Clinical Study

Ayurvedic Therapy For The Management Of Major Depressive Disorder

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Abstract-

This study was undertaken to assess the antidepressant effect and safety of an Herbal preparation and Shirodhara (oil dripping) therapy for the treatment of major depressive disorder. Total forty five patients with mild and moderate type of major depressive disorder were included in a non blind randomized controlled, open label, using pretest – posttest design. Patients were divided into two groups named as group 1(active control group), was given fluoxetine 20 mg daily two time for consecutive days and group 2 (experimental group). Experimental group was again subdivided into subgroups 2a and 2b and was given 6 herbal capsules (each capsule contained 500 mg powder of nordostachys Jatamansi and Lavandula stoechas) into three divided dosages for 42 consecutive days in both subgroups. Additionally the Shirodhara therapy with plain Ashwagandha oil was applied in subgroups 2b for first 14 consecutive days. For the measurement of efficacy, subjective parameters clinical symptoms was measured and objective parameters included Hamilton Depression rating scale 17 items(HDRS17), the clinical Global Impression Severity(CGI-S), and Improvement scales(CGI-I) was administered at baseline within 14, 28 and 42 day. For safety evaluation, adverse effects such as dry mouth, headache, nausea, somnolence, sweating, restlessness, constipation, dizziness, sexual dysfunction, anorexia and vital signs included blood pressure, pulse rate; body weight was monitored at each visit day of patient. The laboratory examinations such as hematological, Biochemical and Electrocardiogram were investigated at baseline and the day of 42. End of treatment, the clinical symptom and the HDRS, CGI-S or CGI-I score was found significant improvement in experimental subgroups when compared to baseline. In intergroup comparison the highest improvement; near to normal was found that in subgroup 2b when compared to standard control group 1. So this study was showed that selected herbal preparation and Shirodhara therapy has the antidepressant effects on mild and moderate condition of major depressive disorder.

Key Words: Major Depressive Disorder, Herbal capsule, Ashwagandha oil and Shirodhara therapy.
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*Ayurvedic Therapy For The Management Of Major Depressive Disorder*

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**Introduction:**

Major depressive disorder (MDD) is one of the most commonly encountered psychiatric disorder. According to World Health Organization (W.H.O.), depression is the leading cause of disability as measured by years lost due to disability (YLDs) and the 4th leading contributor to the global burden of disease in 2000. By the year 2020, depression is projected to reach 2nd place for all ages and among both sexes. Approximately 5% population has major depression at any given time, with experiencing a life time risk of 7-12% and women 20-25%. It is estimated that the life time prevalence as high as 21% of the general population in some developed countries. Major depression is associated with significant personal societal and economic burden also. It is estimated that the cost of the depression in 2003 was $ 83.1 billion, including 26.1 billion in direct cost, $5.4 billion in suicide related mortality and $ 51.5 billion in workplace costs. Depressive symptoms are also found in up to 36 % of all medically ill patients and comorbidity of MDD with medical illness. So it is a worldwide problem. Patients are treated with various antidepressant medications in modern scientific medicine but more than 50% patients; discontinue antidepressant treatment due to the side effects or insufficient response. Such patients are often reluctant to take synthetic antidepressant drugs in their appropriate doses due to their anticipated side effects including dry mouth, constipation and sexual dysfunction. So there is a need for more effective, less toxic and cost effective anti depressant treatment. Ayurvedic herbs may offer advantages in term of safety and tolerability, possibly promising results for the treatment of depression. Besides, the recent scientific study also showed that some Ayurvedic plants such as Nordostachys Jatamansi, Lavandula stoechas, and withania somnifera, etc. individually reported for the treatment of depressive disorder synergistic effects is not known exactly. In traditional ayurveda, mental-emotional illness is not only treated through the medicine but also use of such therapy like Shirodhara (oil dripping) therapy. Shirodhara therapy was first originated from Karalia Panchakarma that is characterized by dripping oil on the forehead. It is also helpful in headache, mental stress, insomnia, depression, motor neuron diseases and several types of mental disorders. So keeping in view all the above facts the present study was undertaken.

