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Statistical Analysis Of Behavioural Deviations And Responses Of HIV Infected Patents To Their Life Events

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Abstract: ***In Mumbai, during the period between 2005 and 2015, there was a reported decline in HIV incidence and prevalence, among those aged 15 to 64 years. Despite the decline, closer assessment of psychosocial issues like anxiety, depression, contextual factors (family and community) revealed that social support is necessary which has a positive influence on overall health of the patients. This paper examines a gender-wise association between symptoms of Anxiety and social support and Depression and social support on overall health among HIV-positive participants recruited from an HIV centre in one of the government hospitals.***

The sample was drawn by Quota sampling method selecting HIV patients from ART Centre and comprised of 114 patients (62 male and 52 females). The components of Anxiety and Depression were assessed throughout the year on a half yearly basis in all the study subjects. The data collected were composed of various demographic and biological variables and responses to questions on social support including Anxiety and Depression.

To measure social support, the Multidimensional Scale of Perceived Social Support (MSPSS) scale was used. The emotional disturbances viz. Anxiety and Depression were measured using standardized HARS and HDRS scales. These responses were then categorized into low, medium and high ranks and the relation between these data and social support was then tested using Pearson's Chi-square test and the association between them was found using Cramer's V test. Responses were collected twice from same patients with an interval of six months between data collection.

The results obtained indicate that during first half of the year, depression of HIV patients is dependent more on friends rather than support from family and significant other.

It was also found that, gender has the impact on the relationship between anxiety and social support and depression and social support. In HIV male patients, anxiety is statistically significant whereas depression is statistically significant in HIV female patients. Anxiety of HIV male patients is dependent more on social support from others but not on social support from family and friends. Depression of HIV female patients is found to be dependent more on friends but not on social support from family and others.

As against this, the study during the second half of the year revealed that anxiety is found to be statistically significant in female patients whereas in male patients it is not so. Further, anxiety of HIV female patients is dependent more on social support from others but not on support from family and friends. Depression of HIV patients is independent of social support in both genders

Keywords: HIV patients, psychological factors, anxiety, depression, social support

I. INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is one of the most dreaded diseases that mainly impairs body's immune system to fight bacteria, viruses, cancer, etc. (Lahey, 1995). Internationally accepted name of the causative virus for AIDS is Human Immunodeficiency Virus (HIV). Following exposure to HIV .the person is vulnerable to pathogens that a normal immune system could destroy. HIV can be transmitted through sexual contact between individuals, from mother to child through the placenta or by transfer of whole blood or blood product. In 1993, it was further decided that any individual with CD4 count of less than 200 per misrelate

should be considered as an HIV infected person (Munjal, Mishra and Rao, 1995).

This disease is not confined to any one class, community, religion, age, gender, group or profession. So in the present times it is the major concern of health psychologists to fight with it because it is a major health problem of this century (Lefton, 1997). One of the greatest challenges faced by India is HIV/AIDS and no other STI (Sexually Transmitted Illness) other than AIDS has made a greater impact on sexual behaviour or has created more havoc and fear in the minds of people (Santrock, 2007).

People infected with HIV can harbour it for several years without developing AIDS. But whenever the infected people develop this deadly disease, they are confronted with devastating psychological consequences (Lefton, 1997). There is an unfounded fear of contamination of AIDs in the minds of the general populace which leads to social ostracisation of AIDS patients. Most of the AIDS patients are infected through sexual contact or administration of intravenous drug and some attach a moral stigma to the disease. So, psychologically and socially they suffer more and are unable to cope up with the environment. The self-esteem of such patients fades quickly as they develop guilt feelings and blame themselves for having contracted the disease. And this self-blame leads to depression, anxiety, self-anger and pessimistic outlook towards life (Lefton, 1997). Sometimes the infected person is not responsible for the disease but he or she is blamed for it. Such traumatic experience results in acute depression and greater anxiety. Higher level of anxiety and depression are of great concern in diseases that are difficult to cure.

This paper tries to identify the association between Anxiety and Depression with the efficacy of social support in both genders. The main aim of the present study is to reduce the mental agony of HIV patients through minimising their anxiety and depression levels with the help of social support. It will further help them to cope up with the environment.

II. METHOD

Quota sampling method was used to select HIV patients from an ART Centre The sample comprised of 114 HIV patients (62 males and 52 females). The age of the patients ranged between 20 to 60 years.

MEASURES

SOCIAL SUPPORT

To measure social support, the Multidimensional Scale of Perceived Social Support (MSPSS) scale was used. Three sub-scales, namely i) Family, ii) Friends, and iii) Significant others, each addressing a different source of support, were identified and were found to have a strong factorial validity. These responses were measured on a five ordered scale. The sources of social support scale had been validated by Cronbach's alpha.

PSYCHOLOGICAL FACTORS

The emotional disturbances viz. Anxiety and Depression were measured using standardised HARS (Hamilton Anxiety Rating Scale) and HDRS (Hamilton Depression Rating Scale). These responses were then categorized into *low*, *medium* and *high* ranks of "Anxiety" and "Depression".

PROCEDURE

While collecting the data from each patient, proper consents were taken and assurance was given that the data will be used for research purpose only.

The relation between Anxiety and Depression and social support was then tested using Pearson's Chi-square test and the association between them was found using Cramer's V test.

Responses were collected once more from the same patients after an interval of six months and the relation between these data and social support was tested and the association between them was found by using the same method as done earlier.

Comparison was done between the results of first half year and second half year. All analyses were done with the help of the SPSS statistical package.

III. RESULTS

Analysis was carried out in two steps:

- ✓ Reliability of Social support questionnaire was checked.
- ✓ Gender wise association was checked between Anxiety and Social support and between Depression and Social support in 1st and 2nd half year.

A. RELIABILITY OF SOCIAL SUPPORT QUESTIONNAIRE

Reliability Statistics

Cronbach's Alpha	No. of items
0.852	20

Table 1: Statistical test for reliability of social support questionnaire

- ✓ Table 1 shows that reliability is done for the twenty cases and Cronbach's Alpha is 0.852 (>0.5) so the social support questionnaire is reliable.

B. GENDER WISE ASSOCIATION IS CHECKED BETWEEN ANXIETY AND SOCIAL SUPPORT AND BETWEEN DEPRESSION AND SOCIAL SUPPORT IN 1ST AND 2ND HALF YEAR

HYPOTHESIS

H_{01}: The Anxiety and Social support are significantly independent to each other.

H_{02}: The Depression and Social support are significantly independent to each other.

H_{11}: The Anxiety and Social support are significantly dependent to each other.

H_{12}: The Depression and Social support are significantly dependent to each other.

Behaviour	Social support	Gender	Chi-square value	P-value	Significant (Yes/No)	Cramer's V	Conclusion
Anxiety	Significant other	Male	18.234	0.020	Yes	0.542	Reject H_0
		Female	5.258	0.730	No	0.225	Do not reject H_0
	Family	Male	10.659	0.1	No	0.251	Do not reject H_0
		Female	6.536	0.587	No	0.186	Do not reject H_0
	Friend	Male	9.697	0.138	No	0.280	Do not reject H_0
		Female	5.793	0.670	No	0.236	Do not reject H_0
Depression	Significant other	Male	4.353	0.824	No	0.187	Do not reject H_0
		Female	4.155	0.843	No	0.200	Do not reject H_0
	Family	Male	6.223	0.399	No	0.224	Do not reject H_0
		Female	3.143	0.925	No	0.174	Do not reject H_0
	Friend	Male	4.495	0.610	No	0.190	Do not reject H_0
		Female	19.497	0.012	Yes	0.612	Reject H_0

Table 2: Chi-square test for the association between Behavioural changes and Social support gender-wise during first half year

