



## Assessing the Impact of Integrated Counseling Intervention on Psychosocial Health in PLWHA

CHETNA JAISWAL, NISHI SRIVASTAVA\*, DHARMENDRA KUMAR SINGH and UNNIKANNAN P SANTHOSH KUMAR

Department of Psychological Sciences, Central University of South Bihar, Gaya, India.

### Abstract

The acts of discrimination & exclusion meted out to the people living with HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome) and the stigma attached to the condition deprive the afflicted of their capacity to exercise their fundamental rights, mental health, and access necessities. The aim of the present study is to assess the effect of counseling as an intervention on ways of coping, mental health and rumination in HIV+. A pre-test post-test research study was designed to obtain 100 people with HIV+ drawn from the NGOs (non-governmental organizations) and medical setups of different cities under the Rajasthan State AIDS Control Society. After gaining informed consent, the questionnaire of the Ways of Coping, Mental Health Inventory and the Rumination: Dealing with Emotions questionnaire were used to measure coping, mental health and rumination. To achieve the purpose of the present study, the need-based group counseling and individual counseling were employed on the most vulnerable group of HIV+ individuals out of a sample of 100 by the experts, including counselors and doctors. Results showed that counseling significantly improved coping strategies, rumination, and mental health in HIV+ individuals, with a mean improvement in the post-intervention group. This study offers valuable insights for diverse rehabilitation initiatives and assesses the efficacy of intervention programs designed to tackle mental health issues, mitigate psychological distress and diminish stigma while improving overall well-being. It highlights the need for contextually cognizant, evidence-based mental health policies that address the psychological and social dimensions of HIV. The research advocates for integrating mental



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**CONTACT** Nishi Srivastava ✉ nishisrivastava300@gmail.com 📍 Department of Psychological Sciences, Central University of South Bihar, Gaya, India.



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health treatments into existing HIV care to enhance comprehensive rehabilitation and improve quality of life.

### Abbreviations

ICTC	Integrated Counseling and Testing Center
PLWHA	People Living with HIV+ and AIDS
HIV/AIDS	Human immunodeficiency virus/ Acquired Immunodeficiency Syndrome
NGOs	Non-governmental organization
ART	Anti-Retroviral Therapy
RSACS	Rajasthan State AIDS Control Society
STI	Sexually Transmitted Infections
MHI	Mental Health Inventory
ANP+	Alwar Network for People Living with HIV
SD	Standard Deviation
SEM	Standard error of mean

### Introduction

HIV/AIDS (Human immunodeficiency virus/ acquired immunodeficiency syndrome) an incurable and often fatal disease requires enormous psychosocial adjustments. People diagnosed with HIV endure not just the bodily ramifications of the sickness but also the ignoble repercussions associated with it such as exhibiting emotional responses, stigma, isolation and discrimination (Imani *et al.*, 2021). HIV/AIDS is currently proliferating globally as an epidemic, with new infections occurring every 50 seconds. No particular class, community, religion, age, gender, group, or occupation is exempt from this illness. Since AIDS continues to remain one of the most serious public health concerns of our present time, and health psychologists worldwide continue to focus on dealing with its psychological and behavioural aspects (Armoon *et al.*, 2022). One of India's most significant issues is HIV/AIDS, which has a more profound effect on sexual behaviour and instills greater fear in the populace than any other sexually transmitted diseases (Eller *et al.*, 2014). The Acquired Immune Deficiency Syndrome (AIDS) is an extremely feared disease that primarily affects the body's immune system, hindering its ability to combat bacteria, viruses, and cancer; the internationally recognised name of the causal virus is Human Immunodeficiency Virus (HIV) (Wani & Sankar, 2017). Following an infection with HIV, the person is susceptible to germs that a normal immune system would eliminate. HIV can be transferred through sexual contact, from mother to child via the

placenta, or through transmission of whole blood or blood products. In 1993, it was expanded to encompass any HIV-infected person with a CD4 cell count greater than 200 per misrelate (Chaudhury *et al.*, 2016). Individuals infected with HIV may retain the virus for several years without progressing to AIDS. However, when patients contract this terrible viral condition, they confront themselves with devastating mental complications.