**Aim and Objectives:**

The study was undertaken with the following specific objectives-

- To assess the effectiveness of a Herbal preparation and Shirodhara (oil dripping) therapy for the management of major depressive disorder.
- To assess the safety after using that Herbal preparation and Shirodhara (oil dripping) therapy.
- To acquire scientific and clinical data on that preparation as an initial endeavor to standardize herbal formula as an effective treatment of depression.
- To compare the effectiveness of herbal preparation and Shirodhara therapy with a standard drug.

**Materials and Methods:**

The study was a non blind, randomized, clinical trial using pretest-posttest design and the study population was collected from the OPD and IPD of P.G. Department of Kayachikitsa at Arogyashala, National Institute of Ayurveda and SSBH, Jaipur (Raj.) and Department of Psychiatry, SMS Medical College and Hospital, Jaipur (Raj.). Sample size was forty five number of patients and who was diagnosed according to Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV) in initial screening for major depression.
**Inclusion Criteria:**

The following inclusion criteria was followed for selecting the patients-

- Males or females between the age of 20 and 65 years old.
- Subjects who were fulfilled the DSM-IV criteria for the diagnosis of major depressive disorder without psychotic feature and with single or recurrent episode for minimum two weeks.
- Subjects who had mild or moderate major depressive disorder and must had minimum total score at least 10 and maximum 18 on the 17 item of Hamilton Depression rating scale 17 items (HDRS17) at baseline visit.

Each subject was a level of understanding sufficient to agree to all required tests, signs and examinations an informed consent document.

**Exclusion Criteria:**

The following was followed as exclusion criteria for selecting the patients-

- Age less than 20 and more than 65 years.
- Present use of prescription drug for major depressive disorder.
- At significant risk of suicide on the basis of clinical judgment.
- Pregnant, breast-feeding or planning to become pregnant during the study.
- Current history of illness with hepatic, renal, gastro enteric, respiratory, cardiovascular, endocrinological, neurologic, immunologic, hematological diseases and infectious diseases etc.
- Significantly abnormal laboratory tests and finding of electrocardiograph.
- Current use of drug abuse or alcohol dependence.
- Diagnosis of panic disorder, generalized anxiety, dementia, bipolar disorders, schizophrenia or any other psychiatric disorders.
- Patient unable to give the informed consent and follow study procedure.

**Study Design and Grouping:**

Total 45 number of Patients were randomly divided into two groups named as group 1 (active control group) and group 2 (experimental group). Then again experimental group was subdivided into subgroups 2a and 2b. Each group and subgroup was contained 15 numbers of patients.

**Treatment protocol:**

**Group 1** (active control group) was given fluoxetine {a standard antidepressant drug} 20 mg per orally daily two times with normal water for 42 consecutive days.

**Group 2** (experimental group) was again subdivided into subgroups 2a and 2b and was given 6 herbal capsules (each capsule contained 500 mg powder two indigenous medicinal plants in equal quantity of Nordostachys jatamansi and Lavandula stoechas into three divided dosages per orally daily with normal water for 42 consecutive days in both subgroups. Additionally the Shirodhara therapy with plain ashwagandha oil was applied in subgroups 2b for first 14 consecutive days at least 30 minutes daily. The plain ashwagandha oil was prepared the mixture of Withania somnifera with the sesame oil. All the procedure was done in the department of Rasa Shastra and Bhaisajya Kalpana (pharmacy) at NIA, Jaipur.

**Efficacy and Safety Assessment of Selected Drugs:**

For the measure of efficacy the particular clinical symptoms was evaluated and HRDS 17, CGI-S was administered at each visit day of patients, it means at the day of baseline 14th, 28th, 42th and the CGI-I was administered at all post baseline visits. The adverse effects such as dry mouth, headache, nausea, somnolence, sweating, restlessness, constipation, dizziness, sexual dysfunction, anorexia and vital signs included blood pressure, pulse rate; body weight was monitored at each visit day of patient. The laboratory examinations such as hematological (TLC, DLC, ESR, Hb%), biochemical (Sr. bilirubin, ALT, AST, alkaline phosphatase, FBS, Sr. creatinine, Sr. urea, lipid profile) and Electrocardiogram were investigated at baseline and the day of 42.