Behaviour	Social support	Gender	Chi-square value	P-value	Significant (Yes/No)	Cramer's V	Conclusion
Anxiety	Significant other	Male	4.712	0.318	No	0.276	Do not reject H_0
		Female	9.584	.048	Yes	0.429	Reject H_0
	Family	Male	1.234	0.745	No	0.141	Do not reject H_0
		Female	2.768	0.597	No	0.231	Do not reject H_0
	Friend	Male	1.984	0.576	No	0.179	Do not reject H_0
		Female	4.282	0.369	No	0.287	Do not reject H_0
Depression	Significant other	Male	8.402	0.395	No	0.260	Do not reject H_0
		Female	12.264	0.140	No	0.343	Do not reject H_0
	Family	Male	9.718	0.137	No	0.280	Do not reject H_0
		Female	8.958	0.346	No	0.293	Do not reject H_0
	Friend	Male	9.718	0.137	No	0.280	Do not reject H_0
		Female	8.958	0.346	No	0.293	Do not reject H_0

Table 3: Chi-square test for the association between Behavioural changes and Social support Gender wise during second half year

- ✓ In Tables 2 & 3, the results change gender-wise, therefore gender has the impact on the relationship of Anxiety and Social support and Depression and Social support.
- ✓ Table 2 shows that Anxiety is statistically significant (Chi-square=18.234; p=0.020<.05) in HIV male patients whereas Depression is statistically significant (Chi-square=19.497; p=0.012<.05) in HIV female patients during first half year.
- ✓ Also among male respondents, there is a significant relationship between Anxiety and Social support from Significant other. Further, Cramer's V value is 0.542 (>0.5), hence Anxiety and Social support from Significant other are strongly associated with each other during first half year.
- ✓ Whereas in female respondents, there is a significant relationship between Depression and Social support from Friend. Also, Cramer's V value is 0.612 (>0.5), hence Depression and Social support from Friend are strongly associated with each other during first half year.

This implies that in men, whose social roles prescribe that they be recipients of care rather than providers of care, there is a strong relationship between Anxiety and Social support from Significant other. In contrast, it is possible that HIV-positive women may be busy in performing their duties, so they do not want social support. While analysing the result, it has also been noticed that females are depressed while thinking about the future of their families and Society.

- ✓ Table 3 shows that during second half year Anxiety is statistically significant (Chi-square=9.584; p=0.048<.05) in HIV female patients whereas Depression is statistically insignificant (Chi-square=19.497; p=0.012<.05) in HIV female patients;
- ✓ Also among female respondents, there is a significant relationship between Anxiety and Social support from Significant other. Cramer's V value is 0.429 (>0.5), hence Anxiety & Social support from Significant other are moderately associated with each other during second half year.

IV. DISCUSSION

This study reveals that during first half year in HIV male patients, Anxiety is strongly associated with the social support but in second half year Anxiety is found to be independent with the social support. This may be the impact of medicine and counselling done at the time of ART treatment. Also during first half year in HIV female patients, Depression is strongly associated with the social support but in second half year Anxiety is found to be moderately associated with social support.

A recent report of the Mumbai District Aids Control Society (MDACS) says that around 3,500 HIV-infected patients in Mumbai have abandoned treatment between 2013 and 2016 and nearly 90% have not been traced (Hindustan Times, 2016). This will not only result in increased HIV-related deaths, but would also be a major public health concern because they can spread the disease in the community. The fact that a majority of these patients are not traceable means the transmission of the virus could be active, said an official from the National Aids Control Organisation (NACO). Also, when an HIV patient stops the treatment, the virus multiplies in his/her body. This patient may knowingly or unknowingly spread the infection in the community either by unsafe sex or use of common syringes. The expert also said the reason why these patients abandoned medication may be because "*They usually do not disclose their condition to their relatives*". Many patients discontinue the treatment out of the

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fear that others will find out about their condition and this situation may lead to psychosocial issues like Anxiety, Depression and contextual factors (family and community). This is the reason why in the initial stage (during first half year) it is important to control Anxiety and Depression of the patients by giving Social support because in the first half year when they are detected as HIV positive their Anxiety and Depression are comparatively higher than second half year. By controlling Anxiety and Depression using Social support, it is possible to reduce the number of patients who abandon medication and this will result in decreased HIV-related deaths.

In conclusion, this study suggests that HIV clinics and interventions need to focus more on the psychological and/or mental health status of HIV-infected individuals while providing avenues such as social support groups that can be a buffer against the negative impact of HIV infection and depression on overall health outcome.

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