

Visintini et al. compared self-esteem across three HIV risk-behavior groups (drug users, homosexual men, heterosexual men; N = 104) and found drug users had comparatively lower self-esteem than the other two groups, concluding that the Rosenberg Self-Esteem Scale (RSES) is useful for identifying subjects who need psychological assessment within HIV-infected populations [10]. Oxley studied HIV/AIDS

knowledge and self-esteem among 39 adolescents and reported a 20% gain in HIV/AIDS knowledge alongside efforts to build self-esteem through structured sessions [11].

Kamen et al. examined general self-efficacy in relation to unprotected sexual encounters among persons living with HIV and found the Positive Self Questionnaire to be internally consistent and related to sexual risk behavior even after controlling for other factors [12]. Kouanda et al. studied self-disclosure of HIV-positive serostatus among 740 patients in Burkina Faso and identified factors favoring disclosure, supporting couple- and family-focused voluntary counseling and testing models [13]. Mahat, Scoloveno, and Ayres evaluated a peer-education program among Nepalese adolescents and found significant improvement in both HIV/AIDS knowledge and self-efficacy following the intervention [14]. Similarly, a survey of 373 HIV-positive women in New York City found that psychological resourcefulness—including self-esteem and mastery—mediated the relationship between social support and depressive symptomatology, underscoring self-esteem's protective role [15].

B. Studies Related to Holistic Approaches and HIV

San Lio conducted a prospective study of 531 patients in Africa within the DREAM (Drug Resource Enhancement against AIDS and Malnutrition) program, reporting good AIDS knowledge, high trust in treatment, low risky sexual behavior, and strong adherence to HAART (69.5% with pill counts above 95%) [16]. Teräs described nursing care of AIDS patients as an inherently holistic process, emphasizing the nurse's role in supporting patients through the crisis of diagnosis by addressing physical, emotional, and educational needs together [17].

Morgan examined the feasibility of a four-week holistic wellness program—incorporating yoga, therapeutic dance, meditation, Reiki, and reflective journaling—within a residential HIV/AIDS treatment facility and found it feasible with potentially beneficial effects on symptom management, addiction, depression, stress, and anxiety [18]. Nebelkopf and Penagos described the Holistic Native Network, an integrated HIV/AIDS, substance-abuse, and mental-health service for Native Americans in San Francisco, and found positive changes in quality of life attributable to culturally embedded, holistic service

delivery [19]. Sowell et al. explored self-care activities among 27 women infected with HIV through focus groups and identified seven categories of holistic self-care, including special dietary practices, spiritual reliance, staying active, and self-education [20]. Ventegodt, Flensburg-Madsen, and Jørgen proposed a holistic scheme linking quality-of-life improvement to immunological status in a small sample of HIV-infected persons in Uganda, based on the life mission theory and holistic process theory of healing [21]. Taken together, this body of literature indicates that self-esteem, is important dimensions of wellbeing among HIV-positive persons, and that holistic interventions addressing the dimensions can produce measurable psychosocial—and in some cases physiological—benefits. This provides strong justification for the holistic intervention module developed and tested in the present study, with the present paper focusing specifically on its impact on self-esteem.

IV. OBJECTIVES

Statement of the Problem

A study to assess the effectiveness of a holistic intervention module on self-esteem among HIV positive persons in selected AIDS centres in Bangalore.

Objectives

- To assess the level of self-esteem among HIV positive persons.
- To develop a holistic intervention module.
- To assess the effectiveness of the holistic intervention module by comparing pre-test and post-test self-esteem scores.
- To determine the association between pre-test self-esteem scores and selected demographic variables (age, gender, religion, education, occupation, family income, marital status, number of children, type of family, and source of information).

Hypotheses

H1: There will be a significant increase in post-test self-esteem scores among experimental group subjects compared to control group subjects.

H2: There will be a significant increase in post-test self-esteem scores compared to pre-test scores among experimental group subjects.

H3: There will be a significant association between pre-test self-esteem scores and selected demographic variables, tested by chi-square at the 0.05 level.

V. METHODOLOGY

A. Research Approach and Design

A quantitative, quasi-experimental research approach was adopted. The research design selected was a two-group pre-test post-test design (experimental and control), which allowed comparison of self-esteem scores before and after the holistic intervention.

B. Setting, Population and Sample

The study was conducted at the Sumanahalli HIV/AIDS Centre, Bangalore. The population comprised HIV positive persons attending the centre. A sample of 60 subjects (30 experimental, 30 control) was selected using a convenience sampling technique, with subjects assigned to experimental and control groups across three sampling stages.

C. Sampling Criteria

Inclusion criteria: HIV positive/AIDS-diagnosed persons who were willing to participate, exhibited disturbances in self-esteem, and could read and understand Kannada or English. Exclusion criteria: critically ill patients, those who had previously undergone holistic intervention, and those unavailable at the time of data collection.

D. Data Collection Tool

A structured questionnaire comprising four sections was used: Section A collected demographic data; Section B used the standardized 10-item Rosenberg Self-Esteem Scale scored on a four-point Likert format (Strongly Agree to Strongly Disagree), with higher scores indicating higher self-esteem. Content validity was established with seven experts, and test-retest reliability of the tool was 0.85.

E. Description of the Holistic Intervention Module

The holistic intervention module was developed by the investigators following a review of literature and validation by subject experts. The self-esteem component of the module comprised two main techniques. The first, “building self-esteem,” consisted of structured guidance on self-awareness, identification of personal strengths, positive self-talk, acceptance of one's HIV status, and practical coping

strategies for managing stigma and negative emotions. The second technique, the “mirror exercise,” involved guided self-affirmation while looking at one's own reflection, intended to strengthen self-acceptance and a positive self-image. Both components were delivered by the investigators in a one-to-one format to each experimental group subject, with content validated by seven experts (nurse educators in psychiatric nursing and a statistician) prior to use.

F. Intervention and Procedure

Following administrative and ethical clearances, a pre-test was administered to both groups. The experimental group then received the structured holistic intervention module, which included techniques for building self-esteem and a mirror exercise. A gap of 15 days was maintained between the pre-test and post-test, after which post-test scores were collected for both groups.

Data were analyzed using descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired and unpaired t-tests, chi-square test) at the 0.05 level of significance.

VI. RESULTS

A. Socio-Demographic Characteristics

Of the 60 subjects, the majority in both groups were aged 20-40 years, married, belonging to nuclear families, and with a monthly family income below Rs. 10,000. The experimental group was predominantly male (67%) and Hindu (80%), broadly comparable to the control group (60% male, 53% Hindu). Table I presents a consolidated summary of the socio-demographic profile of the sample.

TABLE I. SOCIO-DEMOGRAPHIC PROFILE OF SUBJECTS (N = 60)

Variable	Total %	Exp. %	Ctrl %
Age 20-30 yrs.	45	30	60
Male gender	63	67	60
Hindu religion	67	80	53
Primary education	58	67	50
Self-employed	63	67	60
Income < Rs. 5000/mo	58	50	67
Married	88	93	83
Nuclear family	100	100	100

The sample was largely homogeneous with respect to family structure (100% nuclear family in both groups) and marital status (88% married overall). The experimental and control groups were reasonably comparable across most demographic characteristics, although the experimental group had a higher proportion of Hindu respondents (80% vs. 53%) and a slightly younger age distribution.

B. Self-Esteem Scores

Table II summarizes the pre-test and post-test self-esteem scores of the experimental and control groups. At pre-test, the control group had a higher mean self-esteem score than the experimental group, and this difference was statistically significant ($t = 3.09$, $p = 0.004$), indicating that the two groups were not equivalent at baseline.

TABLE II. COMPARISON OF SELF-ESTEEM SCORES (N = 60)

Variable	Exp. Mean	Exp. SD	Ctrl Mean	Ctrl SD	t-value	p-value
Pre-test self-esteem	11.30	3.54	14.60	4.46	3.09	0.004
Post-test self-esteem	21.60	3.06	16.90	4.88	3.86	0.001
Exp. group (Pre vs Post)	11.40	3.66	21.60	3.06	13.55	0.001
Ctrl group (Pre vs Post)	14.60	4.46	16.90	4.88	1.91	0.066

At post-test, the experimental group's mean self-esteem score (21.60 ± 3.06) was significantly higher than that of the control group (16.90 ± 4.88), $t = 3.86$, $p = 0.001$.

Within the experimental group, the post-test score was significantly higher than the pre-test score ($t = 13.55$, $p = 0.001$), whereas the control group's pre-post difference was not statistically significant ($t = 1.91$, $p = 0.066$), indicating that the improvement observed in the experimental group is attributable to the holistic intervention rather than to the mere passage of time or repeated testing.

C. Association with Demographic Variables

Chi-square analysis (Table III) showed no statistically significant association between pre-test self-esteem scores and any of the selected demographic variables at the 0.05 level of significance.

TABLE III. ASSOCIATION BETWEEN PRE-TEST SELF-ESTEEM SCORES AND DEMOGRAPHIC VARIABLES (N = 60)

Demographic Variable	χ^2 value	df	p value	Inference
Age in years	0.162	2	0.922	NS
Gender	0.155	1	0.693	NS
Religion	4.569	2	0.101	NS
Educational qualification	1.885	2	0.389	NS
Occupation	3.258	1	0.07	NS
Family income	0.350	1	0.55	NS
Marital status	0.367	2	0.832	NS
Number of children	1.882	2	0.390	NS
Source of information	6.322	3	0.09	NS

NS = not significant at $p > 0.05$.

These findings indicate that pre-existing self-esteem disturbance among HIV positive persons in this sample was not driven by any single socio-demographic factor, supporting the interpretation that holistic self-esteem intervention should be offered broadly rather than being targeted to particular demographic subgroups.

VII. DISCUSSION

The findings demonstrate that the holistic intervention module produced a marked improvement in self-esteem among HIV positive persons in the experimental group, while the control group, who received no intervention, showed no meaningful change. This is consistent with earlier work showing that holistic, nurse-led approaches that address the whole person—body, mind, and spirit—can improve psychosocial outcomes such as self-esteem in HIV-positive populations [17], [18]. Similar improvements in self-esteem following structured therapeutic or educational interventions have been reported among adolescents and community-based HIV populations [11], [14], reinforcing the value of incorporating holistic self-esteem-building techniques into routine HIV care.

The absence of a significant association between demographic variables and pre-test self-esteem suggests that self-esteem disturbances in this population are broadly distributed rather than

concentrated in particular subgroups, underscoring the need for holistic intervention to be made available to all HIV positive persons rather than being targeted narrowly.

These results are also consistent with the broader literature on physical ability and spirituality among HIV-positive persons, even though those dimensions were outside the scope of the present paper. Griffin and Rabkin's finding that physical limitation is closely tied to depression [23], and Cunningham, Andersen, and Shapiro's finding that physical activity and social support enhance health-related quality of life [25], both suggest that the mind, body, and spirit dimensions of the holistic model are not independent but mutually reinforcing. Likewise, Ironson and Kremer's finding that spiritual transformation is associated with improved psychological wellbeing and survival [32] parallels the present study's finding that a structured, mind-focused intervention alone produced a substantial and statistically significant gain in self-esteem. This mutual reinforcement across dimensions provides a plausible mechanism for why a relatively brief, low-cost intervention such as the module used here—self-esteem-building guidance combined with a mirror exercise—can yield a meaningful psychological benefit.

The magnitude of change observed in the experimental group (a rise of more than ten points in the Rosenberg score) is considerably larger than the typically modest gains reported in single-session educational interventions [11], suggesting that repeated, individualized delivery of the module content, together with the 15-day interval before post-testing, may have allowed the intervention's effects to consolidate. This is an important consideration for nurses designing similar interventions in resource-limited AIDS-care settings, where brief, low-cost, nurse-delivered techniques may be more sustainable than intensive multi-modal wellness programs such as those described by Morgan [18].

Strengths of the Study

- Use of a standardized, well-validated outcome measure (Rosenberg Self-Esteem Scale) with established reliability (test-retest $r = 0.85$ in this study).
- Inclusion of a control group, allowing the change observed in the experimental group to be attributed

to the intervention rather than to repeated testing or the passage of time.

- A structured, low-cost, nurse-deliverable intervention module that can feasibly be scaled to routine AIDS-centre care.

VIII. CONCLUSION

The study concludes that the structured holistic intervention module was effective in significantly improving self-esteem among HIV positive persons in the experimental group compared to the control group. No significant association was found between pre-test self-esteem and the selected demographic variables. These findings support the integration of holistic, nurse-delivered self-esteem-building interventions—such as structured self-esteem exercises and mirror-based techniques—into the routine holistic care of HIV positive persons.

Implications

- Nursing practice: Nurses can incorporate holistic self-esteem interventions, including self-esteem-building tips and mirror exercises, into routine care of HIV positive persons.
- Nursing education: Holistic healthcare approaches should be emphasized in nursing curricula and in-service training programs.
- Nursing administration: Administrators should plan in-service education and support cost-effective implementation of holistic interventions among staff nurses.
- Nursing research: Further studies with larger, randomized samples are recommended to strengthen generalizability of these findings.

Future Scope

- Replication with a randomized controlled design and a larger, multi-centre sample to improve baseline equivalence and generalizability.
- Extension of the module to jointly assess physical ability and spirituality outcomes, allowing the interrelationship among the three holistic dimensions to be quantified directly.
- Long-term follow-up beyond 15 days to determine whether the observed gains in self-esteem are sustained over months or years.

- Comparative studies evaluating brief nurse-delivered modules such as this one against more intensive multi-modal wellness programs, to identify the most cost-effective format for resource-limited AIDS-care settings.

Limitations

- Small sample size limited generalization of findings.
- A quasi-experimental design without randomization was used.
- The two groups were not equivalent on self-esteem scores at baseline.

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