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Depression, Anxiety And Stress In Infected Male Members Of HIV+Ve Serodiscordant Couple.

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Abstract: Acquired immune deficiency syndrome (AIDS) in the human being is caused due to antivirus called HIV. As per the UNAIDS statistics there were about 36.9 million [31.1 million–43.9 million] people globally were living with HIV. India had 80 000 (62 000 - 100 000) new HIV infections. Even after an increase in the level of awareness about AIDS in India, Tamil Nadu is still among the six high-prevalence states in India, with major challenges being lack of awareness, social stigma related to AIDS/HIV and youngsters remaining reluctant to test themselves for AIDS. Occurrence of psychological problem depends on some HIV specific factors attributing are stigma and discrimination associated with HIV/AIDS, loss of social support resulting in isolation, loss of employment, hopelessness, changes in physical appearance or abilities due to HIV and coping with chronic opportunistic infections. This present research study is the exclusive one because which is among the HIV positive men in serodiscordant (marital) relationship. Especially this could know the presence of psychological problems and also experimented the effectiveness of various strategic interventions to resolve the above said problems among the respondents. No researches so for conducting by taken this same problem (psychological problem) among this respondent (Serodiscordant male). This present research study may fulfill this gap by conducted in a systematic and professional way.

Keywords- HIV/AIDS, Psychological problems, serodiscordant, Intervention.

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I. INTRODUCTION

Acquired immune deficiency syndrome (AIDS) in the human being is caused due to antivirus called HIV. There are two types of human immunodeficiency virus such HIV – 1 and HIV – 2. The origin and evolution of these two viruses have described the circumstances which lead to AIDS. In order to understand HIV and AIDS epidemic, it is necessary to look at certain figures. Researchers and epidemiologists usually compile the number of people living with HIV (the HIV prevalence), the number of new infections (the HIV incidence), and the number of people who have died of AIDS among other categories. The following details are about the Global, National and State level scenario of HIV during 2016 and 2017. As per the UNAIDS statistics there were about 36.9 million [31.1 million–43.9 million] people globally were living with HIV. 21.7 million [19.1 million–22.6 million] million people were accessing antiretroviral therapy. 1.8 million [1.4 million–2.4 million] people became newly infected with HIV. 940 000 [670 000–1.3 million] people died from AIDS-related illnesses in the year 2016 and 2017. In 2016, India had 80 000 (62 000 - 100 000) new HIV infections and 62 000 (43 000 - 91 000) AIDS-related deaths. There were 2 100 000 (1 700 000 - 2 600 000) people living with HIV in 2016, among whom 49% (40% - 61%) were accessing antiretroviral therapy. Even after an increase in the level of awareness about AIDS in India, Tamil Nadu is still among the six high-prevalence states in India, with major challenges being lack of awareness, social stigma related to AIDS/HIV and youngsters remaining reluctant to test themselves for AIDS, says officials at Tamil Nadu State AIDS Control Society (TANSACS). **90–90–90** this means, In 2017, three out of four people living with HIV (75%) knew their status. Among people who knew their status, four out of five (79%) were accessing treatment and among people accessing treatment, four out of five (81%) were virally suppressed.

1.1 Predominant psychological problems among PLHIV

About 7% of people with advanced HIV infection can result in feelings of deep unhappiness which are difficult to manage and disturb the day to day life. Moreover, mood disorders like Depression, anxiety and stress were more predominant among PLHIV.

Depression is a serious medical condition that can be paralyzing to sufferers. It is twice as common in people with HIV as in the general population. One study estimated the lifetime prevalence of depressive disorders in HIV+ individuals to range as high as 22%, compared to lifetime estimates of 5% to 17% and current major depression diagnoses of only 3% to 10% in the general population.

Anxiety is a feeling of panic or apprehension. Anxiety is a common symptom in HIV-infected patients. Furthermore, patients with histories of anxiety or mood disorders are susceptible to recurrence of anxiety symptoms during the course of HIV illness. Anxiety can accompany depression or be seen as a disorder by itself, often caused by circumstances that result in fear, uncertainty, or insecurity. Each HIV patient and each experience of anxiety is unique and must be treated as such.

The stress connected with the onset of the HIV epidemic, once experienced by the entire nation, now affects most patients, their lovers, care takers, and families. Care takers of persons living with HIV disease and AIDS must deal with the stigma of HIV infection, uncertainty about the future and increasing demands of care taking as the disease progresses.

1.2 Serodiscordant couples

A serodiscordant couple is a couple in which one partner is HIV-positive and one partner is HIV-negative. Although one partner is currently HIV-negative, this does not mean that this partner is "immunized" or protected against getting HIV in the future. It is of paramount importance for serodiscordant couples to avoid transmission to the HIV-negative partner. It is possible for couples to stay HIV serodiscordant indefinitely if they consistently practice safer sex using male and female condoms.

