



ANXIETY, DEPRESSION AND STRESS ASSOCIATED WITH HIV POSITIVE PATIENTS AND ROLE OF AYURVEDA IN ITS MANAGEMENT

Ayurveda

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ABSTRACT

HIV infection is a global epidemic and is becoming a medical as well as social problem. There is a high level of stigma and social discrimination with patients of HIV infection. Hence; such persons are more prone to psychological disorders like anxiety, depression and stress. These psychological disorders affect the mental as well as the physical condition of the patient thereby hampering effect of drug and also cause an effect on the progression of the disease. The quality of life is also negatively affected in such cases. Hence this issue needs to be addressed at large urgently. Ayurveda has a group of drugs categorized as Rasayan dravyas which have proved their efficacy and pharmacological studies have been conducted for the same to study their anxiolytic, anti depressant activities. However furthermore clinical research is needed in this regard.

KEYWORDS

Anxiety, Depression, Stress, Hiv, Ayurveda

INTRODUCTION

Human immunodeficiency virus infection is now a global epidemic. Statistics reveal, the rate of infected adults is approximately 37 million, of which 50% are women.¹

The average age group of the infected patients is between 25 to 34 years. Of all the reported cases injectable drugs users amount to 70% of transmission cases, and the remaining are affected by blood products, sexual intercourse and mother-to-child transmission.²

There is a general tendency of stigma and social discrimination along with negative thinking against in the society against HIV/AIDS which lead to many issues, like mental and physical and health issues in HIV patients, hampering their overall activity and quality of life. Infected individuals are vulnerable to changes in their whole lives which include significant reduction in self-esteem and confidence, a decrease can be observed in social activities, interactions and daily activities.³

Rasayan dravyas in *Ayurveda* have an immense potential in the field of psychological disorders and hence an attempt has been made to compile them with the aim to provide a direction for further clinical research.

NEED OF TOPIC

Anxiety, depression and stress are mental disorders of psychosomatic nature and the effects they have on our body include weight gain or loss, chronic pain, heart diseases, inflammation, sexual health problems, worsening of chronic health problems, difficulty in sleeping, gastrointestinal problems. HIV is a global epidemic. Persons being detected positive for HIV are most likely prone to suffer from mental disturbances like anxiety, depression and stress which have a strong negative impact on their mental, physical and social health thus deranging their quality of life.

Ayurveda has a group of drugs categorized as "*Rasayan*" which have proved their efficacy to improve a sense of well-being and the mental condition of patients of such conditions. Hence this group of drugs needs to be studied more in detail so as to understand their pharmacological activity and their particular role in reducing mental disorders.

AIM AND OBJECTIVES

AIM- To study anxiety, depression and stress associated with HIV positive patients and role of Ayurveda in its management.

OBJECTIVES-

- 1) To study literally anxiety, depression, stress and related factors in HIV positive patients
- 2) To study literally the impact of anxiety, depression and stress on

the physical, mental and social health of HIV positive patients.

- 3) To do a literary review on role of Ayurveda Rasayan dravyas on anxiety, depression stress.

MATERIAL AND METHODS

MATERIAL-

Various research papers related to anxiety, depression and stress and in association with HIV positive patients were compiled from the internet. Likewise research papers related to *Rasayan dravyas* in *Ayurveda* and their role on such conditions were compiled and studied. About anxiety, depression and stress in HIV positive patients-

Depression is the most common psychiatric disorder in these individuals. 57% is the prevalence of depression amongst HIV positive patients. It has been statistically observed that it is more than five times of the general healthy population. HIV-positive persons with depression may experience more painful symptoms without any apparent symptoms or physical signs.⁴

Long-term studies conducted on HIV population reveal significant correlations between physical and work performance, general health, and psychiatric disorders like anxiety, depression and stress.⁵

