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Research Article

ANTI STRESS EFFECT OF *ASHWAGANDHA* (*WITHANIA SOMNIFERA*) WILD AND CULTIVATED VARIETIES ON WORK RELATED PROFESSIONALS

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ABSTRACT

Manas is the controller of *Indriyas* and the activities of *Manas* are the direct outcome of cerebral functions. There are three major Universal attributes (*Mahagunas*) of *Manas* namely *Sattva*, *Rajas* and *Tamas*. The variations in inter- individual as well as intra-individual leads to psychic behaviour. A study was conducted of *Chittodvega* anti-stress effect of *Ashwagandha* varieties on work related professionals. The study was conducted on 60 volunteers taken from T.T.D's printing press, Tirupati. After screening, the selected volunteers were assigned three groups containing 20 patients each. The first and second groups served as the trial groups (I Group –WSN, II Group– WSWM) and third group (III Group - PG) served as the placebo control. Pre- Treatment and Post- treatment readings were recorded to assess various parameters of this study. Group I- *Ashwagandha Nagori* with milk (WSN) Group II– *Ashwagandha* wild with milk (WSWM) in a dose of 1gm were administered orally. The duration of the treatment was 40 days. Wheat powder placebo was given along with milk. *Ashwagandha churna* along with milk (WSN-Group I) and *Ashwagandha churna* purified with milk steam (WSWM -Group II) are taken as the test drugs and compared with the placebo group III. There is significant difference is observed in Group 2 better in headache, trembling of lips, neck & back pain, low sexual drive, diarrhoea, feeling of loneliness, reduced work productivity, frequent use of counter drugs, increased smoking and alcohol, sudden attacks of panic, frequent urination, excess anxiety, increased anger, depression, insomnia, difficulty concentration than Group 1. There is significant difference is observed in frequent sweating, dry mouth, and difficulty in making decision and weight gain or weight loss in Group 1 than Group 2.

INTRODUCTION

In the present era, human beings have become mechanical in their life styles, with gradual industrialization and automation especially the life style of urban man has become very fast and consequently it has become stressful. These circumstances frequently lead the people towards haphazard and bad habits of food (*Aahara*), regimen (*Vihaara*) and suppression of natural urges and creating many problems. According to Ayurveda and modern medical science, the body and psyche are very closely interrelated. Any disturbance in psychological functions practically affects the majority of physiological function.

Stress is usual phenomenon of life. In bearable situation it is good. It can motivate and help us become more productive. However, stress beyond individual capacity and habit can be harmful. Physical or mental stress may cause physical illness as well as mental emotional problems.[1]

Stress is a fact of everyday life. When people reach out for help, they are often dealing with circumstances, situations, and stressors in their lives that leave them feeling emotionally and physically overwhelmed. Many people feel that they

have very little resources or skills to deal with the high levels of stress they are experiencing.[2]

Work related stress

There are numerous physical as well as emotional responses as common signs and symptoms of stress. Physical or mental stresses may cause physical illness as well as mental or emotional problems.

In Ayurveda it can be correlated with *Chittodwega* and *Manas* is the seat of causing *Chittotdwega. Manas* is the substance which establishes the contact between the soul and the body and regulates the function of *Indriyas*. *Charaka* has stated that thinking, imagining, concentration and determination are the objects of *Manas*[3].

Any stimulus internal or external that disturbs the dynamic equilibrium of the system of the body is called stress. Stress is an individual phenomenon. An event of situation which is said to be stressful to one need not be stressful to the other. These stressful conditions leading to disorder are also called life style disorders. Life would be simple and easy if ones biological and psychological needs were automatically gratified, but as we know there are many problems, obstacles both environmental, personal that may interfere. Such obstacles place adjustive demand or stress on the individual.[4,5]

The ground work for the modern meaning of stress was lead by *Dr.WalterB.Cannan*, a Physiologist at Harvard almost 100 years ago. He was first to describe the fight or flight response as a series of involuntary physiological and biochemical changes that prepare you to deal with threat of danger. [6]

About 8 lakhs people commit suicide worldwide every year. Of these 1,35,000 (17%) are residents of India as per a study of NIMHANS, Bengaluru. 36% IT professionals in Bengaluru show signs of Psychiatric disorder. 27.6% of IT professionals are addicted to narcotic drugs 1 in every 20 IT professional contemplates suicide.

As per the World Health Organization's prediction, at 2020, stress, anxiety disorders, and depressive disorders will be the top in the rank order of disease burden for 18 leading countries. With the advancement in modern science, human life has become very speedy and stressful.

According to Ayurveda, *Nidra* is one of the three *Upasthambas*. Stress affects *Nidra* and people suffering from stress go to sleep deprivation. This condition is associated with a number of both physical and mental disturbances.

Symptoms of work related or occupational stress are similar to the *Chittodvega*. Occupational stress can be co-related to *Chittodvega*. It can be co-related to generalised anxiety disorder and occupational stress.

Chittodvega is not mentioned as a separate disease anywhere in classics. In *Charaka Samhita* '*Chittodvega*' is mentioned as a *Manasika vikara.* The term *Chittodvega* comprises of two words i.e. *Chitta* and *Udvega*. The word *Chitta* is derived from root "*Chit*" which denotes the mind. The *Udvega* is derived from root "*Ud*" which has following meanings- tranquil, trembling, waving, shaking, agitation, anxiety, regret, fear, distress, admiration, astonishment. From the above interpretations *Chittodvega* can be considered as the *Udvegavastha* of mind.

Sampling Method

Purposive sampling was done - The study was conducted on 60 volunteers taken from T.T.D's printing press, Tirupati.

Research Design

After screening, the selected volunteers were assigned three groups containing 20 patients each. This is a Single Blind Comparative Clinical Study. The first and second groups served as the trial groups (I Group –WSN, II Group – WSWM) and third group (III Group – PG) served as the placebo control. Pre- Treatment and Post- treatment readings were recorded to assess various parameters of this study.

Intervention

Trial groups: Group I - *Ashwagandha Nagori* with milk (WSN) Group II – *Ashwagandha* wild with milk (WSWM) in a dose of 1 gram was administered orally. The duration of the treatment was 40 days.

Placebo control group: Wheat powder placebo was given along with milk. Periodical assessment was done along with the trial groups.

Assessment Criteria

Assessment of the effect of treatment was entirely based on the scores, obtained in the individual tests mentioned. The scores were taken before the trial (0^{th} day), after the completion of treatment schedule (41^{st} day). The individual results were analyzed by direct comparison of the scores obtained in two different time periods.

Ashwagandha churna along with milk (WSN-Group I) and *Ashwagandha churna* purified with milk steam (WSWM -Group II) are taken as the test drugs and compared with the placebo group III. (Each group consists of 20 patients each).

There is significant difference observed in the mean difference values of before treatment and after treatment values of subjective parameters, in which Group 2 (WSWM) has shown better result than that of Group 1 (WSN) and Group 3 (PG).

Statistical data also revealed that Group 2 (WSWM) showed high significance in all the mean difference values of all the symptoms than that of group 1 (WSN) and group 3 (PG). Thus from the result it can be understood that Group 2 (WSWM) showed better result overall.

An emotion like *Udvega* is a common response in part of life but persons having *Sattvasara* can resist the ill-effects of such emotional disturbance as they are seen unmoved even by severe affection. On the other hand when the person having *Alpasattva* indulges in *Prajnaparadha* or *Asatmendriarthasamyoga* or is under stress, it initiates the disease process by resulting in imbalance of *Manodoshas- rajas* and *Tamas*. At this stage the person exhibits an exaggerated response to emotional disturbance. This is called *Chittodvega.*

To treat stress or minimize stress a number of synthetic drugs are available in market. But they have more side effects. The use of modern CNS acting drugs in spite of having higher therapeutic ratios and neuro protection is accompanied by side effects like insomnia, mood change, dizziness, respiratory depression, irritability, nausea, rash, and clumsiness etc. Further these drugs need to be taken regularly and if stopped abruptly has potential danger of triggering the recurrence of the disease.

Ashwagandha, a traditional Ayurvedic herbal plant is used for the treatment of nervous exhaustion, memory related condition, insomnia and tiredness. Based on the literature available on *Ashwagandha*, the present study is planned to manage the stress in professional group of society. *Ashwagandha* is one of the most utilized herbs in Ayurvedic medicine. It is categorized as a *Rasayana*, which promotes health and longevity, retards ageing process and revitalize the body in debilitated conditions. The root of this plant is considered as nervine tonic and sedative hence used in all cases of nervous exhaustion, brain fatigue, insomnia and loss of memory.

In this context the present study is conducted with the objective of correlating the symptoms of *Chittodvega* with stress and an effort is made to evolve an effective treatment by using *Aswagandha* in work related stress professionals.

Aim

To study the clinical efficacy of Wild and Cultivated varieties of *Ashwagandha* on Work related Stress professionals

Objectives

1. To evaluate the anti stress effect of *Ashwagandha* varieties.
2. To develop a safe single oral drug for the management of stress.
3. To give complete, permanent and simple treatment to the stress patients.
4. To address the problem of stress at aetiopathological level in competitive society.

Rationale in the Selection of Drug

Ashwagandha is one of the most utilized herbs in Ayurvedic medicine. It is categorized as a *Vajikarana*, *Rasayana*, which promotes health and longevity, retards ageing process & revitalize the body in debilitated conditions. The root of this plant is considered as nervine tonic and sedative hence used in all cases of nervous exhaustion, brain fatigue, insomnia and loss of memory. Various pharmacological studies demonstrated its antioxidant, antitumour, anxiolytic, antidepressant, anticonvulsant and CNS depressant activity. Its active principles Sitoindosides VII-X and Withaferin A (glycowithanolides) prevent free radical damage of nervous tissue, hence prevent normal aging and neuro degenerative diseases like epilepsy, schizophrenia, Parkinson's, Alzheimer's etc. Recently it is also used to inhibit the development of tolerance and dependence on chronic use of various psychotropic drugs. Now-a-days stress is a common problem in our society. An effort has been made to provide a better, effective and cost effective Ayurvedic drug with fewer side effects.

Collection of Material

According to *Bhavaprakasha nighantu*, *Nagori Ashwagandha*[7] is used for *Vajikarana, Balya, Brmhana* properties and root of wild variety is useful for *Vatashamaka guna, Bahya lepa* and *Apasmara* etc diseases. Wild variety has *Avasadaka, Swapnajanaka, Mutrajanaka* etc properties. So for internal use it must be purified with milk steam (*Swedana* in milk)[5]. The cultivated variety of *Ashwagandha* which is thin and lean is mainly brought from Nagori district of Madhya Pradesh, hence the name "Nagori variety". Along with these classical texts of Ayurveda, Sanskrit dictionaries, books related to western science, Articles published in reputed journals and also from the various media like Internet etc., followed by retrospective study of related research works.

DRUGS AND GROUPS

Collection of Drugs (Wild and Cultivated *Ashwagandha*)

The roots of Wild and Cultivated *Ashwagandha* are collected from Seshachalam forest and TTD's Sri Srinivasa Ayurvedic Pharmacy, Srinivasa Mungapuram, Tirupati respectively. They are well cleaned and stored in a place where there is no much moisture or heat.

MATERIALS AND METHODS

1. *Ashwagandha* Nagori
2. *Ashwagandha* wild
3. *Gokshira*

Method of Purification and Preparation of wild variety of *Ashwagandha*

Apparatus

Stainless Steel Vessel, Heating Device, Iron Mesh, Steel plate.

Ingredients

1. *Ashwagandha* wild variety: 500gms
2. *Gokshira*: 2 litres

Preparation:

Swedana of *Ashwagandha* root with milk vapour, Then it is continuously boiled for about 1 hr on *Mandagni*. This vessel is closed by steel plate so that the vapours will not go out. This is done until hard pieces of *Ashwagandha* become soft.

Preparation of Medicine and packaging

1. The whole quantity of roots of Wild and Cultivated *Ashwagandha* is well powdered finely and made into packets of 20 gm quantity.
2. These 20gm packets of *Ashwagandha churna* are labelled as WSN I and given to patients to be taken along with milk.
3. Other packets of 20 gm quantity are labelled as WSWM II containing *Ashwagandha churna* (purified with milk steam) and given to patients to be taken along with milk.
4. Packets of 20 gm quantity containing wheat powder placebo are labelled as PG III and are to be taken with milk.

Groups

Ashwagandha churna along with milk (WSN-Group I) and *Ashwagandha churna* purified with milk steam (WSWM -Group II) are taken as the test drugs and compared with the placebo group III. (Each group consists of 20 patients each)

Table 1: Showing the details of the groups, dosage and *Anupana*

Groups	Number of patients	Dosage	*Anupana*
I WSN	20	1 gm	Milk
II WSWM	20	1 gm	Milk
III PG	20	1 gm	Milk

Criteria of Inclusion

1. Age between 18 years to 60 years, irrespective of sex, caste, religion, and socio-economic status were selected for the study.
2. Ambulatory and cooperative

Criteria for Exclusion

- Age below 18 and above 60 years, Exhibiting psychotic symptoms, Factors inferring with concentration and communication, Hypertension, Diabetes, Pregnant women or the women planning to be pregnant in next six months, C N S disorders e.g. encephalopathy, Any other systemic disease.
- Any general or systemic disorder, which interferes with the course of treatment, was excluded.

Parameters of study

- Common sign and symptoms of stress.
- Questionnaire adopted from DASS and PASS stress scales.

Table 2: Parameters and Gradation

Symptoms	Gradation			
Headache (*Sirasula*)	0	1	2	3
Tremors, Trembling of lips, hands (*Kampa*)	0	1	2	3
Frequent sweating Cold or Sweaty hands, feet (*Swedadhikya*)	0	1	2	3
Neck ache, Back pain, Muscle spasms (*Manya sula, Kati sula, Graha*)	0	1	2	3
Dry mouth, Problems in swallowing, Difficulty in breathing (*Mukha sosha, Krichra swasa*)	0	1	2	3
Heartburn (*Hridaya daha*), Stomach pain (*Udara sula*) Nausea (*Hrllasa*), Increased or decreased appetite (*Atyagni* or *Agnimandhya*)	0	1	2	3
Diarrhea (*Atisara*), Constipation (*Mala badhata*), Flatulence (*Adhmaana*)	0	1	2	3
Sudden attacks of Panic	0	1	2	3

Frequent Urination (*Mutradhikya*)	0	1	2	3
Low Sexual drive or Performance (*Maithuna asahishnutha*)	0	1	2	3
Excess anxiety (*Aati chinta*) worry, guilt, (*Shokha dukha*), nervousness (*Bhayam*), Frequent crying spells or suicidal thoughts	0	1	2	3
Increased anger, Frustration, Irritability (*Krodha*)	0	1	2	3
Depression (*Vishadha*), Frequent or intense mood swings	0	1	2	3
Insomnia (*Nidranasa*), Nightmares (*Duswapna*), disturbing dreams	0	1	2	3
Difficulty concentrating, racing thoughts (*Alpa ekagratha*), Forgetfulness, disorganization, confusion (*Smrti moham*)	0	1	2	3
Difficulty in making decisions (*Nirnaya asamarthata*)	0	1	2	3
Feeling of loneliness and Social withdrawal or isolation (*Vairagya*)	0	1	2	3
Reduced work productivity (*Karya asamarthatha*), Constant tiredness (*Klama*), weakness, fatigue (*Aayasa*)	0	1	2	3
Problems with communication (*Sambhashana asamarthata*)	0	1	2	3
Frequent use of over-the-counter drugs, Increased smoking, alcohol or drug use (*Oushadha atisevana, Maadaka dravya prayoga*)	0	1	2	3
Weight gain or weight loss without dieting (*Medovriddhi* and *Medo kshaya*)	0	1	2	3

Table 3: Showing the status of relief in Headache before and after treatment

Headache	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	6	5	0
Group 2	0	5	6	1
Group 3	6	0	0	0

Table 4: Showing the status of relief in Trembling of lips before and after treatment

Trembling of lips	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	4	4	0
Group 2	0	2	14	0
Group 3	9	1	0	0

Table 5: Showing the status of relief in frequent sweating before and after treatment

Frequent sweating	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	1	9	2	0
Group 2	0	2	3	0
Group 3	2	0	0	0

Table 6: Showing the status of relief in Neck & Back pain before and after treatment

Neck & Back pain	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	10	3	0
Group 2	0	6	10	0
Group 3	6	0	0	0

Table 7: Showing the status of relief in Dry mouth before and after treatment

Dry mouth	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	9	0	0
Group 2	0	0	2	0
Group 3	1	0	0	0

Table 8: Showing the status of relief in Heart burn before and after treatment

Heartburn	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	6	1	0
Group 2	0	2	4	0
Group 3	0	1	0	0

Table 9: Showing the status of relief in Diarrhoea before and after treatment

Diarrhoea	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	3	1	0	0
Group 2	0	9	2	0
Group 3	3	0	0	0

Table 10: Showing the status of relief in sudden attacks of panic before and after treatment

Sudden attacks of Panic	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	7	0	0
Group 2	0	4	7	0
Group 3	1	2	0	0

Table 11: Showing the status of relief in Frequent urination before and after treatment

Frequent Urination	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	3	1	0	0
Group 2	0	0	2	0
Group 3	0	0	0	0

Table 12: Showing the status of relief in Low Sexual drive before and after treatment

Low Sexual drive	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	0	0	1
Group 2	0	1	0	13
Group 3	2	3	0	0

Table 13: Showing the status of relief in Excess anxiety before and after treatment

Excess anxiety	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	12	6	1
Group 2	0	2	9	9
Group 3	5	5	0	0

Table 14: Showing the status of relief in Increased anger before and after treatment

Increased anger	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	12	7	0
Group 2	0	2	10	7
Group 3	4	6	0	0

Table 15: Showing the status of relief in Depression before and after treatment

Depression	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	2	11	4	1
Group 2	0	1	12	6
Group 3	7	3	0	0

Table 16: Showing the status of relief in Insomnia before and after treatment

Insomnia	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	5	13	0
Group 2	0	0	5	15
Group 3	6	4	0	0

Table 17: Showing the status of relief in Difficulty in concentration before and after treatment

Difficulty in concentration	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	2	14	3	0
Group 2	0	5	10	4
Group 3	2	4	0	0

Table 18: Showing the status of relief in Difficulty in making decisions before and after treatment

Difficulty in making decisions	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	1	11	4	0
Group 2	1	5	5	0
Group 3	2	2	0	0

Table 19: Showing the status of relief in Feeling of loneliness before and after treatment

Feeling of loneliness	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	2	12	2	0
Group 2	0	6	9	0
Group 3	1	6	0	0

Table 20: Showing the status of relief in reduced work productivity before and after treatment

Reduced work productivity	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	11	2	0
Group 2	0	4	14	2
Group 3	2	3	0	0

Table 21: Showing the status of relief in Problems with communication before and after treatment

Problems with communication	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	1	11	1	0
Group 2	0	7	3	0
Group 3	0	1	0	0

Table 22: Showing the status of relief in frequent use of counter drugs, Increased smoking, alcohol before and after treatment

Frequent use of counter drugs, Increased smoking, alcohol	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	0	5	2	0
Group 2	0	0	6	0
Group 3	7	0	0	0

Table 23: Showing the status of relief in Weight gain or weight loss and after treatment

Weight gain or weight loss	No Relief	Mild Relief	Moderate Relief	Complete Relief
Group 1	4	2	1	0
Group 2	0	0	1	0
Group 3	0	0	0	0

Statistical observations of the clinical study

Group 1 (WSN)

Table 24: Showing the statistical observations of Group1 (WSN)

	Mean		SD		p-value
Name of the Symptoms (Variables)	**BT**	**AT**	**BT**	**AT**	
Headache	1.5	0.7	1.43	0.73	<0.001
Trembling of lips	1.1	0.5	1.41	0.69	<0.001
Frequent sweating	1.7	1.05	1.45	0.94	<0.001
Neck & Back pain	1.8	1	1.40	0.86	<0.001
Dry mouth	1.25	0.8	1.45	0.95	<0.001
Heartburn	1	0.6	1.41	0.88	<0.001
Diarrhoea	0.5	0.45	1.05	0.94	>0.05
Sudden attacks of Panic	0.95	0.6	1.36	0.88	<0.001
Frequent Urination	0.45	0.4	1.00	0.88	>0.05
Low Sexual drive	0.15	0	0.67	0.00	>0.05
Excess anxiety	2.8	1.45	0.70	0.69	<0.001
Increased anger	2.7	1.4	0.73	0.60	<0.001
Depression	2.5	1.4	0.95	0.82	<0.001
Insomnia	2.5	0.95	0.95	0.76	<0.001
Difficulty concentration	2.6	1.6	0.75	0.60	<0.001
Difficulty in making decision	2.25	1.3	1.21	0.80	<0.001
Feeling of loneliness	2.15	1.35	1.18	0.81	<0.001
Reduced work productivity	1.55	0.8	1.23	0.70	<0.001
Problems with communication	1.55	0.9	1.23	0.79	<0.001
Frequent use of counter drugs, Increased smoking, alcohol	0.9	0.45	1.29	0.69	<0.001
Weight gain or weight loss	0.9	0.7	1.29	1.03	0.05

(n=20, Paired t-test is used for the comparison of before and after treatment means, p value ≤0.05 is considered as significant; >0.05 is considered as not significant; <0.001 is considered as highly significant)

Results and observations of group I (Cultivated Variety of *Ashwagandha*)

There is significant improvement in the mean value of symptoms of headache, trembling of lips, frequent sweating, neck & back pain, dry mouth, heartburn, sudden attacks of panic excess anxiety, increased anger, depression, insomnia, difficulty concentration, difficulty in making decision, feeling of loneliness, reduced work productivity, problems with communication, frequent use of counter drugs, increased smoking, alcohol, weight gain or weight loss when compared to before treatment values.

No significant improvement is seen in diarrhea, Frequent Urination, Low Sexual drive between before and after treatment.

Group-2 (WSWM)

Table 25: Showing the statistical observations of Group 2 (WSWM)

	Mean		SD		p-value
Name of the Symptoms (Variables)	**BT**	**AT**	**BT**	**AT**	
Headache	1.8	0.8	1.51	0.83	<0.001
Trembling of lips	2.35	0.85	1.23	0.59	<0.001
Frequent sweating	0.75	0.35	1.33	0.67	<0.05
Neck & Back pain	2.3	1	1.22	0.65	<0.001
Dry mouth	0.3	0.1	0.92	0.31	>0.05
Heartburn	0.9	0.4	1.41	0.68	<0.05
Diarrhoea	1.65	1	1.53	0.97	<0.001

Sudden attacks of Panic	1.8	0.85	1.51	0.81	<0.001
Frequent Urination	0.3	0.1	0.92	0.31	>0.05
Low Sexual drive	2.1	0.1	1.41	0.45	<0.001
Excess anxiety	3	0.65	0.00	0.67	<0.001
Increased anger	2.8	0.65	0.70	0.67	<0.001
Depression	2.75	0.6	0.72	0.60	<0.001
Insomnia	3	0.25	0.00	0.44	<0.001
Difficulty concentration	2.85	1	0.67	0.73	<0.001
Difficulty in making decision	1.55	0.8	1.47	0.83	<0.001
Feeling of loneliness	2.15	0.95	1.31	0.69	<0.001
Reduced work productivity	2.95	1.05	0.22	0.51	<0.001
Problems with communication	1.3	0.7	1.49	0.86	<0.001
Frequent use of counter drugs, Increased smoking, alcohol	0.9	0.3	1.41	0.47	<0.05
Weight gain or weight loss	0.15	0.05	0.67	0.22	>0.05

(n=20, Paired t-test is used for the comparison of before and after treatment means, p value <0.05 is considered as significant; >0.05 is considered as not significant; <0.001 is considered as highly significant)

There is significant improvement in the mean value of symptoms of Headache, Trembling of lips, Frequent sweating, Neck & Back pain, Low Sexual drive, Diarrhoea, Heartburn, Sudden attacks of Panic Excess anxiety, Increased anger, Depression, Insomnia, Difficulty concentration, Difficulty in making decision, Feeling of loneliness, Reduced work productivity, Problems with communication, Frequent use of counter drugs, Increased smoking, alcohol, Weight gain or weight loss when compared to before treatment values. No significant improvement is seen in Frequent Urination and Dry mouth between before and after treatment.

Group-3

Table 26: Showing the statistical observations of Group 3 (PG)

	Mean		SD		p-value
Name of the Symptoms (Variables)	**BT**	**AT**	**BT**	**AT**	
Headache	1.8	1.8	1.55	1.55	not define
Trembling of lips	3	2.9	0.00	0.32	>0.05
Frequent sweating	0.5	0.5	1.08	1.08	not define
Neck & Back pain	1.6	1.6	1.43	1.43	not define
Dry mouth	0.3	0.3	0.95	0.95	not define
Heartburn	0.3	0.2	0.95	0.63	>0.05
Diarrhoea	0.9	0.9	1.45	1.45	not define
Sudden attacks of Panic	0.9	0.7	1.45	1.16	<0.05
Frequent Urination	0	0	0.00	0.00	not define
Low Sexual drive	1.5	1.2	1.58	1.32	<0.05
Excess anxiety	3	2.5	0.00	0.53	<0.05
Increased anger	3	2.4	0.00	0.52	<0.001
Depression	2.8	2.7	0.42	0.48	>0.05
Insomnia	3	2.6	0.00	0.52	<0.05
Difficulty concentration	1.8	1.4	1.55	1.26	<0.05
Difficulty in making decision	1.1	0.9	1.45	1.20	>0.05
Feeling of loneliness	2	1.4	1.41	1.07	<0.001
Reduced work productivity	1.5	1.2	1.58	1.32	<0.05
Problems with communication	0.3	0.2	0.95	0.63	>0.05
Frequent use of counter drugs, Increased smoking, alcohol	2.1	2.1	1.45	1.45	not define
Weight gain or weight loss	0	0	0.00	0.00	not define

(n=20, Paired t-test is used for the comparison of before and after treatment means, p value <0.05 is considered as significant; >0.05 is considered as not significant; <0.001 is considered as highly significant)

Significance is seen in heartburn, trembling of lips, insomnia, difficulty concentration, feeling of loneliness, excess anxiety, increased anger, reduced work productivity and in low sexual drive.

No significant improvement seen in the mean value of symptoms of sudden attacks of panic, depression, difficulty in making decisions and problems with communication.

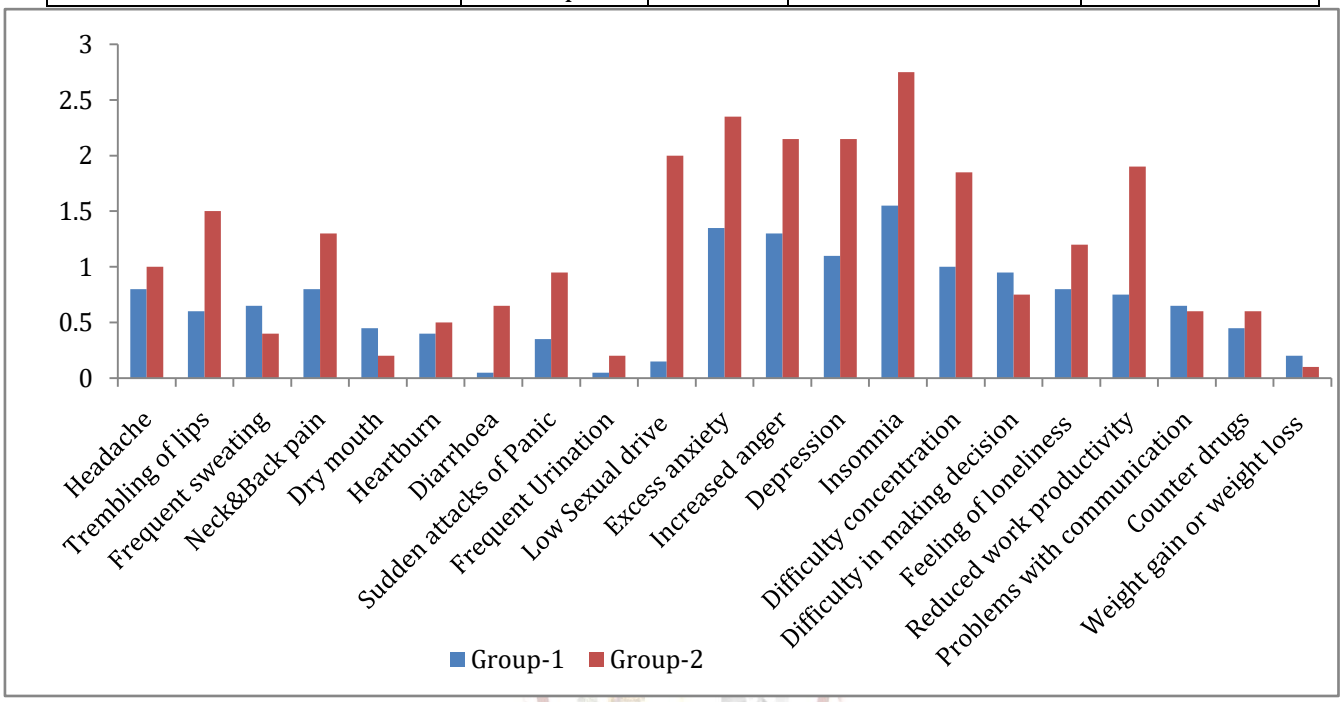
No change is seen i.e., mean values are same before and after treatment in frequent sweating, headache, neck & back pain, dry mouth, diarrhea, frequent urination, frequent use of counter drugs, increased smoking, alcohol, weight gain or weight loss when compared to before treatment values.

Comparison between the groups

Table 27: Showing the Comparison between the Group -1 (WSN) Vs Group-2 (WSWM)

		Mean	Std. Deviation	Std. Error
Headache	Group-1	0.8	0.834	0.186
	Group-2	1	0.973	0.218
Trembling of lips	Group-1	0.6	0.821	0.184
	Group-2	1.5	0.827	0.185
Frequent sweating	Group-1	0.65	0.671	0.15
	Group-2	0.4	0.754	0.169
Neck & Back pain	Group-1	0.8	0.696	0.156
	Group-2	1.3	0.801	0.179
Dry mouth	Group-1	0.45	0.51	0.114
	Group-2	0.2	0.616	0.138
Heartburn	Group-1	0.4	0.598	0.134
	Group-2	0.5	0.827	0.185
Diarrhoea	Group-1	0.05	0.224	0.05
	Group-2	0.65	0.671	0.15
Sudden attacks of Panic	Group-1	0.35	0.489	0.109
	Group-2	0.95	0.887	0.198
Frequent Urination	Group-1	0.05	0.224	0.05
	Group-2	0.2	0.616	0.138
Low Sexual drive	Group-1	0.15	0.671	0.15
	Group-2	2	1.414	0.316
Excess anxiety	Group-1	1.35	0.671	0.15
	Group-2	2.35	0.671	0.15
Increased anger	Group-1	1.3	0.571	0.128
	Group-2	2.15	0.813	0.182
Depression	Group-1	1.1	0.788	0.176
	Group-2	2.15	0.745	0.167
Insomnia	Group-1	1.55	0.686	0.153
	Group-2	2.75	0.444	0.099
Difficulty concentration	Group-1	1	0.562	0.126
	Group-2	1.85	0.813	0.182
Difficulty in making decision	Group-1	0.95	0.686	0.153
	Group-2	0.75	0.851	0.19
Feeling of loneliness	Group-1	0.8	0.616	0.138
	Group-2	1.2	0.834	0.186
Reduced work productivity	Group-1	0.75	0.639	0.143

	Group-2	1.9	0.553	0.124
Problems with communication	Group-1	0.65	0.587	0.131
	Group-2	0.6	0.754	0.169
Frequent use of counter drugs, Increased smoking, alcohol	Group-1	0.45	0.686	0.153
	Group-2	0.6	0.94	0.21
Weight gain or weight loss	Group-1	0.2	0.523	0.117
	Group-2	0.1	0.447	0.1



Graph 1: Showing the mean value of Group1 WSN and Group 2 WSWM

Table 28: Showing the ANOVA result between the Group1 WSN and Group 2 WSWM

ANOVA		Sum of Squares	df	Mean Square	F	P-Value
Headache	Between Groups	.400	1	.400	.487	.489**
	Within Groups	31.200	38	.821		
	Total	31.600	39			
Trembling of lips	Between Groups	8.100	1	8.100	11.930	.001*
	Within Groups	25.800	38	.679		
	Total	33.900	39			
Frequent sweating	Between Groups	.625	1	.625	1.227	.275**
	Within Groups	19.350	38	.509		
	Total	19.975	39			
Neck & Back pain	Between Groups	2.500	1	2.500	4.439	.042*
	Within Groups	21.400	38	.563		
	Total	23.900	39			
Dry mouth	Between Groups	.625	1	.625	1.955	.170**
	Within Groups	12.150	38	.320		
	Total	12.775	39			
Heartburn	Between Groups	.100	1	.100	.192	.664**
	Within Groups	19.800	38	.521		
	Total	19.900	39			
Diarrhoea	Between Groups	3.600	1	3.600	14.400	.001*

	Within Groups	9.500	38	.250		
	Total	13.100	39			
Sudden attacks of Panic	Between Groups	3.600	1	3.600	7.015	.012*
	Within Groups	19.500	38	.513		
	Total	23.100	39			
Frequent Urination	Between Groups	.225	1	.225	1.049	.312**
	Within Groups	8.150	38	.214		
	Total	8.375	39			
Low Sexual drive	Between Groups	34.225	1	34.225	27.939	.000*
	Within Groups	46.550	38	1.225		
	Total	80.775	39			
Excess anxiety	Between Groups	10.000	1	10.000	22.222	.000*
	Within Groups	17.100	38	.450		
	Total	27.100	39			
Increased anger	Between Groups	7.225	1	7.225	14.643	.000*
	Within Groups	18.750	38	.493		
	Total	25.975	39			
Depression	Between Groups	11.025	1	11.025	18.745	.000*
	Within Groups	22.350	38	.588		
	Total	33.375	39			
Insomnia	Between Groups	14.400	1	14.400	43.087	.000*
	Within Groups	12.700	38	.334		
	Total	27.100	39			
Difficulty concentration	Between Groups	7.225	1	7.225	14.801	.000*
	Within Groups	18.550	38	.488		
	Total	25.775	39			
Difficulty in making decision	Between Groups	.400	1	.400	.670	.418**
	Within Groups	22.700	38	.597		
	Total	23.100	39			
Feeling of loneliness	Between Groups	1.600	1	1.600	2.980	.092**
	Within Groups	20.400	38	.537		
	Total	22.000	39			
Reduced work productivity	Between Groups	13.225	1	13.225	37.089	.000*
	Within Groups	13.550	38	.357		
	Total	26.775	39			
Problems with communication	Between Groups	.025	1	.025	.055	.816**
	Within Groups	17.350	38	.457		
	Total	17.375	39			
Frequent use of counter drugs, Increased smoking, alcohol	Between Groups	.225	1	.225	.332	.56**
	Within Groups	25.750	38	.678		
	Total	25.975	39			
Weight gain or weight loss	Between Groups	.100	1	.100	.422	.520**
	Within Groups	9.000	38	.237		
	Total	9.100	39			

**** Not significant at 0.05 level of significance (p>0.05)**

*** Significant at 0.05 level of significance (p<0.05)**

Results and Observations

There is Significant difference is observed in Headache, Trembling of lips, Neck & Back pain, Low Sexual drive, Diarrhea, Feeling of loneliness, Reduced work productivity, Frequent use of counter drugs, Increased smoking and alcohol, Sudden attacks of Panic, frequent urination, Excess anxiety, Increased anger, Depression, Insomnia, Difficulty concentration in Group 2 better than Group 1 is observed.

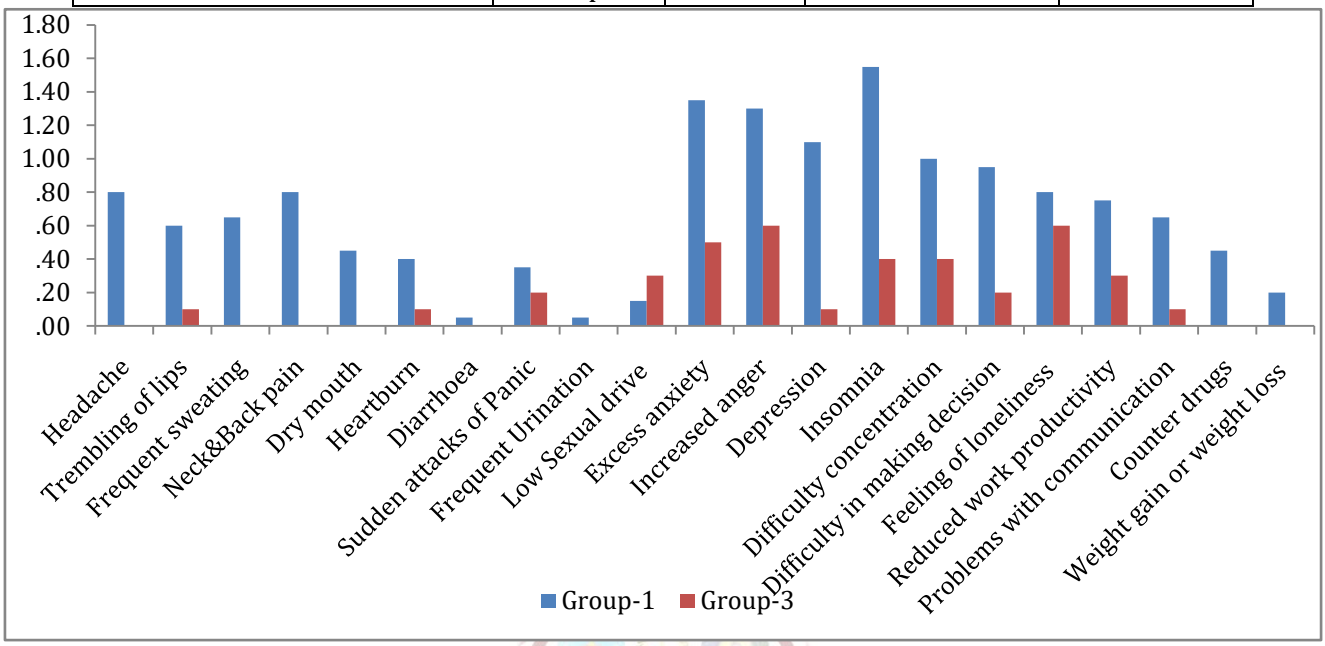
There is Significant difference is observed in Frequent sweating, Dry mouth, Difficulty in making decision and Weight gain or weight loss in Group 1 than Group 2 is observed. There is also no marked significant difference of Heartburn and Problems with communication based on mean values between two groups observed.

Group -1 (WSN) Vs Group-3 (PG)

Table 29: Showing the Comparison between the Group -1 (WSN) Vs Group3 (PG)

		Mean	Std. Deviation	Std. Error
Headache	Group-1	.80	.834	.186
	Group-3	0.00	0.000	0.000
Trembling of lips	Group-1	.60	.821	.184
	Group-3	.10	.316	.100
Frequent sweating	Group-1	.65	.671	.150
	Group-3	0.00	0.000	0.000
Neck & Back pain	Group-1	.80	.696	.156
	Group-3	0.00	0.000	0.000
Dry mouth	Group-1	.45	.510	.114
	Group-3	0.00	0.000	0.000
Heartburn	Group-1	.40	.598	.134
	Group-3	.10	.316	.100
Diarrhoea	Group-1	.05	.224	.050
	Group-3	0.00	0.000	0.000
Sudden attacks of Panic	Group-1	.35	.489	.109
	Group-3	.20	.422	.133
Frequent Urination	Group-1	.05	.224	.050
	Group-3	0.00	0.000	0.000
Low Sexual drive	Group-1	.15	.671	.150
	Group-3	.30	.483	.153
Excess anxiety	Group-1	1.35	.671	.150
	Group-3	.50	.527	.167
Increased anger	Group-1	1.30	.571	.128
	Group-3	.60	.516	.163
Depression	Group-1	1.10	.788	.176
	Group-3	.10	.316	.100
Insomnia	Group-1	1.55	.686	.153
	Group-3	.40	.516	.163
Difficulty concentration	Group-1	1.00	.562	.126
	Group-3	.40	.516	.163
Difficulty in making decision	Group-1	.95	.686	.153
	Group-3	.20	.422	.133
Feeling of loneliness	Group-1	.80	.616	.138
	Group-3	.60	.516	.163
Reduced work productivity	Group-1	.75	.639	.143
	Group-3	.30	.483	.153

Problems with communication	Group-1	.65	.587	.131
	Group-3	.10	.316	.100
Frequent use of counter drugs, Increased smoking, alcohol	Group-1	.45	.686	.153
	Group-3	0.00	0.000	0.000
Weight gain or weight loss	Group-1	.20	.523	.117
	Group-3	0.00	0.000	0.000



Graph 2: Showing the mean values of groups 1 (WSN) and 3 (PG)

Table 30: Showing the ANOVA result between the Group 1 (WSN) and 3 (PG)

		Sum of Squares	df	Mean Square	F	P-Value
Headache	Between Groups	4.267	1	4.267	9.051	.006*
	Within Groups	13.200	28	.471		
	Total	17.467	29			
Trembling of lips	Between Groups	1.667	1	1.667	3.406	.076**
	Within Groups	13.700	28	.489		
	Total	15.367	29			
Frequent sweating	Between Groups	2.817	1	2.817	9.224	.005*
	Within Groups	8.550	28	.305		
	Total	11.367	29			
Neck & Back pain	Between Groups	4.267	1	4.267	12.986	.001*
	Within Groups	9.200	28	.329		
	Total	13.467	29			
Dry mouth	Between Groups	1.350	1	1.350	7.636	.010*
	Within Groups	4.950	28	.177		
	Total	6.300	29			
Heartburn	Between Groups	.600	1	.600	2.182	.151**
	Within Groups	7.700	28	.275		
	Total	8.300	29			
Diarrhoea	Between Groups	.017	1	.017	.491	.489**
	Within Groups	.950	28	.034		
	Total	.967	29			

Sudden attacks of Panic	Between Groups	.150	1	.150	.683	.416**
	Within Groups	6.150	28	.220		
	Total	6.300	29			
Frequent Urination	Between Groups	.017	1	.017	.491	.489**
	Within Groups	.950	28	.034		
	Total	.967	29			
Low Sexual drive	Between Groups	.150	1	.150	.394	.535**
	Within Groups	10.650	28	.380		
	Total	10.800	29			
Excess anxiety	Between Groups	4.817	1	4.817	12.205	.002*
	Within Groups	11.050	28	.395		
	Total	15.867	29			
Increased anger	Between Groups	3.267	1	3.267	10.636	.003*
	Within Groups	8.600	28	.307		
	Total	11.867	29			
Depression	Between Groups	6.667	1	6.667	14.698	.001*
	Within Groups	12.700	28	.454		
	Total	19.367	29			
Insomnia	Between Groups	8.817	1	8.817	21.750	.000*
	Within Groups	11.350	28	.405		
	Total	20.167	29			
Difficulty concentration	Between Groups	2.400	1	2.400	8.000	.009*
	Within Groups	8.400	28	.300		
	Total	10.800	29			
Difficulty in making decision	Between Groups	3.750	1	3.750	9.953	.004*
	Within Groups	10.550	28	.377		
	Total	14.300	29			
Feeling of loneliness	Between Groups	.267	1	.267	.778	.385**
	Within Groups	9.600	28	.343		
	Total	9.867	29			
Reduced work productivity	Between Groups	1.350	1	1.350	3.838	.060**
	Within Groups	9.850	28	.352		
	Total	11.200	29			
Problems with communication	Between Groups	2.017	1	2.017	7.579	.010*
	Within Groups	7.450	28	.266		
	Total	9.467	29			
Frequent use of counter drugs, Increased smoking, alcohol	Between Groups	1.350	1	1.350	4.223	.049*
	Within Groups	8.950	28	.320		
	Total	10.300	29			
Weight gain or weight loss	Between Groups	.267	1	.267	1.436	.241**
	Within Groups	5.200	28	.186		
	Total	5.467	29			

**** Not significant at 0.05 level of significance (p>0.05)**

*** Significant at 0.05 level of significance (p<0.05)**

Results and Observations

There is Significant difference is observed in Low Sexual drive in Group 3 than Group 1 is observed.

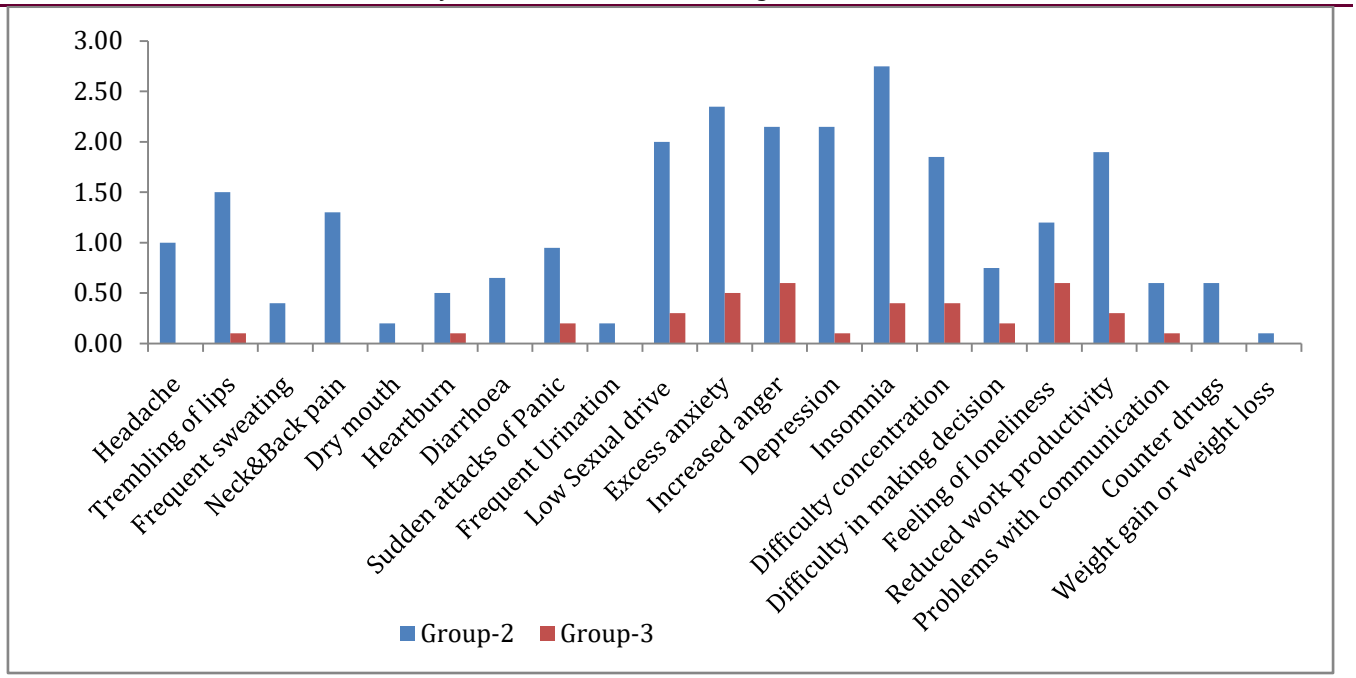
There is more significant difference of Headache, Trembling of lips, Frequent sweating, Neck & Back pain, Diarrhoea, Heartburn, Sudden attacks of Panic, frequent urination, Excess anxiety, Increased anger, Depression, Insomnia, Difficulty concentration, Difficulty in making decision, Dry mouth, Feeling of loneliness, Reduced work productivity, Problems with communication, Frequent use of counter drugs, Increased smoking, alcohol, Weight gain or weight loss in Group 1 than Group 3 is observed.

But from the above graph it is visible that the mean difference of between before and after treatment of group 2 is higher than that of group 1.

Group -2 (WSWM) Vs Group-3 (PG)

Table 31: Showing the comparison between the Groups WSWM and PG

		Mean	Std. Deviation	Std. Error
Headache	Group-2	1.00	.973	.218
	Group-3	0.00	0.000	0.000
Trembling of lips	Group-2	1.50	.827	.185
	Group-3	.10	.316	.100
Frequent sweating	Group-2	.40	.754	.169
	Group-3	0.00	0.000	0.000
Neck & Back pain	Group-2	1.30	.801	.179
	Group-3	0.00	0.000	0.000
Dry mouth	Group-2	.20	.616	.138
	Group-3	0.00	0.000	0.000
Heartburn	Group-2	.50	.827	.185
	Group-3	.10	.316	.100
Diarrhoea	Group-2	.65	.671	.150
	Group-3	0.00	0.000	0.000
Sudden attacks of Panic	Group-2	.95	.887	.198
	Group-3	.20	.422	.133
Frequent Urination	Group-2	.20	.616	.138
	Group-3	0.00	0.000	0.000
Low Sexual drive	Group-2	2.00	1.414	.316
	Group-3	.30	.483	.153
Excess anxiety	Group-2	2.35	.671	.150
	Group-3	.50	.527	.167
Increased anger	Group-2	2.15	.813	.182
	Group-3	.60	.516	.163
Depression	Group-2	2.15	.745	.167
	Group-3	.10	.316	.100
Insomnia	Group-2	2.75	.444	.099
	Group-3	.40	.516	.163
Difficulty concentration	Group-2	1.85	.813	.182
	Group-3	.40	.516	.163
Difficulty in making decision	Group-2	.75	.851	.190
	Group-3	.20	.422	.133
Feeling of loneliness	Group-2	1.20	.834	.186
	Group-3	.60	.516	.163
Reduced work productivity	Group-2	1.90	.553	.124
	Group-3	.30	.483	.153
Problems with communication	Group-2	.60	.754	.169
	Group-3	.10	.316	.100
Frequent use of counter drugs, Increased smoking, alcohol	Group-2	.60	.940	.210
	Group-3	0.00	0.000	0.000
Weight gain or weight loss	Group-2	.10	.447	.100
	Group-3	0.00	0.000	0.000



Graph 3: Showing the mean values of groups 2 (WSWM) and 3 (PG)

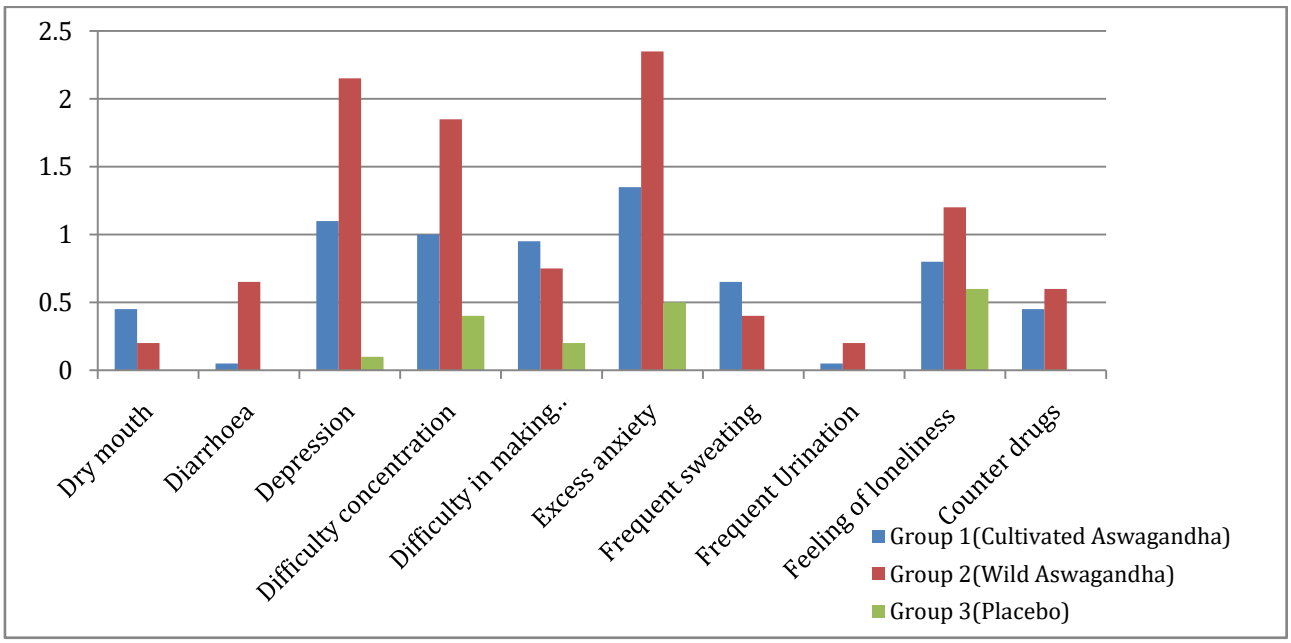
Table 32: Showing the ANOVA result between the Groups (WSWM) and (PG)

		Sum of Squares	df	Mean Square	F	P-Value
Headache	Between Groups	6.667	1	6.667	10.370	.003*
	Within Groups	18.000	28	.643		
	Total	24.667	29			
Trembling of lips	Between Groups	13.067	1	13.067	26.321	.000*
	Within Groups	13.900	28	.496		
	Total	26.967	29			
Frequent sweating	Between Groups	1.067	1	1.067	2.765	.107**
	Within Groups	10.800	28	.386		
	Total	11.867	29			
Neck & Back pain	Between Groups	11.267	1	11.267	25.858	.000*
	Within Groups	12.200	28	.436		
	Total	23.467	29			
Dry mouth	Between Groups	.267	1	.267	1.037	.317**
	Within Groups	7.200	28	.257		
	Total	7.467	29			
Heartburn	Between Groups	1.067	1	1.067	2.149	.154**
	Within Groups	13.900	28	.496		
	Total	14.967	29			
Diarrhoea	Between Groups	2.817	1	2.817	9.224	.005*
	Within Groups	8.550	28	.305		
	Total	11.367	29			
Sudden attacks of Panic	Between Groups	3.750	1	3.750	6.344	.018*
	Within Groups	16.550	28	.591		

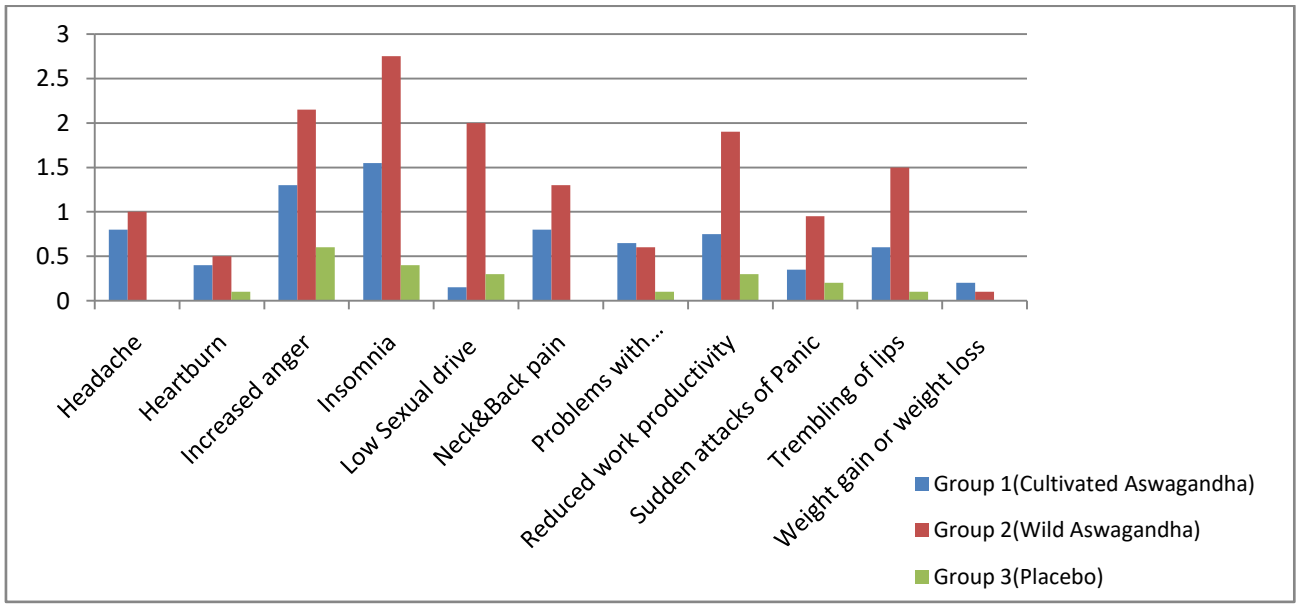
	Total	20.300	29			
Frequent Urination	Between Groups	.267	1	.267	1.037	.317**
	Within Groups	7.200	28	.257		
	Total	7.467	29			
Low Sexual drive	Between Groups	19.267	1	19.267	13.453	.001*
	Within Groups	40.100	28	1.432		
	Total	59.367	29			
Excess anxiety	Between Groups	22.817	1	22.817	57.816	.000*
	Within Groups	11.050	28	.395		
	Total	33.867	29			
Increased anger	Between Groups	16.017	1	16.017	29.998	.000*
	Within Groups	14.950	28	.534		
	Total	30.967	29			
Depression	Between Groups	28.017	1	28.017	68.512	.000*
	Within Groups	11.450	28	.409		
	Total	39.467	29			
Insomnia	Between Groups	36.817	1	36.817	167.621	.000*
	Within Groups	6.150	28	.220		
	Total	42.967	29			
Difficulty concentration	Between Groups	14.017	1	14.017	26.252	.000*
	Within Groups	14.950	28	.534		
	Total	28.967	29			
Difficulty in making decision	Between Groups	2.017	1	2.017	3.679	.065**
	Within Groups	15.350	28	.548		
	Total	17.367	29			
Feeling of loneliness	Between Groups	2.400	1	2.400	4.308	.047*
	Within Groups	15.600	28	.557		
	Total	18.000	29			
Reduced work productivity	Between Groups	17.067	1	17.067	60.489	.000*
	Within Groups	7.900	28	.282		
	Total	24.967	29			
Problems with communication	Between Groups	1.667	1	1.667	3.989	.056**
	Within Groups	11.700	28	.418		
	Total	13.367	29			
Frequent use of counter drugs, Increased smoking, alcohol	Between Groups	2.400	1	2.400	4.000	.055**
	Within Groups	16.800	28	.600		
	Total	19.200	29			
Weight gain or weight loss	Between Groups	.067	1	.067	.491	.489**
	Within Groups	3.800	28	.136		
	Total	3.867	29			

**** Not significant at 0.05 level of significance (p>0.05)**

*** Significant at 0.05 level of significance (p<0.05)**



Graph 4: Showing mean difference of BT & AT of 3 groups (WSN, WSWM, PG)



Graph 5: Showing mean difference of BT & AT of 3 groups (WSN, WSWM, PG)

Results and Observations

There is highly Significant difference is observed in Headache, Trembling of lips, Frequent sweating, Neck & Back pain, Low Sexual drive, Diarrhoea, Heartburn, Sudden attacks of Panic, frequent urination, Excess anxiety, Increased anger, Depression, Insomnia, Difficulty concentration, Difficulty in making decision, Dry mouth, Feeling of loneliness, Reduced work productivity, Problems with communication, Frequent use of counter drugs, Increased smoking, alcohol, Weight gain or weight loss in Group 2 better than Group 3 is observed. There is no significant difference is observed in all symptoms in Group 3, But it is visible that the mean difference between before and after treatment of group 2 is higher than that of group 1. Mean values and over all data it can be concluded that Group 2 (WSWM) showed better relief between the three groups.

DISCUSSION

Stress affects the whole body and mind. Due to the effect of stress all the bodily and psychological functions are deranged. There are many factors responsible for the stress. Out of which happy sexual life or reproductive life is one of the primary factors in adults. Sex and stress are inter-related and affect the other. They are inversely proportional, i.e. if stress increases sex decreases and vice-versa. Hence the same can be

applied in the treatment. So *Ashwagandha* which is having *Vajikarana* effect increases sexual desire and increases sexual pleasure leading to reduced stress. From the Ayurvedic Pharmacology it can also be understood that *Vajikarana dravya* helps for the formation of not only *Sukra dhatu*, but also other *dhatus* in a proper form, as *Shukra* is considered as the *Sara* of all *Dhatus*. This explains the use of *Ashwagandha* in children also. Thus *Vajikarana dravya* is considered to relieve stress. Thus the same is studied in the present thesis.

The pharmacological actions of crude drugs are determined by the nature of their constituents. The phytoconstituents are responsible for the desired therapeutic properties. Test for alkaloids, carbohydrates, aminoacids. Glycosides, saponins, flavonides, tannins and phenolic compounds are included in this study. The phytochemical results showed that alkaloids, carbohydrates and glycoside, Phenolic compounds and tannins, Protein and Amino Acid, are present in *Withania somnifera* wild (WSW). *Withania somnifera Nagori* (WSN) showed the presence of alkaloids, carbohydrates, glycosides, phytosterols, saponins, proteins and amino acids. *Withania somnifera* wild purified with milk steam (WSWM) showed the presence of alkaloids, carbohydrates, glycosides, proteins and amino acids. Wheat powder placebo (PG) showed the presence of alkaloids, carbohydrates, glycosides, saponins, phenolic compounds, tannins, proteins amino acids and flavonoids.

1. There is no significant change of mean difference values observed in all symptoms in Group 3 (PG).
2. There is more significant improvement in the mean difference values of before treatment and after treatment values of subjective parameters of Group 1 (WSN) than Group 3 (PG).
3. There is significant difference observed in the mean difference values of before treatment and after treatment values of subjective parameters, in which Group 2 (WSWM) has shown better result than that of Group 1 (WSN) and Group 3 (PG).
4. Statistical data also revealed that Group 2 (WSWM) showed high significance in all the mean difference values of all the symptoms than that of group 1(WSN) and group 3 (PG).
5. Thus from the result it can be understood that Group 2 (WSWM) showed better result overall.

CONCLUSIONS

This study discusses about stress in work related professionals. A test drug *Aswagandha*, *Vajikarana dravya* is selected to study the Anti-stress activity in work related professionals. *Aswagandha* as a *Vajikarana dravya* goes to the ultimate *Dhatu* of the body *Shukra*. It is stress relieving and is also having *Vajikarana* and *Vrishya* properties and also repairs wear and tear of the body. Wild variety of *Aswagandha* purified with milk steam (*Swedana* in milk) and cultivated variety of *Aswagandha* were used for study, and given to patients suffering from stress. Group 2 (WSWM) Wild variety of *Aswagandha* purified with milk steam is better than Group 1 (WSN). Wild variety of *Aswagandha* has shown very promising results in 20 patients. Therefore it is here by concluded that Wild variety of *Aswagandha* purified with milk steam is effective Ayurvedic substitute for conventional and chemical stress relieving drugs.

REFERENCES

1. Stress and stress management produced by Clinic community health centre January 2010.
2. Stress and stress management produced by Clinic community health centre January 2010.
3. Kashinath Shastri, Dr, Gorakhnath chaturvedi, Charaka samhita of Agnnivesa, revised by Charaka and Drdhabala, Chowkhamba Bharti Academy, Varanasi 2001.Ca. Sa.1/21, 22.
4. Minn Med. Author manuscript; available in PMC 2009 August 11. Published in final edited form as: Minn Med. 2009 May; 92 (5): 47–50.
5. A Model of the Comparative Clinical Impact of the Acute Stress and Relaxation Responses Jeffery A. Dusek, Ph.D. and Herbert Benson, M.D
6. Stress and stress management produced by Clinic community health centre January2010.
7. Chunekar K.C, Commentary on Bhava Prakash Nighantu, Choukhmaba Bharathi Academy, Varanasi, 2004 (Hindi).

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Study related Photographs


Figure 1: *Ashwagandha* wet roots and Dry root


Figure 2: Pieces of wild variety of *Ashwagandha*

Figure 3: *Gokshira*

Figure 4: *Swedana* of *Ashwagandha*

Figure 4: *Swedana* of *Ashwagandha* root

Figure 5: Colour change of *Ashwagandha* root


Figure 6: *Swedana* of *Ashwagandha* by using a clean cloth


Figure 7: Process of doing *Swedana* of *Ashwagandha* **Figure 8: Purified wild variety of *Ashwagandha***


Figure 9: Fine powder of Ashwagandha root **Figure 10: Packets of Ashwagandha root powder**