Nevertheless, certain people avoid AIDS patients out of fear of being contaminated. The majority of AIDS patients are contracted through sexual contact or intravenous consumption of drugs, and some people view the condition as morally unacceptable. As a result, they suffer more psychologically and socially, and are unable to cope with their surroundings. Such patients' self-esteem rapidly deteriorates as they develop guilt sentiments and blame themselves for combating the condition. Blaming oneself typically leads to feelings of hopelessness, increased anxiety, self-directed rage, and a negative attitude on life (Rezaei *et al.*, 2019). Friends and family members are equally impacted as they navigate the impending loss of a loved one and endeavour to comprehend the sickness. Sometimes a person is blamed for a disease even if they are not responsible for it. Acute depression and increased anxiety are the outcomes of such a stressful event. When an illness is challenging to eradicate, higher levels of worry and hopelessness are very concerning. A greater prevalence of depressive and anxiety symptoms

are observed in AIDS patients due to physiological, psychological and social factors (Kabbash *et al.*, 2018; Tran *et al.*, 2019; Fauk *et al.*, 2021).

Adding on to the miseries, health care workers, who are supposed to take care of the AIDS patients tend to feel worried and afraid to encounter them or to provide medical services due to the fear that the health care workers might also get infected (Camara *et al.*, 2020). A systematic review of articles published in web of science database from the year 1991 to 2017 revealed that discrimination against HIV AIDS infected individuals resulted in clinical, mental, and physical issues and additionally there were fewer studies based on the interventions need to tackle this issue (Remien *et al.*, 2019). Families, which are considered the primary support system for an individual, also lack empathy, which leads to discrimination and stigmatization from the family members (Manjunatha *et al.*, 2018).

By understanding all these issues, it is of prime importance that those affected by HIV AIDS should be provided with adequate training and interventions to tackle the mental burden they are facing (Chelladurai *et al.*, 2022). Significant progress in the field of biomedicine concerning the prevention and treatment of HIV has spurred ambitious initiatives aimed at eradicating the HIV epidemic. Nevertheless, the realization of this objective hinges on the resolution of substantial issues related to mental health and substance use within the populations affected by HIV, including those living with the virus and those at risk of contracting it (Chellaiyan *et al.*, 2014).

The Integrated Counseling and Testing Center (ICTC) serves as a voluntary venue for HIV counseling and testing, ensuring confidentiality throughout the process. It brings forth several advantages, such as increasing awareness about HIV/AIDS, promoting behavioral shifts, counseling HIV-positive individuals, and guiding both negative and positive clients towards preventive measures and care services. Additionally, ICTC plays a crucial role in recognizing HIV-related needs, averting opportunistic infections, granting access to antiretroviral treatment, preventing parent-to-child transmission, screening for tuberculosis, enabling early treatment of infections, endorsing orphan care, and adhering to general principles of HIV testing.

The center acknowledges the moral, legal, ethical, and psychological dimensions of a positive HIV status, underscoring comprehensive and preventive programs with technically sound, cost-effective, and quality-monitored testing procedures (Kumar *et al.*, 2024).

Screening for HIV has become standard practice for a variety of reasons. Studies indicate that there is a high prevalence of psychological distress among individuals with HIV. However, mental health issues often go undiagnosed and untreated in this population, but could be effectively addressed through routine screening at healthcare facilities like an integrated counseling and testing center (ICTC) (Rajasthan State AIDS Control Society, n.d.). Although these interventions has made much change and have proven to be effective, the lack of awareness of this intervention seems to be a bigger concern (National AIDS Control Organization *et al.*, 2007).

A study conducted on ICTC counsellors revealed that they had adequate knowledge on the symptoms related to depression, but the lack of proficiency in intervention strategies, time limitations and work-related milestones act as significant barriers (Kumar *et al.*, 2024).

Despite advances in medical therapy that have improved physical health outcomes, intervention programs frequently fail to adequately address psychological well-being. Counseling therapies are critical in promoting adaptive coping mechanisms, emotional regulation, and cognitive restructuring, which reduce ruminative thought patterns and psychological suffering. However, very few studies have thoroughly investigated how integrated counseling affects coping mechanisms, mental health, and rumination in this population, especially in the Indian scenario. Therefore, in light of the aforementioned considerations, this study aims to examine the effectiveness of ICTC as a psychological intervention in improving factors like mental health outcomes, ways of coping, self-esteem, and resilience, while simultaneously decreasing maladaptive rumination in PLWHA (people living with HIV/AIDS). In this research study, counseling will be administered on 20 HIV+ individuals out of a sample of 100 individuals.