When the body reacts to a challenge stress is the physiological response to a stressor. Chronic stress weakens the immune system and hence leads to more disease susceptibility and makes the body vulnerable to depression. Patients who are suffering from a chronic disease like HIV infection have a range several of psychiatric disorders. The risk of psychiatric disorders in individuals with HIV is 7-37% more than the normal population. The most important risk factors in patients with HIV infection for being depressed are, unemployment, addiction to drugs and substances, dropping out from school stigma, and social harms.⁶

The most common psychiatric disorder observed in these patients is depression. Depression is a state of aversion to activity that can affect a person's thoughts, behavior, feeling, and sense of well-being and low mood. Depressed people may feel hopeless, worried, helpless, sad, anxious, empty and worthless.⁷

Depression affects the physical ability and performance. Probability of depression increases when the HIV test comes as positive. Mortality rate in depressed women is higher as compared to non-depressed patients.⁸

Anxiety is an unpleasant feeling of worry, fear and uneasiness and is accompanied by fatigue, restlessness, muscular tension, difficulty in concentration, palpitation and sweating.⁹ Anxiety is a common disorder seen in patients of HIV infection.

Depression, anxiety may have an effect on progression of disease, but

CD4 cell count, immune response and demographic variables also have an important role in disease progression.¹⁰

Studies reveal that reduction in stress has a positive and beneficial impact on the clinical course of disease. Stigma in HIV positive women was reported as much greater as compared to men, and hence more women are at risk of depression. Women who are addicts and living with HIV have a low quality of life and generally suffer from mental disorders which may be correlated with poverty.^{11,12}

For predicting the risk of detection of anxiety, depression and stress factors like drug use, demographic variables, social support and social role play an important role.¹³

The risk of mental disorders is increased by stress factors like receiving a positive result for test, doubt for beginning treatment etc.

Efficacy of certain *Rasayan dravyas* in anxiety, depression and stress associated with HIV positive patients-

1) SHATAVARI-

A) ANTI-DEPRESSANT ACTIVITY-

On evaluation of the antidepressant effect of methanolic extract of roots of *A. racemosus* standardized to saponins (62.2% w/w) it revealed a significant antidepressant activity, the effect is probably mediated through the serotonergic and the noradrenergic systems, and the augmentation of antioxidant defenses.¹⁴

B) ANTI-STRESS ACTIVITY-

The methanol and aqueous extracts showed an inhibitory effect on pro-inflammatory cytokines, interleukin 1 β and tumor necrosis factor α , and on the production of nitric oxide in mouse macrophage cells RAW 264.7 stimulated by lipopolysaccharide in vitro. Similar inhibition was also found in the production of interleukin 2 in EL 4 lymphoma cells stimulated by concanavalin A. The findings suggest that these plants may be beneficial in the management of stress and inflammatory conditions.¹⁵

2) VIDARIKANDA-

The PTE and WSE showed significant anxiolytic activity, protected the gastric mucosa, lowered plasma Corticosterone level (indicating HPA axis inhibition) and negated the hypertrophy of adrenals and spleen. The PTE also enhanced the sexual urge and activities in animals exposed to chronic stress. The findings suggest significant anxiolytic and anti-stress properties of PTE, confirming the clinical efficacy of the plant mentioned in *Ayurveda*.¹⁶

3) ASHWAGANDHA-

ANXIOLYTIC AND ANTIDEPRESSANT ACTIVITY-

WS has been used to stabilize mood in patients with behavioral disturbances. The study investigated the anxiolytic and antidepressant actions of the bioactive glycowithanolides (WSG), isolated from WS roots, in rats. Here, WSG (20 and 50 mg/kg) was administered orally once daily for 5 days and the results were compared by those elicited by the benzodiazepine lorazepam (0.5 mg/kg, i.p.) for anxiolytic studies, and the tricyclic anti-depressant, imipramine (10 mg/kg, i.p.), for the antidepressant studies. Both these standard drugs were administered once, 30 min prior to the tests. WSG induced an anxiolytic effect, comparable to that produced by lorazepam, in the elevated plus-maze, social interaction and feeding latency in an unfamiliar environment, tests. Both WSG and lorazepam, reduced rat brain levels of tribulin, an endocoid marker of clinical anxiety, when the levels were increased following administration of the anxiogenic agent-pentylenetetrazole. WSG also exhibited an antidepressant effect, comparable with that induced by imipramine, in the forced swim-induced 'behavioral despair' and 'learned helplessness' tests. The investigations support the use of WS as a mood stabilizer in clinical conditions of anxiety and depression mentioned *Ayurveda*.¹⁷

4) JEEVANTI-

ANXIOLYTIC ACTIVITY-

The ethanolic extracts of plant at dose 200mg/kg and 400mg/kg p.o. showed significant anxiolytic activity comparable to standard drug diazepam (2 mg/kg; i.p.) and more anxiolytic activity of ethanolic extract of plant at 400mg/kg than at 200mg/kg dose. This clearly demonstrates dose dependant anxiolytic effect in all experimental models of anxiety. The mechanism of anxiolytic activity of plant extract is unclear hence further studies are needed.¹⁸

5) YASHTIMADHU-

A) ANXIOLYTIC ACTIVITY-

Mice received varying doses (10-300mg/kg i.p.) of hydro alcoholic extract of *Glycyrrhiza glabra* and anxiolytic activity was assessed using different paradigms like foot shock-induced aggression, elevated plus maze, and amphetamine-induced stereotypy. Diazepam, ondansetron served as standard anxiolytic agents. In all the animal models of anxiety, lower doses of hydro alcoholic extract were more effective in alleviating anxiety. The extract and standard anxiolytic agents increased duration of occupancy of mice in open arm, increased latency to foot shock induced aggression and delayed the onset of amphetamine induced grooming, biting, sniffing and repetitive head movements and reduced number of fighting bouts. The hydro alcoholic extract of roots and rhizomes of *Glycyrrhiza glabra* possesses anxiolytic activity.¹⁹

B) CHRONIC FATIGUE STRESS-

The hydro alcoholic extract of *Glycyrrhiza glabra* on chronic fatigue stress (CFS) induced behavioral alterations in mice. The exposure of mice to chronic fatigue stress for 15 days demonstrated an increased immobility in time, impaired memory, increased anxiety, reduction in muscle co-ordination, increased pain perception and reduced activity. The altered behavioral parameters were attenuated significantly by the treatment of *Glycyrrhiza glabra* (100 and 200 mg/kg p.o) comparable to fluoxetine (10 mg/kg). The study concludes that *Glycyrrhiza glabra* could be used as an alternative to conventional medicines for the treatment of chronic fatigue stress.²⁰

CONCLUSION

Living with HIV/AIDS is stressful and the psychosomatic symptoms of depression and anxiety, depression, stress are seen in these groups. They have an effect on the progression of the disease and reduce the effect of the drugs that are used for controlling the infection. Changes in health status in individuals with HIV/AIDS were imagined as an indication of exacerbation of HIV/AIDS and thus were escalated to depression. Several studies have shown that the rate of anxiety, depression, and stress is seen frequently in people with HIV/AIDS. In most of the infected patients the depression is worsened by stigma, they are worried about stigma related to HIV, with an injection drug user or sex worker. Also, they are concerned about being rejected by their family. Behavioral factors like risky sex, substance abuse can play a role in such psycho-immune relationships.

It is to be understood that resorting to human rights and the constitution, the society must consider HIV as a social phenomenon and regard the infected as patients, and take a humanitarian stance to find a solution to this problem. HIV infection is associated with psychiatric disorders. Women generally are more vulnerable to anxiety, depression and stress and they need more care.

Management of these psychiatric disorders is very important and requires innovative comprehensive approaches. An attempt has been made to bring forth some of the multiple *Rasayan dravyas* which have proved their efficacy in pharmacological studies in relation to mental disorders. However, there remains a vast scope for further clinical research in this particular field of effect of *Rasayan dravyas* in HIV associated with psychological disorders which needs to be explored further and which is an urgent need of time.

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