1.3 Need of the study

Common mental disorders seen in HIV infectants were depression, post-traumatic stress, anxiety, mood disorder, personality disorder and substance abuse. Chase, 2012 study done among HIV infected people reported that a majority (54%) of the respondents had a psychological problem. In which depression was found to be two to three times more common among HIV infactants than in the general population. Likewise, psychologically affected patients were four to twenty times more likely to be infected with HIV than the general population because of their high risk behaviour.

Occurrence of psychological problem depends on some HIV specific factors attributing are stigma and discrimination associated with HIV/AIDS, loss of social support resulting in isolation, loss of employment, hopelessness, changes in physical appearance or abilities due to HIV and coping with chronic opportunistic infections.

1.4 Research gap

In HIV / AIDS, there was lots of research studies developed which in terms of Medical, Pharmacological, Psychological and Social context. All above were focused on various problems in its respective fraternity. They are mostly about prevention, care, treatment and support aspects for Most at Risk Population (MARPs), Bridge population or General population. This present research study is the exclusive one because which is among the HIV positive men in serodiscordant (marital) relationship. Especially this could know the presence of psychological problems and also experimented the effectiveness of various strategic interventions to resolve the above said problems among the respondents. No researches so for conducting by taken this same problem (psychological problem) among this respondent (Serodiscordant male). This present research study may fulfill this gap by conducted in a systematic and professional way.

Despite major medical and technological breakthroughs and advances, the HIV/AIDS epidemic continued its relentless spread in most resource poor settings. Important challenges for the future included controlling further spread of the epidemic, treating, caring and supporting the millions of people living with HIV; and mitigating the epidemic's impact on individuals, families and communities in less developed countries.

II. SUPPORTIVE LITERATURE RELATED TO DEPRESSION IN HIV

Cheryl Koopman (1990) indicated that the Anxiety, stress, and depression also increase levels of the hormone cortisol, also points out that everyone has stress, but PLHIVs generally have additional factors. "Too much cortisol is harmful to people with HIV infection, "while everyone has stress in their lives, people with HIV tend to have additional stress like discrimination, disclosure, racism, homophobia. Also points out that elevated cortisol levels impair the immune system.

According to **Sherr et al., (1992)** Depression can be affected by grief, loss and bereavement, which multiply in the case of HIV disease.

Bannerjee, Arya (1992) found that the depression is a prevalent Co morbidity in HIV infection as well as a recognized side-effect of NRTI, Protease inhibitors and NNRTIs. It may also be the first presenting symptom in an HIV case.

American Psychological Association (2000) reported that the features of the Major Depressive Disorder, the most common of which are feelings of inadequacy, social withdrawal, guilt or ruminating about past events, irritability or excessive anger, and decreased productivity. In addition to having a depressed mood, at least two of the following symptoms must be present; poor appetite or overeating, insomnia (lack of sleep) or hypersomnia (sleep excessively), low energy or fatigue, low self esteem, poor concentration or difficulty in making decisions, or feeling hopelessness.

Witek-Janusek (2000) clearly stated that there is mounting evidence that high levels of stress may influence disease progression by way of immunological impairment**.**

Relton (2001) found that the majority of the respondents (78%) were undergone higher level of depression.

Relton (2001) found that the majority of the respondents (75.5%) were undergone very intense level of anxiety.

Reece et al., (2007) said that the psychological support can be crucial in reducing psychological distress and improving treatment adherence and outcome.

Wig et al., (2008) pointed out that the emotional problems are among the most common symptoms in HIV patients with up to 98.6% prevalence.

Deo et al., (2010) conducted a cross sectional study revealed that the level of stress among HIV positive persons in Nepal. Five hundred cases of age range of 20- 50 years were considered for this study. Of these, 55.4% were males and 44.6% females.

Michele Pappin et al., (2012) stated that the HIV/AIDS and anxiety/depression are interlinked. People suffering from depression may be more likely to engage in risky sexual behaviour, and therefore at greater risk of contracting HIV. An HIV positive diagnosis may trigger symptoms of anxiety and depression, which may in turn result in risky sexual behaviour and the spread of HIV.

Reshmi & Sekar, (2012) found that the HIV discordant couple experienced increased level stress, anxiety and depression coupled with exclusion and social isolation within family and in neighborhoods.

Anusha, Bhat et al., (2013) Study assessed that the prevalence of depression in HIV patients. The prevalence of depression in HIV patients was found to be 48.9%.

Abdullah (2014) explored from his study reveals that the People Living with HIV/AIDS (PLHA) group was found to experience more depression, anxiety and stress than a demographically similar undiagnosed group. Anxiety was highest among males in the PLHA group.

Based on **Mallikarjun H Krishnakar et al., (2014)** The mean score of male is 63.64 and that of female is 60.75. The t-value is 3.11 which is significant at 001 level, revealing the fact that there is a significant difference in stress between male and female. Males have higher stress than the females, higher scores indicate.

III. OPERATIONAL DEFINITION

Psychological problem

Problems which affect the mind, results depression, anxiety and stress due to life threatening health problems like HIV infection which is affected a male respondents in the marital relationship.

Intervention

Systematically planned therapeutic processes such as mind relaxation techniques are planned to implement among the respondents.

Respondents

HIV positive men who infected with the Human Immunodeficiency Virus (HIV), the agent of the incurable health condition namely AIDS, in a marital family relationship.

Serodiscordant couple

Serodiscordant is one which the one partner's blood serum is infected with HIV and the other partner is HIV negative. 'Sero' means that infection in the blood serum.

IV. METHODOLOGY & TOOLS OF THE STUDY

The below table precisely showing the research methodology. Details of methodology and tools are explained following the table.

Table 1.1 Mixed Methods Study

Details	**Qualitative Study**	**Quantitative Study**
Purpose	Theory development	Study the effectiveness of the intervention
Method and Design used	Focus Group Discussion	Single System design (Baseline – Intervention – Post intervention)
Primary Data collection	Through Semi structured questionnaire	Through Depression, Anxiety, Stress Scale DASS),
Data Analysis	Constant comparative method – Grounded theory approach	Frequency tables and Paired sample T test.
MIXED METHOD STUDY (Concurrent embedded Mixed Methodology) – Intervention (Quasi experimental) research – Single System design		

4.1 for qualitative study

There are 140 members registered in those three networks. Forty members are accepted and gave their consent that was recruited from three CBOs and 8 to 10 members were participated in focus group discussion of the study.

4.2 Sampling process of FGD

There are five Focus Group Discussion (FGD) sessions are planned with 8 to 10 members in each. As per the social science research ethics; informed consent, confidentiality etc., are strictly maintained.

4.3 Theory developed by the researcher in qualitative study

By using this method, the researcher developed the below theory,

"Existence of depression, anxiety and stress, they need solutions to get rid from those problems through interventions".

The researcher needs to study the existence of the problem and effectiveness of the intervention through the implementation of strategic intervention such as yoga and support group meetings, which could be done through quantitative research method.

V. SAMPLING PROCEDURE

The available known population size i.e., 618, were registered in the 30 HIV networks from 30 districts of Tamil Nadu. The districts are grouped into 5 clusters like South, North, Central, East and West. Each cluster is consists of 6 PLHIV networks.

Only one zone is selected for data collection by simple random sampling using lottery method. In which three CBOs are very active in its overall functions (Set II) and the other three are inactive but somehow functioning (Set I). It has around 140 members were registered in which 40 were recruited for FGD. In set-II, only 120 male PLHIV (serodiscordant category) are registered. From which all the samples are consider for data collection, but 12 samples are used for pre-test and 16 samples are not gave their consent so rest of the 92 samples were participated throughout the study with informed consent.

Table 1.2 Method wise Sample Size

No. of respondents for the study	For Qualitative study	140
	For Quantitative study	120
No. respondents for Pre – test		12
No. respondents not given their consent		16
Total no. of samples taken for the study		92

VI. TOOLS FOR DATA COLLECTION

The researcher adopted standardised scale as tools are used for data collection. The data were collected after pre-test the tools with the 10% of sample. The pre tested tools are translated into regional language (tamil) and administered for data collection. Same tool is used for the baseline and post intervention study in different point of time. The scale namely, Depression, Anxiety, Stress scale (DASS) - (Lovibond S.H & Lovibond P.F., 1995) The DASS is a 42-item questionnaire which includes three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. Each of the three scales contains 14 items, divided into subscales of 2-5 items with similar content. The internal consistencies of the three subscales were 0.71 for

depression, 0.79 for anxiety and 0.81 for stress. The overall validity and reliability of DASS-42 have been well established. Using this tool the researcher personally visited the selected areas of the study and collected the required data. The interview schedule took an average of 75 minutes per individual PLHA.

VII. RESEARCH DESIGN

The researcher has used the **Quasi experimental study in which ABA model of Single System Design (Thyer, 2001; Creswell, 2009)**, to study the predominant psychological problems, implementing intervention and to study the effectiveness of the intervention against the psychological issues among the HIV positive men in sero-discordant relationship.

Intervention

An intervention module (below tabulated) was designed by the researcher based on the qualitative aspects.Researcher using 10 poses of yoga techniques for psychological problems (Depression, Stress and Anxiety).

Table1.3

Phases	**Activities**			**Assessment techniques**
Baseline (A)	Based on the study objective the level of psychological problem is assessed before providing the intervention through standardized scales.			Scales: DASS 42 items.
	Period for intervention	**Intervals for intervention period**	**strategies**	
Intervention (B)	**3 months intervention period**	First fortnight	Three poses of yoga and one common asana (Lotus pose, Vibarita karani,Fish pose)+Savasana	Oral feedback after the session
		Second fortnight	Three poses of yoga and one common asana (Bridge pose,Cow pose,Cat pose)+Savasana	Oral feedback after the session
		Third fortnight	Three poses of yoga and one common asana (Insect pose,Dog pose,Child pose)+Savasana	Oral feedback after the session
		Fourth fortnight	Revision of all 10 poses of asanas	Oral feedback
		Fifth fortnight	Revision of all 10 poses of asanas	Oral feed back
		Sixth fortnight	Revision of all 10 poses of asanas	Oral feed back
Incubation Period	One month – the respondents were requested to practice the learnt techniques at their home.			
Post intervention (A)	Based on the study objective the effectiveness of above intervention is measured.			DASS 42 items

Intervention Design and strategy ***(Source : Researcher developed)***

VIII. STATISTICAL ANALYSIS OF QUANTITATIVE DATA

Statistical analysis was used for analysing quantitative data, collected from Baseline and post intervention are Frequency tables and Paired sample 'T' test. Those tests are done with the help SPSS.

Table1.4 The Age of the respondents

S. No.	**Age Group**	**Respondents N = 92**	**Percentage**
1.	Less than 30 years	13	14.1
2.	31 to 35 years	16	17.4
3.	36 to 40 years	35	38.0
4.	Above 40 years	28	30.4

(Source: Computed)

The table provides the information about the age group of the respondents in the study. About 38% of the respondents were under the age group of 36 to 40 years whereas 30.4% of the respondents under the age of above 40 years. Moreover, 17.4% were under the age group of 31 to 35 years and remaining 14.1% were less than 30 years.

The present age of the HIV infected person was a major demographic characteristic that has a strong influence on reproductive/ sexual behaviour of the respondents. Moreover, this age group people are more economically productive.

Table 1.5 Sex of the respondents

Sex	Respondents N=92	Percentage
Male	92	100

The present research is among the HIV positive men in sero discordant relationship, all the respondents must be a male in default. Therefore all (100%) the respondent were men in category.

Table 1.6Religious status of the respondents

S. No.	Religion	Respondents N=92	Percentage
1.	Hindu	73	79.3
2.	Christian	15	16.3
3.	Muslim	4	4.3

The above table shows the religion of the respondents, the majority of the respondents (79.3%) were belonged to the Hindu religion. About 16.3% of the respondents were belonged to Christian religion and the rest of the respondents (4.3%) belonged to islam (muslim) religion.

Udhayakumar (2011) mentioned that the majority of PLHAs belonged to Hindu religion (87.5%). **Nagu et al. (2005)** found that factors for socio-economic condition of PLHAs in India. Of 50 HIV infection patients, it was found that majority of the respondents were belonged to Hindu religion (78%). Most of the PLHIV were belonged to Hindu religion. **NACO (2005)** found that HIV infected (PLHAs) Hindus were high in India. The majority of the respondents were belonged to Hindu religion in this study.

Table 1.7Type of Family of the respondents

S. No.	Type of Family	Respondents N=92	Percentage
1.	Joint	7	7.6
2.	Nuclear	85	92.4

The above table shows that the type of family, there was a vast majority of the respondents (92.4%) were from nuclear family and 7.6% were from joint family set up.

Table 1.8Number of Children to the respondents

S. No.	No. of Children	Respondents N=92	Percentage
1.	No children	1	1.1
2.	One	29	31.5
3.	Two	53	57.6
4.	Three	9	9.8

The above table indicates that the half of the respondents (57.6%) have two children. About 31.5% of the respondents have only one child in their family. Remaining 10% of the families have three children.

Table 1.9Educational qualification of the respondents

S. No.	Educational status	Respondents N=92	Percentage
1.	Postgraduate	3	3.3
2.	UG/Diploma	43	46.7
3.	HSC	31	33.7
4.	SSLC	6	6.5
5.	Up to SSLC	7	7.6
6.	Illiterate	2	2.2

The above table meant for education background of the respondents. Among the respondents 46.7% were diploma / undergraduate degree holders. There were 33.7% of the respondents were completed higher secondary education. About 6.5% of the respondents completed 10th standard and 7.6% have not crossed SSLC. Fewer (3.3%) of the respondents have crossed post graduation and only 2.2% of them were illiterates.

Education is key to an effective response to HIV/AIDS. Research studies show that education accelerates behaviour change among young men, making them more receptive to prevention messages. Universal primary education is not a substitute for expanded HIV/AIDS treatment and prevention, but it is a necessary component that complements these efforts. (Combined report by UNAIDS, UNFPA, UNIFEM 1991).

Education is an effective "Social Vaccine" against HIV/AIDS. The risk of HIV/AIDS infection is more than halved for young people. The Global Campaign for Education has estimated that some 7 million cases of HIV/AIDS could be avoided by the achievement of Education for All.

Secondary data sources very clearly state that education plays a most important role in HIV prevention. But majority of the respondents were degree / diploma holders. The present study concentrate on HIV positive men in sero discordant relationship, so in this category due to social stigma and discrimination, the educated group (98%) only has came forward to register themselves in PLHIV networks after seeing the people who voluntarily make themselves as a member in the network by disclosed openly to their HIV status and lead a healthy life also.

Table 1.10 Occupation of the respondents

S. No.	Occupation	Respondents N=92	Percentage
1.	Govt Employee	17	18.5
2.	NGO/CBO/Pvt Company	10	10.9
3.	Construction Worker	2	2.2
4.	Business Man	12	13.0
5.	Coolie	12	13.0
6.	Driver	7	7.6
7.	Unemployed	6	6.4
8.	Electrician & Plumber	26	28.3

The above table shows that 28.3%, there is a majority of the respondents are working in various other jobs. 18.5% were government employees and rest (6.4%) of them were unemployed.

With proper care and treatment, many people living with HIV/AIDS lead normal, healthy lives, including having a job. Most people with HIV/AIDS sustain at their current jobs or look for a new job in their chosen field. The overall well-being and financial health can be more stable when a person is gainfully employed.

Table 1.11Income level of the respondents

S. No.	Income level (in Rupees)	Respondents N=92	Percentage
1.	No income	7	7.6
2.	Less than Rs.5000	10	10.9
3.	5001 to 10000	57	62.0
4.	Above 10000	18	19.6
	Total	92	100.0

The above table shows that there is a majority (62%) of the respondents were earning around Rs.5001 to 10000 per month, 19.6% of the respondents were getting above Rs.10000 per month and 10.9% of the respondents were earning around less than Rs.5000 and only 7.6% of the respondents were unable to earning money.

Table 1.12Mean level of depression among the respondents

Level	Respondents (92)	%	Respondents (92)	%
Low	44	48	35	38
High	48	52	57	62
Phases	**Base line**		**Post Intervention**	
Mean	**27.38**		**16.14**	

The above table shows that, the mean value of the respondents having Low and High level of depression was 27.38 during baseline (before intervention), whereas during post intervention the mean value of

the respondents was 16.14, therefore, the level of depression among the respondents in this research was decreased due to intervention.

The mean value shows that, there is a declining trend in baseline and post intervention, which means the respondents have accepted the intervention. Hence the given intervention is effectively working among the respondents having depression.

IX. DISCUSSION

A study reveals that the majority of the respondents (78 %) have undergone higher level of depression (Relton 2001).

The Effective intervention strategies like yoga and support group meetings were given to address this major psychological issue. This analysis clearly indicates that those strategies can reduce the level depression among person with HIV. But this psychological treatment may not sufficient for this combo effect i.e., HIV and depression. Psychopharmacological treatment is essential to address the problem still more. A secondary data source says that person with HIV and depression needs to be used in combination with psychopharmacology treatment for optimal effective-ness. (APA 2000).

The Interventionist may strengthen the intervention strategy like to have a link with psychiatric treatment centres specially to address depression in HIV positive persons, referral to psychiatric treatment is also mandatory.

Table 1.13Mean Level of anxiety among the respondents

Level	Respondents (92)	%	Respondents (92)	%
LOW	45	49	51	55
HIGH	47	51	41	45
Phase	**Base line**		**Post Intervention**	
Mean	**25.93**		**13.09**	

The above table shows that the mean value of the respondents who affected with anxiety during baseline is 25.93, and the mean value of the respondents with anxiety during post intervention is 13.09. Hence the intervention was very effective among the HIV positive men in sero discordant relationship with anxiety.

A study by Relton 2001 has found out that majority of the respondents have undergone intense level of anxiety. People had anxiety during baseline was reduced during post intervention. Therefore the given strategic intervention is effectively reducing the level of anxiety among the respondents.

From the secondary data source, anxiety disorders may manifest throughout the course of HIV infection, with a general trend for increased prevalence of these disorders as the illness progresses. Researchers have reported a prevalence range of 2 to 38 per cent of anxiety depending upon the stage of illness. Regular and periodical intervention can reduce the increased prevalence of anxiety in HIV positive men in sero discordant relationship.

Table 1.14Mean level of stress of the respondents

Level	**No. of respondents**	**%**	**No. of respondents**	**%**
Low	42	46	57	62
High	50	54	35	38
Phase	**Baseline**		**Post intervention**	
Mean	**25.76**		**15.83**	

The above table shows that, the mean value of the respondents having stress was 25.76 during baseline (before intervention), whereas during post intervention the mean value of the respondents was 15.83, therefore, the level of stress among the respondents in this research has decreased due to intervention. Increasing trend during intervention reveals that, people had stress during baseline were improved from their level of stress during post intervention. This data clearly shows that the intervention given to the HIV positive men in sero discordant relationship is effective.

There is mounting evidence that high levels of stress may influence disease progression by way of immunological impairment (Robinson Matthews & Witek-Janusek, 2000).

From the secondary data source, Intervention, with a combination of pharmacotherapy and psychotherapy, can improve the sustained survival stress seen in people living with HIV. Continuing care to HIV-infected individuals has seen the positive results of such interventions. These successes led a number of researchers to wonder if a well-designed stress-reduction program, by reducing the stressors in these patients'

lives, could boost immune function, reduce HIV-related symptoms, and improve longevity. (Coping with Stress, Jeffrey M. Leiphart 2011)

The present study also projects that effective intervention can reduces the psychological problems existing among HIV positive men in sero discordant relationship.

Table 1.15Effectiveness of the intervention provided to the respondents using Paired sample T test

BL/PI	Psycho social problems	Paired Differences			Paired Differences		t	Degrees o fgreel	Sig. (2-tailed) p<0.00
		Mean	Std. Deviation	Std. Error Mean	Lower*	Upper*			
Pair 1	Depression (BL) - Depression (PI)	11.239	9.145	0.953	9.345	13.133	11.788	91	Sig.
Pair 2	Anxiety (BL) - Anxiety (PI)	12.837	9.324	0.972	10.906	14.768	13.206	91	Sig.
Pair 3	Stress (BL) - Stress (PI)	9.924	12.029	1.254	7.433	12.415	7.913	91	Sig.
* 95% Confidence Interval of the Difference									

Paired-Sample T-Test is also known as **dependent T-Test**, **repeated-measures T-test** or **within-subjects T-test**. A Paired-sample t-test is used to analyse paired scores, specifically, we want to see if there is difference between paired scores.

The Sig. (2-Tailed) value of the present study is 0. This value is less than .05. Because of this, researcher can conclude that there is a statistically significant difference between the mean level of depression, anxiety, stress for the baseline and post intervention conditions. Since the Paired Samples Statistics box revealed that the Mean number of depression, anxiety, stress for the baseline condition was greater than the Mean for the post intervention condition, this can conclude that respondents in the post intervention period were able to accept the intervention significantly.

X. FINDINGS

9.1 Findings related to the socioeconomic status of the respondents

About 38% of the respondents were under the age group of 36 to 40 years, whereas 30.4% of the respondents were under the age of above 40 years. Moreover, 17.4% were the age group of 31 to 35 years and remaining 14.1% were less than 30 years.

The present research is among the HIV positive men in sero discordant relationship. Therefore all the respondents must be a male in default. All (100%) the respondents were belonged to male category.

The majority of the respondents (79.3%) belonged to the Hindu religion. About 16.3% of the respondents belonged to Christian religion and the rest of the respondents (4.3%) belonged to Islam (Muslim) religion.

A vast majority of the respondents (92.4%) were from nuclear family and 7.6% were from the joint family set up.

Half of the respondents (57.6%) were having two children. About 31.5% of the respondents were having only one child in their family. Remaining 10% of the respondents families were having three children in their family.

The majority (46.7%) of the respondents is diploma / undergraduate degree holders. There are 33.7% of the respondents have completed higher secondary education. 7.6% did not complete SSLC. 6.5% of the respondents completed 10^{th} standard (SSLC) and fewer (3.3%) of the respondents have completed post graduation and only 2.2% of them were illiterates.

Among the respondents, 28.3% were working as electrician and plumbing jobs. 18.5% were government employees and fewer 6.4% of them were unemployed.

Majority (62%) of the respondents were earning around Rs.5001 to 10000 per month, 19.6% of the respondents were getting above Rs.10000 per month and 10.9% of the respondents were earning around less than Rs.5000 and only 7.6% of the respondents were not earning money.

9.2 Findings related to the effectiveness of the intervention on psychological issues

The following findings were divided based on the three of the phases in this single system designed study such as Phase I Baseline, Phase II intervention and Phase III post intervention.

9.3 Findings related to Baseline (Phase I - BL)

- During the baseline phase, the mean level of depression was 27.38.
- The mean level of anxiety during baseline was 25.93.
- During baseline, 25.76 was the mean level of stress among the respondents.

Almost the HIV positive men in sero discordant (marital) relationship were suffering either with stress, anxiety, and depression. Hence during baseline the respondents were psychologically disturbed. .

9.4 Findings related to Intervention (Phase II)

The period of intervention was three months. The intervals of the intervention strategies imparted to the 92 respondents were once in every fortnight.

Before started to impart the strategies one day, three hours were exclusively planned for strengthening the rapport and sensitizing the intervention strategies to the respondents.

During first three fortnights ten yoga poses were taught, three poses of yoga and one savasana pose were imparted in each of the three fortnights. The yoga poses imparted were listed below,

First fortnight – Lotus Pose, Vibaritha Karani, Fish pose and Savasana

Second fortnight – Bridge pose,Cow pose, Cat pose and savasana

Third fornight – Insect pose, Dog pose, Child pose and savasana + Support group meeting

Fourth fortnight – Revision of all 10 poses + Support group meeting for two hours

Fifth fortnight – Revision of all 10 poses + Gender sensitisation program

Sixth fortnight – Revision of all 10 poses + Gender sensitisation program

Specified yoga and meditation may helpful for reducing their stress, anxiety and depression.

9.5 Findings related to Post Intervention (Phase III-PI)

After the intervention was made (during Post intervention) the level of depression was 16.14. The mean difference was 11.23 (27.38 – 16.14; $p<0.00$). Therefore the intervention supported to decrease the level of depression among the HIV positive men in sero discordant (marital) relationship.

The intervention was given to the respondents the level of anxiety is reduced in 13.10. The mean difference was 12.83 (25.93 – 13.10; $P<0.00$). Hence intervention was helpful to reduce the level of anxiety among the respondents.

In this phase the level of stress was reduced at 15.84 due to effective intervention. The mean difference was 9.52 (25.76 – 15.84; $P<0.00$). Therefore the given intervention was enhanced to reduce the level of stress among the respondents.

XI. SUGGESTIONS

From the findings of this study, the following policy suggestions and recommendations for HIV positive men in discordant (marital) relationship and further research are suggested.

The government and non governmental sectors were doing various awareness programmes at all levels such as schools, people with HIV risk behaviours, and other segments of people. Moreover, as prevention still remains the best strategy, prevention interventions need to be scaled up and strengthened the awareness programmes at the State and National levels. Not like all the other levels, the intervention on people with sero discordant are less to concentrate currently. Sero discordant status is also having high vulnerablity to spread HIV to the uninfected people.

Traditionally, prevention programmes in India had focused on high-risk groups such as sex workers, MSM, truckers, IVD users, etc., but it is suggested that there is need for expanding the scope of prevention programme to include HIV positive serodiscordant populations, with a special emphasis on facilitating to address their psycho social problems.

The HIV positive men in sero discordant status are poor in their socio-economic profiles. Moreover the stigma and discrimination attached with HIV is hesitate them to disclose their status openly and not to access their medical treatment freely. The government sector has to mainstream the ART centers with other medical departments so as to access it easily and freely.

Increase the ways for creating a facility to form a support group among them will helpful for sharing their problems, experiences and ideas which will reduce the high level of psycho social problem existing among them.

The HIV positive men in serodiscordant relationship are having more opportunity for spreading the infection to their uninfected spouse or partners. So they have to be kept in focus of HIV prevention and control by way of providing psychological support.

Majority of the HIV serodiscordant persons are suffering from more than two psychological problems at a time. They have to be trained / imparted in the needy area to manage such psychological problems.

Effective intervention and counseling should be ensured in the health care settings to address those psychological problems.

10.1 Scheme

NACO is implementing PPTCT and ART centre for medical intervention for PLHAs. On the other hand, the State AIDS Control Society is giving opportunity for widow pension scheme. Similarly, other special schemes and reservations should be made for HIV positive men in serodiscordant relationship.

10.2 Counselling service

Counselling services are available only in centers such as ICTC, PPTCT, Community Care Centre, Drop In Centers at free of cost. Counseling services must be made available in all health facilities to provide for the psycho-social needs and also increase access to counseling, care, support and treatment for HIV positive men in serodiscordant relationship.

Identify the barriers of addressing the psychological problems of serodiscordant person. Many prejudice thoughts and misconceptions are induced the level of psychological problems, so steps should be taken to address each one of this misconception and prejudice thoughts. Specific messages shall be disseminated against misconception and prejudice thought among them.

Among HIV positive men in sero-discordant relationship, developing adaptive behaviour to reduce their psychological problems will enhance their quality of life.

10.3 Training program

Impart periodical informal way of training programs to improve their health consciousness (psychological & physical), treatment seeking behaviour practices and preventive as well as promote health measures.

Holistic approach is essential for programme intervention by including empowerment, development activities, etc. in addition to health services approach. In order to provide effective strategic intervention to people living with and affected by HIV/AIDS linkages should be established between the government and non-governmental agencies implementing care and support programmes.

It is evidence that ART works better if HIV infected people have proper medication and care. Given this fact as well as the government of India's initiative to provide free ART; the integration of a treatment for psychological problems into the ART programme would be both timely and desirable. This would ensure a comprehensive care package for the HIV positive men in serodiscordant relationship.

Now, ART centre is functioning at district level. Still one-third of the districts are not having such facilities. Therefore, access the treatment of psychological problem and antiretroviral therapy (ART) need to be ensured at local level.

HIV infection is not only a health problem. HIV/AIDS should be considered as developmental problem, so convergence of all ministries should be encouraged to address the needs of PLHAs. Every government department should incorporate care giving for PLHAs in its programme. Train concerned government functionaries on HIV/AIDS from the medico-social and psycho-social aspects.

Governmental and non-governmental agencies (which are working for HIV/AIDS) should emphasize the importance of providing intervention for psychological problem to lead a healthy life style for HIV serodiscordant persons.

Empower, HIV positive men in serodiscordant relationship, and develop specific interventions to enable them to protect themselves and receive appropriate care against psycho social problems.

AIDS stigma in developing countries is a complex phenomenon, closely related to ingrained values and beliefs. The best approach to tackle AIDS stigma in developing countries are theoretical and evidence based interventions that are developed in close collaboration between programme developers, stigma researchers, PLHAs and implementers.

HIV related stigma and discrimination is a major problem faced by all PLHAs. Specially serodiscordant persons. Policy advocacy efforts and sensitive programming are needed.

A more enabling environment needs to be created to increase the visibility of men in serodiscordant relationship and to facilitate the formation of more support groups so that discrimination, stigmatization, and denial can be challenged collectively. Fear based AIDS messages and biased social attitudes towards infected people urgently need to be tackled, as fear and prejudice lie at the core of denial, stigma and discrimination.

10.4 Yoga

Practicing yoga for PLHIV is a powerful way of redressing psychological problems in the HIV/AIDS. The HIV transmission from infected men to his uninfected spouse needs urgent and effective control by providing special interventions. Practicing yoga regularly to motivate the HIV serodiscordant person to be very

active, which will not only helpful for reducing the level of psychological problems, but also to increase the immunity level. As a citizen everyone has to spread AIDS message and have an unbiased, non-judgmental approach to a HIV positive person and treat PLHIVs with compassion, not on discrimination. Further research should be carried out to explore and providing still more effective intervention services to the respondents of this present research and in other parts of Tamil Nadu as well as India. The greater empowerment of people living with and affected by HIV/AIDS is essential for the HIV/AIDS response. The Greater Involvements of People living with HIV/AIDS (GIPA) principle encourages the active involvement of PLHAs in the policy making and in the development of programme implementation.

XI. SOCIAL WORK INTERVENTION IN OTHER FACETS OF HIV/AIDS

The professional social workers and the social service organizations have to focus on sensitization of PLHAs at individual level through one-to-one contacts, social drama, education and communication (IEC) materials.

The community has to extend its co-ordination to receive HIV/AIDS messages through professional social workers and voluntary organizations.

The professional social workers especially have to adopt counseling techniques to enhance the mental health of HIV men in serodiscordant relationship with the help of group work and community organization.

Stigma and discrimination related to HIV/AIDS are diminishing the community support. Therefore, the social workers should take initiatives to reduce self-stigma and denial among PLHAs as well as stigma and discrimination in the family level and community level especially among the HIV serodiscordant persons. There is a need for action-oriented activities such as planning together, and working together with PLHIVs for their welfare.

The social workers have to adopt the social welfare administration method and technique in utilization of government departments for supporting PLHAs. They may train the PLHAs to utilize the external resources especially from the TANSACS, NACO, and other voluntary agencies for the welfare of HIV infected persons.

The social workers have to perform more number of researches specially intervention research as like the present study, in various area of HIV /AIDS to address their issues, which will motivate the government and non-governmental organisations to implement in wide range.

XII. RECOMMENDATION FOR FUTURE STUDY

- This present study confined only to concentrate on HIV positive men serodiscordant relationship. Therefore it is suggested to conduct other category of people with HIV infection such as MARPs and Bridge Population.
- Some other effective strategic intervention models are developed and validate its effectiveness for wide range of implementation in HIV / AIDS field.

XIII. CONCLUSION

While a significant gap still remains between what we know about the mental health and psychological needs of PLHIV specially discordant category and what is being done to address these issues, there are promising approaches to addressing this treatment gap. More in-depth study of these programs can help us better understand the mental health needs of HIV positive men in sero discordant (marital) relationship and identify programmatic approaches that can be effective in addressing those needs in resource-limited settings.

Dr.Kadiresan M.S.1 “Depression, Anxiety And Stress In Infected Male Members Of HIV+Ve Serodiscordant Couple.” IOSR Journal Of Humanities And Social Science (IOSR-JHSS). vol. 23 no. 08, 2018, pp. 13-24.