### Objective

To assess the effect of counseling as an intervention on way of coping, mental health and rumination in HIV+.

### Hypotheses

- **H1:** ICTC would have a significant effect on ways of coping among HIV +Patients.
- **H2:** ICTC would have a significant effect on mental health among HIV +Patients.
- **H3:** ICTC would have a significant effect on rumination among HIV +Patients.

### Materials and Methods

#### Sample

Purposive sampling was used to conduct the study on 100 HIV-positive patients from the various cities of Rajasthan. The sample size was determined based on the practical feasibility and the nature of the population. A pre-test/post-test experimental research design was used in the investigation, with a control group (n = 80) and an intervention group (n = 20). Participants were initially screened and the lottery method was used to allocate the participants to either the intervention group or control group. The appropriate institutional ethics committee of the University of Rajasthan provided ethical clearance, and all participants gave their written informed consent before taking part in the research study.

#### Inclusion Criteria

- The study includes both male (n=50) and female (50) participants living with HIV/AIDS for at least 6 months
- Participants were regular attendees of the Integrated Counseling and Testing Centre (ICTC).
- The age range of subject was 17 years to 50 years. The mean age of the sample was 34 years.
- The education level of the sample was at least Senior Secondary and above.
- Participants were able to comprehend and respond to the questionnaire.

#### Exclusion Criteria

- Participants with severe cognitive impairment or any other psychiatric disorders were excluded from the study.
- Participants with terminal diseases or precarious medical conditions.

- Participants, who could not cooperate and comprehend the questionnaire, were excluded.

Sample was taken from the NGOs and medical setup (RSACS) of different cities in Rajasthan, as follow:

1. Anti Retro Viral Therapy (ART) Centre, Government Hospital Alwar.
2. Anti Retro Viral Therapy (ART) Centre, Government Hospital Bharatpur.
3. Rajasthan Mahila Kalyan Mandal, Ajmeyr.
4. ANP+ (Alwar Network For People Living With HIV) NGO in Alwar.
5. Saksham Mahila Samity, an NGO in Alwar.

### Tools and Techniques

#### Ways of Coping

It was assessed by the questionnaire prepared by Folkman and Lazarus (1989), which is a four point scale. It assesses eight different coping strategies, including positive reappraisal, escape-avoidance, self-controlling, accepting responsibility, confrontive coping distancing, seeking social support and planful problem solving. There were 60 items in the questionnaire and the internal consistency of the scale was 0.8.

#### Mental Health

As measured by mental health inventory (MHI) by Dr. Jagdish and Dr. A.K. Srivastav (1989). Mental health defined operationally in the context of creating the inventory, mental health is an individual's capacity for positive self-evaluation, realistic perception, personality integration, autonomy, group-oriented attitudes, and environmental mental mastery. The odd-even process and the split-half approach were used to assess the inventory's reliability which was reported to be 0.73 and test-retest reliability was 0.86.

#### Rumination

It was measured by "Rumination: Dealing with emotions" questionnaire developed by Surbhi Purohit and Udai Pareek (2000) in terms of rumination and flow, consisting 7 items. Reliability (Guttman split-half index) for a group of thirty-two teachers in colleges was 54. The range of Guttman Lambada was 44–74. The internal consistency (Cronbach's alpha) was reported to be 0.74, indicating sound psychometric properties.

**Table 1: Research design for intervention**

Pre Test	Intervention	Post Test
T1, T2, and T3, were administered to vulnerable group of 20 HIV + among the sample of 100 HIV + in present study T1 = Ways of Coping T2 = Mental Health T3 = Rumination	Need based counseling was given by experts in groups and individual setting to 20 HIV + patients. total duration was 15 weeks, two hours session, thrice a week.	Repeat T1, T2, and T3 and assessment of differences in psychosocial factors after intervention provided to the vulnerable group of 20 HIV + patients of the present study.

**Procedure and Intervention**

Procedure of Administration - Firstly the permission was sought from the authorities to collect the data. Consents from the subjects also sought and subjects who agreed to take part in the present research study were contacted individually. All the HIV+ who constituted the sample of the present study was given the test individually.

To achieve the purpose of present study i.e. to assess the effect of counseling on psychosocial factors in HIV + Persons, the group counseling and individual counseling were employed by the experts including Counselors and Doctors, working in different NGOs and medical setup respectively. Counseling intervention followed the structured, semi-directive module. Need base counseling were given in both group and private setting to the most vulnerable group of 20 HIV+ persons out of the sample of 100 HIV+ persons in this study. Total duration of the intervention was 15 weeks, including two hours session thrice a week. Following steps were taken during intervention:

- **Step I:** The first ice breaker and introductory round was held. Its objective was to introduce HIV positive people to one another as well as to establish rapport with the counselor.
- **Step II:** With the help of ICTC, information about HIV and counseling were provided to HIV patients to undergo testing facilities, care and support system were given. It was successfully conducted in the present study.
- **Step III:** The following components, which are the main functions of a TI, are highlighted and the focus of the targeted interventions implemented in this study:

- Gathering Information
- Behaviour change communication
- Provide access to STI services through the NGO or a public/private facility.
- Monitor condom use and access.
- Establish ownership.
- Enabling environment
- **Step IV:** ART (Anti-Retroviral Therapy): This study used ART (Anti-Retroviral Therapy) to give care, support, and treatment to PLWHA.

Following are the services under ART:

- Counseling
- Investigation
- CD-4 Test
- 4 ARV Drugs
- O. I Drugs
- Knowledge of Social beneficial Scheme
- Condoms
- IEC Material
- Knowledge about network member
- Referral to CSC & related units

Monitoring and evaluation (M&E) are key components of the Comprehensive HIV and AIDS Plan. The monitoring and evaluation system is a vital component of a successful, efficient, and accountable response to the HIV epidemic, which was developed to assess progress towards the attainment of goals of the comprehensive HIV and AIDS plan as part of intervention during the study. Therefore, in the present study, after intervention such (M&E) was employed which was followed by feedback mechanism. At last, discussions took place to summarize all the training and counseling

sessions provided during the intervention in the present study.

**Statistical Analysis**

To empirically test the proposed hypotheses, raw data were analyzed using the following statistical techniques:

- **Mean and Standard Deviation (SD):** Mean value and SD for each variables were computed regarding ways of coping, mental health, self-confidence, and rumination.
- **T-ratio:** It was used to assess the further difference between means t-ratio was calculated.

**Table 2: Showing Mean, S.D. and t ratio of Pre-Intervention and Post Intervention on Ways of Coping and its Dimensions**

	Variables	Group	N	Mean	S.D.	S. E. M.	t- score
1	Confrontive Coping	Pre	20	13.80	1.11	0.25	3.45*
		Post	20	14.95	1.00	0.22	
2	Distancing Coping	Pre	20	13.80	1.32	0.30	5.40*
		Post	20	16.10	1.37	0.31	
3	Self-Controlling	Pre	20	13.80	1.11	0.25	6.23*
		Post	20	16.35	1.46	0.33	
4	Seeking Social Support	Pre	20	14.15	1.31	0.29	4.08*
		Post	20	15.70	1.08	0.24	
5	Accepting Responsibility	Pre	20	7.85	0.67	0.15	3.93*
		Post	20	9.05	1.19	0.27	
6	Escape/Avoidance	Pre	20	18.55	1.23	0.28	4.92*
		Post	20	16.60	1.27	0.28	
7	Planful Problem Solving	Pre	20	13.90	1.17	0.26	3.91*
		Post	20	15.35	1.18	0.26	
8	Positive Reappraisal	Pre	20	13.70	1.08	0.24	11.26*
		Post	20	18.10	1.37	0.31	

\* p ≤0.01 (2-tailed); N=20

Notes: S.D.= standard deviation; S.E.M. = standard error of mean

**Results**

Results from Table 2 indicated significant differences between the two groups across multiple dimensions. Specifically, in the Pre group, mean scores for Self Controlling, Seeking Social Support, Accepting Responsibility, Escape/Avoidance, Planful Problem Solving, and Positive Reappraisal were 13.80, 14.15, 7.85, 18.55, 13.90, and 13.70, respectively. In the Post group, corresponding mean scores increased to 16.35, 15.70, 9.05, 16.60, 15.35, and 18.10. The t-scores for all dimensions were statistically significant, with values ranging from 3.91 to 11.26, exceeding the critical value of 2.71 at a .001 level of confidence. These findings suggest a substantial improvement in various psychological aspects, indicating the effectiveness of the intervention between the Pre and Post groups.

Results from table 3 indicated significant differences between the Pre and Post groups across several measures. Specifically, in Integrated Personality, Autonomy, and Group Oriented Attitude, the mean scores increased from 25.30 to 28.70, 22.25 to 24.75, and 29.05 to 31.35, respectively. The t-scores for these dimensions were statistically significant, ranging from 3.88 to 5.40, surpassing the critical value of 2.71 at a .001 level of confidence. However, in Environmental Mastery, there was insignificant difference between the Pre and Post groups, with mean scores of 29.30 and 29.20 respectively, and an insignificant t-score of 0.17. Additionally, the overall mental health showed improvement from a mean of 25.53 in the Pre group to 27.89 in the Post group. These findings suggest positive effects of the

intervention on personality dimensions and overall mental health, apart from Environmental Mastery.

Results of Table 4 revealed that the Mean, S.D & S.E.M. on Rumination in Pre group was 53.72, 1.34, 0.30, and Post group was 52.60, 1.57 and

0.35. In rumination, the mean score decreased from 53.72 to 52.60. The above table indicated that the t-score (4.29) for this variable had been found to be statistically significant, suggesting a significant difference in rumination between the Pre and Post groups.

**Table 3: Showing Mean, S.D. and t-score of Pre-Intervention and Post Intervention group on Mental Health Dimension**

S. No.	Group	N	Mean	S.D.	S. E. M.	t-score	
1	Positive Self Evaluation	Pre	20	21.80	1.79	0.40	5.69*
		Post	20	25.35	2.13	0.48	
2	Perception of Reality	Pre	20	23.55	1.61	0.36	3.47*
		Post	20	25.40	1.76	0.39	
3	Integrated Personality	Pre	20	25.30	2.00	0.45	5.40*
		Post	20	28.70	1.98	0.44	
4	Autonomy	Pre	20	22.25	1.68	0.38	4.10*
		Post	20	24.75	2.15	0.48	
5	Group Oriented Attitude	Pre	20	29.05	2.04	0.46	3.88*
		Post	20	31.35	1.69	0.38	
6	Environmental Mastery	Pre	20	29.30	1.69	0.38	0.17
		Post	20	29.20	1.99	0.44	
	Overall	Pre	-	25.53	-	-	4.83*
	Overall	Post	-	27.89	-	-	-

\*p ≤0.01 (2-tailed); N=20

**Table 4: Showing Mean, S.D. and t ratio of Pre-Intervention group and post-intervention group on Rumination**

S. No.	Group	N	Mean	S.D.	S. E. M.	t-score
1	Pre	20	53.72	1.34	0.30	4.29*
2	Post	20	52.60	1.57	0.35	

\* p ≤0.01 (2-tailed); N=20

**Discussion**

The examination of the intervention's impact on diverse psychological dimensions and overall mental well-being serves as a testament to the efficacy of the Integrated Counseling and Testing Center (ICTC). The center's holistic approach encompasses a range of aspects, fostering positive changes in participants' lives. Similarly, another study stated that an evaluation indicated that clients visiting Integrated Counselling and Testing Centre (ICTC) services exhibited significant decreases in

psychiatric morbidity and improved psychosocial outcomes, underlining the center's importance in improving overall well-being (Chelladurai *et al.*, 2022). Initially, the focus on self-regulation and interpersonal skills revealed significant improvements in various dimensions, including self-control, seeking social support, accepting responsibility, coping mechanisms, problem-solving, and positive appraisal. Participants in the Pre group demonstrated notable enhancements in these areas, and the subsequent Post group scores

indicated a substantial positive shift, affirming the effectiveness of the intervention. Consistent with findings, a study result demonstrated that within the cohort of HIV-positive individuals visiting an ICTC in Amritsar, 77.3% indicated an enhanced outlook on life and increased awareness of treatment options subsequent to counseling. Further, the researchers determined that counselling is crucial in assisting individuals cope with their HIV-positive status (Priyanka *et al.*, 2018).