**Statistical Analysis:**

The quantitative data was assessed by using
paired student t test when compared before and after study in a single group (intragroup) and one- way analysis of variance (ANOVA) was followed for intergroup comparison. For the assessment of qualitative data Wilcoxon t-test was done in a single group. The P < 0.05 was considered as statistically significant, P>0.05 was considered as statistically non significant.

Results and Observations:

In this study the demographic profile was showed that depression is more common in male, younger subjects, involved in desk work and those are from middle class socioeconomic status. Ayurvedic character showed that Manda type Agni, Madhyama type Koshtha, Alpa type of Nidra, Vata-kaphaja type Sharirika prakriti, Rajas type Manasika prakriti and Avara type of Sattva was found in maximum number of patients. End of treatment on day, the clinical symptoms diminished interest or pleasure, insomnia or hypersomnia and fatigue or loss of energy was found significant improvement in both experimental subgroups when compared to baseline. The other symptoms depressed mood, body weight changes, psychomotor agitation or retardation and diminished ability to think or concentrate, or indecisiveness was highly significant (p<0.01) improved in group 2b but not in group 2a. According to severity of depression; the mean score of HDR, CGI-S score was in either mild or moderate level in individual subject on baseline day but after 42 days of treatment the mean score the HDRS, CGI-S or CGI-I score was found highly significant (p<0.01) in decreased in subgroup 2a and 2b when compared to baseline. In intergroup comparison the highest improvement; that near to normal was found that in subgroup 2b when compared to standard control group 1.

Discussion:

It may be combined effects of Nordostachys Jatamansi and Lavandula stoechas Withania somnifera. The active ingredients Jatamansone from Nordostachys Jatamansi regulate the metabolic degradation of catecholamine, serotonin and other endogenous amines in CNS through interaction with GABAergic receptor and other active constituents from lavender also involves the activation of the inhibition of GABAergic system on the system. Beside the plain Ashwagandha oil was used for Shirodhara therapy. Shirodhara has the important role on psychiatric disorders. Past study showed that Shirodhara psychoneuroimmunologic activity by balancing the levels of various neurotransmitters including serotonin thyroid releasing hormones (TSH) and catecholamine resulting in sympathetic suppression psycho immunologic changes in peripheral circulation. Moreover, the active ingredients of Withania somnifera have the possible inhibitory effects on neurotransmitter?- amino butyric acid (GABA). According Ayurvedic pharmacology, these plants having Katu(pungent), Tikta(hot), kasaya (stringent) rasa; Laghu(light), Tikshna(sharp) and Ruksha (ununctuous) Guna (attributes); Ushana(hot) Veerya (potency); Katu Vipaka of selected plant. So Katu rasa stimulates pachakagni desiccants the food, removes obstruction and dilates the passages and allays Kapha Doshas. The Rasa like Tikta has also potency to improve the basic cellular metabolism due to their Shodhana properties. The all over effects of trial drug should remove Ama Dosha at various levels, correct the Agni and cleanses the Srotasa and also improve the functions of neurotransmitter. These plants have properties of Intellect promoting (Maidaya) and Resuscitative (Sangaya Sthapanâ). The side effects such as dry mouth, headache, nausea, somnolence, sweating, restlessness, constipation, dizziness, sexual dysfunction, anorexia were more frequent in group 1. Only sweating was showed in two subgroups. The vital signs Systolic blood pressure, diastolic blood pressure, pulse rate and body weight showed no significant difference in any group on final day. The Hb% was significant increase (p<.01) in subgroup 2b; the ALT significantly decrease in both subgroups, AST in subgroup 2b, FBS in both subgroups, Sr. cholesterol and Sr. triglyceride in subgroups 2b due to haemopoetic, hepatoprotective, hypoglycemic and hypolipidemic effects of Nordostachys Jatamansi on basis of past clinical study. On the basis of the above description, it can be concluded that the selected Herbal preparation and Shirodhara therapy have antidepressant effects and safe for use as measured by clinical symptom, HDR, CGI-S and CGI-I scale when compared with known standard antidepressant generic preparation fluoxetine. So this study suggests that it can be used in mild and moderate condition of depression and hypothesis is accepted.
Conclusion:

The study suggests that the selected herbal preparation and Shirodhara therapy have antidepressant effects and safe for use. So it can be used in mild and moderate condition of depression.

References: