

## ORIGINAL ARTICLE

# Eudemonia of People Living with HIV at an Anti-Retroviral Therapy Center, Ron, Gadag District - A Mixed Method Feasibility Study

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## Abstract

**Background:** In the realm of health and wellbeing, the cursed part is the illness. Times elapsed, health problems and challenges evolved constantly. In 1980s, the first case of HIV (Human Immunodeficiency Virus) was reported and according to World Health Organization (WHO), 36.9 million people worldwide are living with HIV/AIDS (Acquired Immunodeficiency Syndrome).

**Aim:** This study aimed to explore the meaning of lived experiences of people living with HIV (PLHIV) and evaluate the effectiveness of health interventions on the state of health of PLHIV at an Anti-retroviral therapy (ART) center, Ron, Gadag District.

**Methods:** A sequential exploratory mixed-method study was conducted from August 2022 to September 2022. The qualitative strand with five samples explored lived experiences of PLHIV to develop health related counselling programme and quantitative strand with 14 samples tested the health-related counselling programme developed based on the data extracted from qualitative strand leading to first level integration, in addition to administration of oral zinc 20 mg/day for one month. Qualitative data analysis was done using QDA Miner lite version 3.0 and quantitative data analysis was done using IBM SPSS version 29.0, followed by mixing of data by integrated analysis.

**Results:** After qualitative analysis, six themes and twenty-one sub-themes were derived in development of phenomenology. After quantitative analysis, H1 & H2 were accepted as *P* value obtained was 0.001 for *df* - 01 at 5% level of significance. The integrated analysis showed that findings from both the strands complemented, supported and synergized the state of eudemonia among PLHIV.

**Conclusion:** The study concluded that administration of oral zinc supplementation and regular health related counselling sessions are effective strategies in maintaining eudemonia of people living with HIV & AIDS.

**Keywords:** HIV, AIDS, PLHIV, Eudemonia, Quality of life, Counselling, Zinc

## Introduction

The optimum functioning of human body depends on organ and organ systems. Immune system is the body's

only defense system, protecting against bacterial, viral and fungal infections. Immunity refers to the ability of body to prevent any foreign invasions into the

body systems. There are certain diseases like asthma, myasthenia gravis which alter immune system and compromise its functioning. The most distinct and life threatening immune compromised condition is caused by Human Immunodeficiency Virus leading to Acquired Immunodeficiency Syndrome (HIV/AIDS).<sup>1</sup> Eudemonia refers to the state of wellbeing, happiness or goodness which is completely distorted in the life of people affected with HIV/AIDS. Their existence is weak, challenging, critical and stigmatized.<sup>2</sup> Therefore, the researcher intended to design and test healthcare interventions to enhance and sustain eudemonia of people affected with HIV/AIDS.

Some of the health interventions that can be emulated in elevating the eudemonia of people affected with HIV/AIDS are effective, need based, health related counselling services and a balanced nutrition inclusive of macro, micro & trace nutrients.<sup>3</sup> Zinc is one of the trace nutrients with virtue of anti-viral activity and cell regeneration.<sup>4</sup>

Effective counselling is an indispensable mode of holistic care which addresses psychological problems and challenges. Counselling among individuals affected with HIV or AIDS primarily aims to support the grieved and further limit the transmission of HIV through behavioral change. All the counselors in this area should have formal training in counselling and receive constant clinical supervision.<sup>5</sup>

A randomized controlled trial conducted with oral zinc supplementation for prevention of immunologic failure showed that continuous long term use of oral zinc supplementation slowed down the immunological compromise and reduced episodes of diarrhoea. Scientific evidences supported the use of zinc supplementation in HIV/AIDS patients with weak viral load control, as a novel adjunct therapy.<sup>6</sup>

In a study on HIV/AIDS investigating the health and wellbeing of transport workers, it was found that serious gaps occurred in delivery of healthcare services, knowledge of transmission of disease and high level stigma. Mental health was purely neglected and an urgent need to address it emerged distinctly.<sup>7</sup> The findings of a community based cross sectional study conducted in rural India revealed that two fifth of youth in rural India lack general awareness on HIV/AIDS. Only media, health awareness and literacy are the factors that

can enhance their knowledge on this lethal infectious condition for its prevention.<sup>8</sup>

The present study was conducted considering physical health status, mental temperament and social equity of individuals affected with HIV/AIDS as vital aspect contributing to their eudemonia. Therefore, the purpose of our study was to evaluate the eudemonia of people living with HIV/AIDS. The objectives of the study were:

### Qualitative Objectives

- To describe lived experiences of people living with HIV/AIDS (PLHIV) at an Anti-retro viral therapy (ART) Center, RON, Gadag district.

### Quantitative Objectives

- To compare the effectiveness of healthcare intervention in experimental group and control group (in terms of sense of positivity, viral load, serum zinc levels and CD4 cell count) among PLHIV at an ART Center, RON, Gadag district.

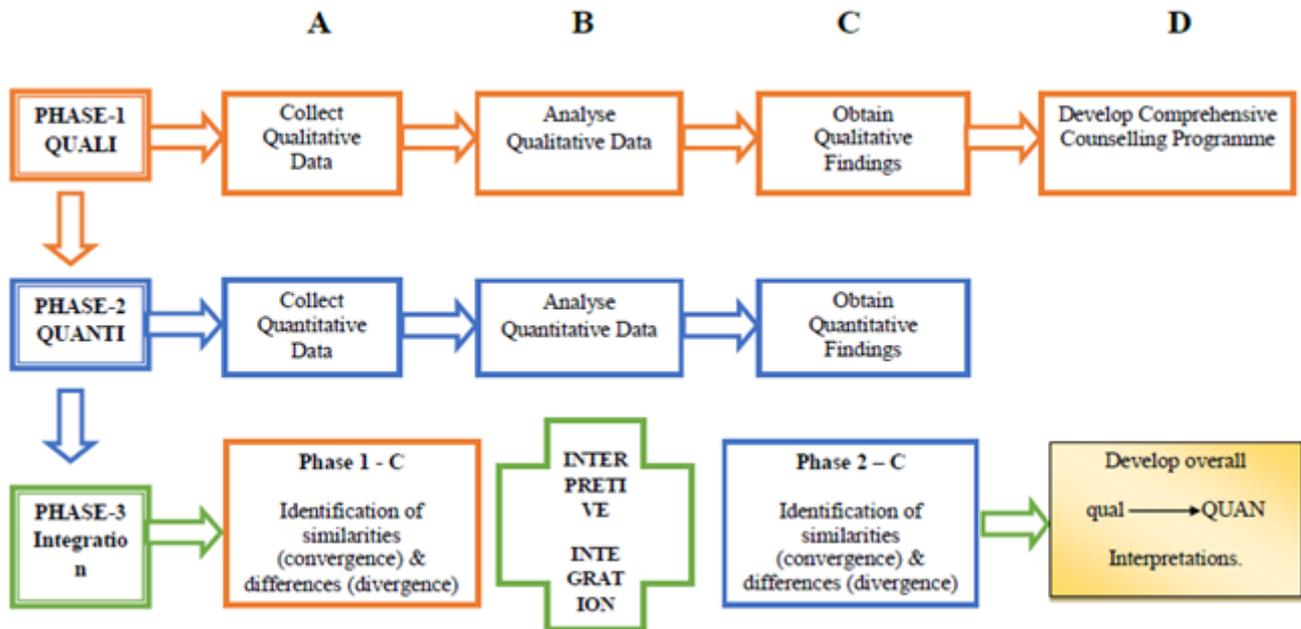
### Mixed Method (MM) Objectives

- To integrate the findings of qualitative strand and quantitative strand of people living with HIV/AIDS (PLHIV) at an ART Center, RON, Gadag district.

## Materials and Methods

A mixed method sequential exploratory design was adopted in this study. In notation, (qual quan), weightage was given to quantitative strand. After obtaining the Institutional Scientific & Ethics Committee approval from Gadag Institute of Medical Sciences, Gadag, the permission to conduct study at ART Center, Ron, Gadag district was applied and procured. Before data collection, administrative permission was obtained from KSAPS, Arogya Soudha, Bangalore and Chief Medical officer, ART Center, Taluk Hospital, RON, Gadag District. Informed consent was taken from participants and confidentiality of the data elicited was warranted.

As feasibility study, 10% of total sample size was included in the study, i.e. five samples in qualitative strand and 14 samples in quantitative strand. The samples of qualitative strand were different when compared to samples in quantitative strand. The below Figure 1 depicts the organizing framework of the present study which included Phase 01 (quali), Phase 02 (quanti) and Phase 03 (Integration).



**Figure 1:** Organizing framework of mixed method sequential exploratory design

### Description of data collection tools

**Table 1:** Description of data collection tools and their interpretation

S. no	Variable	Instrument	Interpretation	Permission
1.	Demographic Variable	Demographic data collection Proforma	Identification of demographic variable	Developed
2.	General Health Status	General Health Questionnaire	Identification of State of caseness (score of 4 and above) Wellness (score 3 and below)	Received
3.	Sense of Positivity	Positivity Scale	Classification of sense of positivity Scores: 45 to 60: High positivity 30 to 44: Moderate positivity 00 to 29: Low positivity	Received
4.	Stages of HIV infection	Walter Reed staging classification of HIV-infection scale	Classification of stage of HIV infection based on CD4 cell count Cell count: WR0,1,2 = CD4 cell count >400 WR 3,4,5,6 = CD4 cell count <400	Received
5.	Clinical Variables	Clinical recording cum evaluation Proforma	Recording of vital parameters (TPR & BP) Hematological parameters (CD4 cell count & viral load) Biochemical parameters (serum zinc level) Oximetry (O2 saturation & PI) Anthropometry (height, weight & BMI) Oral zinc supplementation recording sheet Comprehensive counselling sessions recording sheet	Developed & Validated
6.	Lived Experience	Semi structured interview schedule	Exploring the lived experiences of people living with HIV/AIDS (PLHIV)	Developed & Validated

### Reliability of Semi Structured Interview Schedule to describe the lived experience of PLHIV

After validation, the tool was subjected to test for its reliability. The reliability of Semi Structured Interview Schedule was computed using Spilt Half method. The reliability co-efficient of Semi Structured Interview Schedule was found to be 0.79. The reliability coefficient  $r > 0.70$  suggests the tool to be reliable.

#### Data collection

Data collection was done from 01.08.2022 to 10.09.2022. In depth, individualized, semi-structured interviews were conducted on lived experience of PLHIV in a secure facility and verbatim were developed to be subjected for qualitative analysis. Data saturation was reached at 5th sample due to repetition of similar data. Trustworthiness of data was affirmed by comparing the verbatim, i.e. different data sets and by checking and rechecking of data through data collection and analysis process and by participant validation. In quantitative strand, it was done using simple random sampling technique. The participants were allotted to experimental group and control group.

The pretest or first (O1) assessment of vital signs (TPR & BP), weight, height, BMI, Oximetry (SPo2 & PI), viral load, CD4 cell count and opportunistic infection was done. Further, the participants in the experimental group received oral zinc supplementation 20 mg per day for a period of 30 days (one month). Individualized health related counselling of one session per participant on physical, physiological, psychological, social, emotional & financial dimensions of health was done, while the participants in control group received standard care as per hospital policy. The second (O2) and third (O3) assessments were done on 15th and 30th day, respectively in the intervention period.<sup>9</sup>

#### Data analysis

The qualitative data was analyzed using QDA Miner lite 3.0 software. The quantitative data collected was analyzed using IBM SPSS 29.0 software for descriptive and inferential analysis and lastly, the integrated analysis of findings of both the strands was processed for affirmation related to concordance or divergence.

### Results

The analyzed data is presented under the following headings.

**Table 2:** Socio-demographic characteristics of PLHIV in integrated analysis

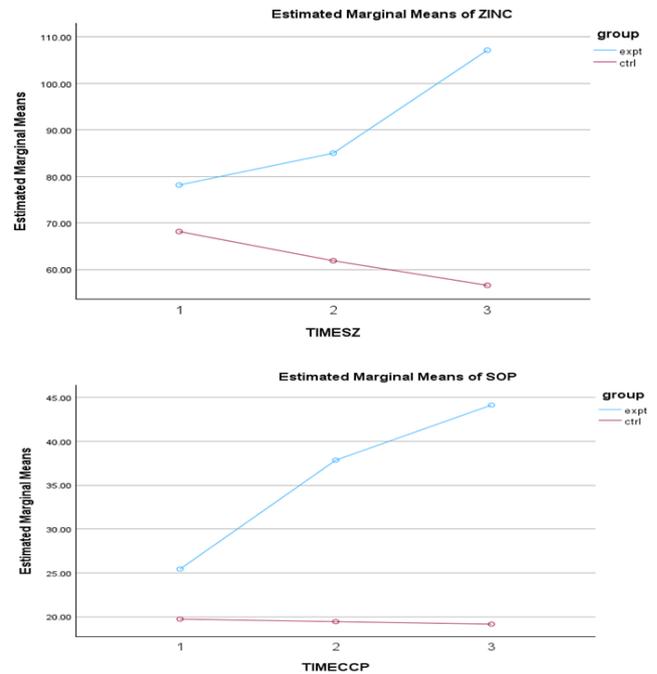
Sl.no	Socio-demographic-clinical variable	Qualitative strand n-05		Quantitative strand n-14	
		f	%	f	%
1.	Age in years				
	31-35	00	00	4	29
	36-40	03	60	6	42
	41 and above	02	40	4	29
2.	Gender				
	Male	01	20	6	42
	Female	04	80	8	58
3.	Type of family				
	Nuclear	01	20	5	36
	Joint	04	80	9	64
4.	Marital status				
	Married	05	100	14	100
	Unmarried	00	00	00	00
5.	Family Monthly income (in rs.)				
	1000-5000	02	40	07	50
	5001-10000	03	60	07	50
6.	Education qualification				
	NL	03	60	07	50
	PE	01	20	02	14
	SSLC	01	20	04	29
	PUC & above	00	00	01	07
7.	Occupation				
	Homemaker	00	00	02	14
	Coolie	01	20	02	14
	Other	04	80	08	58
	Driver	00	00	01	07
	Govt. job	00	00	01	07
8.	Drug abuse				
	Yes	00	00	00	00
	No	05	100	14	100
9.	Duration of illness & use of ART services (in years)				
	1 to 5	01	20	03	21
	6 to 10	01	20	07	50
	11 to 15	02	40	03	22
	15 & Above	01	20	01	07
10.	Source of health information				
	Media	03	60	01	07
	Health officer	02	40	13	93
Total		05	100	14	100

**Table 3:** Conceptual model on lived experiences of people living with HIV/AIDS

Lived Experiences of people living with HIV/AIDS	
Physical aspect of health	Physical status, illness awareness, life style, Nutrition & Physical relationship
Physiological aspect of health	Awareness on blood chemistry, treatment compliance & Pain
Psychological aspect of health	Stress, Suicidal Ideation, Counselling and support
Social aspect of health	Stigma, Societal responsibility & Health team support
Financial aspect of health	Meeting needs, Job type & Government aid.
Emotional aspect of health	Family bonding, Guilt & Regards, Negative emotions, Helplessness & Hopelessness

Table 3 shows conceptual model developed on lived experiences of PLHIV which includes six themes (6) & twenty-one sub themes (21). The core with thick black solid circle shows that among PLHIV, physical aspect of health is strongest and purple dotted circle shows emotional aspect of health being most sensitive and easily penetrable. All the other aspects of health fall between the range of physical and emotional health.

The Table 4 depicts the findings of RM-ANOVA in hypothesis testing. The obtained Greenhouse-Geiser f-value was 39.52 (within subject) & 136.35 (between subjects) for oral zinc supplementation. The f-value for health-related counseling programme was 39.25 (within subject) and 141.35 (between subjects). The *P* value of 0.001 implies that there was statistically significant difference within and in between subjects. Therefore, H1 & H2 was accepted.

**Figure 2:** Profile plot showing effectiveness of a) oral zinc supplementation, b) health-related counseling programme**Table 4:** Comparison of the effectiveness of healthcare interventions on wellbeing in PLHIV between experimental and control groups (Hypothesis Testing) n=7+7

Healthcare interventions	Groups		Pre-test scores		Post test scores		Follow up scores		Greenhouse-Geiser test
	Expt Gr.	Ctrl Gr.	Mean	SD	Mean	SD	Mean	SD	f-value
Oral zinc supplementation	07	07	73	26	73	27	81	33	39.52* (within subject) & 136.35* (Between subject)
Comprehensive counselling programme	07	07	22	9.6	28	12	31	15	39.25* (within subject) & 141.35* (Between subject)

\* Significant at 1% level at df-01

**Table 5:** Integration of the findings of qualitative strand and quantitative strand of people living with HIV/AIDS (PLHIV) at ART center

Sl.No	Aspects of wellbeing	Qualitative data (select)	Quantitative data (select)	Integrated analysis
1.	Physical wellbeing	<ul style="list-style-type: none"> <li>• My HEALTH is good, yea, I am doing good..... its seldom that I fall sick....</li> <li>• My physical HEALTH is good now, at times it varies but now is stable</li> </ul>	<ul style="list-style-type: none"> <li>• 100% respondents recorded normal vital parameters</li> <li>• 86% respondents reported normal BMI (18-25)</li> <li>• 100% respondents reported nil opportunistic infections.</li> </ul>	<ul style="list-style-type: none"> <li>• The qualitative and quantitative reports correlates and are in synchrony with each other. Therefore, both the strands complement and synergies the findings.</li> </ul>
2.	Physiological wellbeing	<ul style="list-style-type: none"> <li>• No, I don't know about BLOOD REPORT</li> <li>• Very difficult to say but somewhat I understand biochemical and BLOOD REPORT like Hb%, vial load and CD4 cell count</li> <li>• Yes, I follow nurses and doctors' orders to take MEDICINES..... because it keeps me healthy</li> <li>• Giving each time BLOOD for investigation gives me physical and emotional PAIN</li> </ul>	<ul style="list-style-type: none"> <li>• 50% respondents reported good perfusion in oximetry</li> <li>• 100% respondents reported 1st stage based on CD4 cell count</li> <li>• 58% respondents reported adequate serum zinc level</li> <li>• 100% respondents reported viral load less than 25 copies/mL</li> </ul>	<ul style="list-style-type: none"> <li>• The qualitative and quantitative findings converge as participant reports treatment compliance, knowing of biochemical and hematological findings in qualitative strand which is supported in quantitative strand as majority respondents have adequate levels of zinc, oxygen saturation, CD4 cell count &amp; controlled viral load</li> </ul>
3.	Psychological wellbeing	<ul style="list-style-type: none"> <li>• No treatment to completely cure the disease adds to the STRESS and I get emotional about it at times</li> <li>• Committing suicide was the only option left when I heard my HIV report</li> <li>• Yes, a lot of time I was in depression</li> <li>• COUNSELLORS at ART have helped to remain calm and move ahead</li> </ul>	<ul style="list-style-type: none"> <li>• 100% respondents reported good general health status</li> <li>• Majority 77% respondents reported persistent utilization of ART services without interruption or any barrier</li> <li>• The overall 58% of respondent had high positivity score</li> </ul>	<ul style="list-style-type: none"> <li>• There was concordance of findings in both the strands on psychological wellbeing as participants mentioned about suicidal ideation which was overcome with the help of counsellors through constant counselling and the quantitative strand synchronizes as majority 58% respondents had high positivity score.</li> </ul>
4.	Social wellbeing	<ul style="list-style-type: none"> <li>• Yea, I do attend the SOCIAL gatherings...</li> <li>• I PERFORM optimally for social betterment</li> <li>• All the schemes of government are well planned and implemented at ART CENTER...</li> <li>• The people at ART CENTER are good and support us in daily living, They do not go harsh on us, but counsel the way to lead life.</li> </ul>	<ul style="list-style-type: none"> <li>• 100% respondents reported their marital status as married.</li> <li>• 100% respondents reported working life style.</li> <li>• 100% respondents reported free from drug abuse.</li> <li>• 50% respondents were literates with minimum educational qualification.</li> <li>• 100% respondents reported no stigma or discrimination</li> </ul>	<ul style="list-style-type: none"> <li>• The integration of qualitative and quantitative strand shows that respondents from qualitative strand were aware and were responsible towards society. They appreciate the government schemes and ART centers for making their lives better. On the other hand, all the respondents were married, working, and free from drug abuse, social stigma or discrimination. Therefore, adjunct each other</li> </ul>

5.	Financial wellbeing	<ul style="list-style-type: none"> <li>• Yes, economic BURDEN is there and at times, we have cut down on our food</li> <li>• I WORK as a labor in private sector on daily wages</li> <li>• I don't receive any financial assistance from government or any other agency</li> </ul>	<ul style="list-style-type: none"> <li>• 50% respondents reported monthly income of up to 5000 rupees</li> <li>• 60% respondents reported doing jobs with low income</li> <li>• 93% respondents reported health officers as sources of information</li> </ul>	<ul style="list-style-type: none"> <li>• The analysis of both the strands support each other and conclude with a common note of economic burden on PLHIV</li> </ul>
6.	Emotional wellbeing	<ul style="list-style-type: none"> <li>• My relation with my WIFE, children and family members is good and satisfying</li> <li>• I used to feel very guilty</li> <li>• Immediately after knowing my HIV status, I was left in tears, hopelessness and helplessness</li> </ul>	<ul style="list-style-type: none"> <li>• Majority 66% respondents reported to have a joint family</li> <li>• Majority 58% respondents were females</li> <li>• Majority 50% respondents were middle aged</li> </ul>	<ul style="list-style-type: none"> <li>• The participants in qualitative strand reported happy family, sense of regret and guilt, in addition to helplessness and hopelessness, whereas quantitative strand addressed all, except helplessness and hopelessness</li> </ul>

## Discussion

In a qualitative phenomenological study conducted on lived experience of HIV infected patients in the face of positive diagnosis, five major themes and 12 major sub themes of importance to PLHIV were identified.<sup>7,10</sup> Similarly, six major themes emerged as base to develop phenomenological model depicting daily living experience of people affected with HIV and twenty-one subthemes elaborated it. Health related counselling programme was developed based on the findings of qualitative strand, validated and tested in quantitative phase, in terms of sense of positivity.

The findings of a study undertaken on HIV counselling in a tertiary care hospital showed that constant and repeated counselling enhances treatment compliance, modifies behavior and elevates optimism, which concurs with the findings of our study supporting inculcation of health-related counselling as supplementary measure in treating HIV/AIDS.<sup>8</sup>

A study on zinc supplementation and inflammation in treated HIV cases reported that zinc as a trace element has impact on biological signature in HIV patients and regulated biomarkers associated with co-morbidities which synchronizes with findings of our study, supporting use of oral zinc as an adjunct therapy in treating HIV/AIDS.<sup>9</sup>

The integration of the findings of qualitative strand and quantitative strand complements and connects with

each other, synergizing the total effect in prevention and control of HIV/AIDS and improving the eudemonia of people living with HIV.<sup>11</sup>

A significant association was noted between oral zinc, age and gender and a significant association was observed between health-related counselling and occupation. No significant association between any other demographical variables in experimental group or control group was noted.<sup>12</sup>

## Conclusion

Eudemonia of people living with HIV/AIDS keeps fluctuating and is not normalized to the extent it should. Many mixed method studies were conducted on various dimensions of health to address the life experiences of people living with HIV/AIDS and to improve the quality of life. In this regard, oral zinc supplementation has come up as a ray of hope to boost immune system and repetitive health related counselling contributed towards better treatment compliance and optimism. Our study recommends conduct of randomized controlled trial on oral zinc supplementation to enhance the immune levels of PLHIV.

## Conflict of Interest

Nil

## Financial Funding

Nil

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