One of the notable advantages of the ICTC's approach lies in its comprehensive consideration of personality dimensions. The analysis of Integrated Personality, Autonomy, and Group-Oriented Attitude demonstrated significant improvements in the Post group compared to the Pre group. These findings underline the center's ability to impact not only individual traits but also aspects related to autonomy and group-oriented attitudes. The findings were found to be aligned with the previous studies in which empirical evidence indicated that psychosocial counselling via ICTC, in similar HIV-care settings, enhances adaptive coping, empowerment, autonomy, and social integration for individuals with HIV, thereby reinforcing improvements in integrated personality and group-oriented attitudes post-intervention (Bhatta & Liabsuetrakul, 2016). The center's versatility in addressing diverse facets of personality contributes to a better-rounded and balanced psychological profile for participants.

While Environmental Mastery did not exhibit significant improvement, it is crucial to recognize that the ICTC's intervention might have limitations in addressing specific aspects of participants' experiences. Nevertheless, the overall mental health displayed improvement, indicating the potential for the ICTC's approach to positively influence participants on a broader scale. The center's success in fostering improvements in various personality dimensions and mental health outcomes suggests that it effectively addresses multiple layers of the participants' psychological well-being.

An additional dimension introduced in Table 4 was Rumination, providing insights into participants' cognitive processes. The findings indicated a significant reduction in rumination tendencies post-intervention. This aspect of the ICTC's impact on

cognitive processes is particularly noteworthy, as it suggests that the center equips participants with the tools to break free from cyclic and negative thought patterns. The ability to alleviate rumination improves significantly to participants' mental well-being and highlights the holistic nature of the ICTC's intervention (Gruszczynska & Rzeszutek, 2020).

One of the distinct features of the ICTC is its ability to offer a comprehensive approach to mental health, considering various psychological dimensions simultaneously. Its integrated methodology allows for a more refined understanding of individuals' psychological profiles, where all their specific traits, cognitive processes, and overall mental health are considered. This comprehensive approach aligns with contemporary perspectives on mental health, recognizing the interconnectedness of various aspects in shaping an individual's well-being.

This multifaceted study proves to be significant in two ways – firstly, it brings out the need for an integrated psychological intervention within the healthcare framework to address the mental health challenges, discrimination, stigma, and risks faced by those living with HIV/AIDS. Secondly, the study emphasizes on the effectiveness of counseling, particularly in group setting as an efficient method to enhance psychological factors such as mental health, coping mechanisms, and rumination. Additionally, it highlights the importance of tailored interventions that considers specific needs and vulnerabilities of HIV+ individuals, suggesting a potential for broader implementation of such interventions to alleviate mental distress and improve overall wellbeing of those individuals.

### **Conclusion**

In conclusion, the Integrated Counseling and Testing Center's efficiency in fostering positive changes in participants' lives is evident through the significant improvements observed across diverse psychological dimensions. The center's holistic approach, addressing self-regulation, interpersonal skills, personality traits, and cognitive processes, underscores its effectiveness in promoting comprehensive mental well-being. While certain dimensions may show limitations in improvement, the overall positive impact on mental health emphasizes the advantages of the ICTC's integrated

and multifaceted intervention. The center's ability to enhance various aspects of psychological functioning positions it as a valuable resource in the realm of mental health promotion and intervention. This study is constrained by its small sample size and geographical breadth, as participants were chosen solely from Rajasthan, which could affect the generalizability of the results. Furthermore, using only a quantitative approach restricts our comprehension of participants' subjective experiences. Future study should use a larger, more diverse sample and a mixed-methods approach to gather both measurable results and personal experiences. Longitudinal studies are also required to evaluate the long-term impact of integrated counseling interventions on the psychosocial health and well-being of PLWHA.

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#### Conflict of Interest

The author(s) do not have any conflict of interest.

#### Data Availability Statement

The manuscript incorporates all datasets produced or examined throughout this research study.

#### Ethics Statement

The research study was approved by the appropriate ethics committee of University of Rajasthan, with the registration number RS/12/08/8691, and Ethical guidelines were followed when conducting the study.

#### Informed Consent Statement

Informed consent was obtained from every single participant involved in this research study.

#### Clinical Trial Registration

This research does not involve any clinical trial.

#### Permission to Reproduce Material from Other Sources

Not Applicable.

#### Authors Contributions

- **Chetna Jaiswal:** Conceptualization, Methodology, Data Collection, Manuscript Drafting.
- **Nishi Srivastava:** Manuscript formatting, Review & Editing
- **Dharmendra Kumar Singh:** Visualization, Insightful Advice in Research Formulation.
- **Unnikannan P Santhosh Kumar:** Result Interpretation & Synthesizing the Research Findings.

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