IMPACT OF YOGA ON PSYCHOPATHOLOGIES AMONG YOUNG WOMEN WITH PHYSICAL DISABILITIES

A Dissertation submitted by

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CERTIFICATE

This is to certify that Mrs. Chitra Srinivass is submitting this review on **"CONCEPT OF VISHADA IN ANCIENT TEXTS"** and Experimental Research on **'THE IMPACT OF YOGA ON PSYCHOPATHOLOGIES AMONG YOUNG WOMEN WITH PHYSICAL DISABILITIES'** in partial fulfillment of the requirement for the master of science (yoga) registered in **SWÄMI VIVEKÄNNDA YOGA ANUSANDHÄNA SAMSTHÄNA (S-VYASA)** and this is record of the work carried out by her in this institution.

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DECLARATION

I, hereby declare that this study was conducted by me, under the guidance of Dr Kashinath Metri MD, Ph.D Scholar, S-VYASA University Bengaluru and co-Guidance of Ms.Saumya Bitla, S-VYASA University Bengaluru. I also declare that the subject matter of my dissertation entitled **'THE IMPACT OF YOGA ON PSYCHOPATHOLOGIES AMONG YOUNG WOMEN WITH PHYSICAL DISABILITIES'** has not previously formed the basis of the award of any degree, diploma, associate-ship, fellowship or similar titles.

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Place: Bengaluru **(Candidate)**

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Finally, I thank that unseen Divine without whose wish, this work wouldn't have been possible.

STANDARD INTERNATIONAL TRANSLITERATION CODE USED TO TRANSLITERATE SANSKRIT WORDS

a	=	अ	ṅa	=	ङ	pa	=	प
ā	=	आ	ca	=	च	pha	=	फ
i	=	इ	cha	=	छ	ba	=	ब
ī	=	ई	ja	=	ज	bha	=	भ
u	=	उ	jha	=	झ	ma	=	म
ū	=	ऊ	ñ	=	ञ	ya	=	य
e	=	ए	ṭa	=	ट	ra	=	र
ai	=	ऐ	ṭha	=	ठ	la	=	ल
o	=	ओ	ḍa	=	ड	va	=	व
au	=	औ	ḍha	=	ढ	sa	=	स
ṁ	=	अं	ṇa	=	ण	śa	=	श
ḥ	=	अः	ta	=	त	ṣa	=	ष
ka	=	क	tha	=	थ	ha	=	ह
kha	=	ख	da	=	द्	kṣa	=	क्ष
ga	=	ग	dha	=	ध	tra	=	त्र
gha	=	घ	na	=	न	jña	=	ज्ञ

ABSTRACT

OBJECTIVE: The purpose of this study is to find out the efficacy of Yoga Therapy in alleviating the psychopathological symptoms in young women with physical disabilities.

METHOD: An experimental study was conducted on a sample of Women with physical disabilities. The standard tool, measuring the level of Depression, anxiety and stress DASS 21 was used. The subjects were from the Association of People with Disability (APD), Bangalore. This was a two group Pre-Post experimental design, with an experimental group and a control group. Both groups were assessed for depression, anxiety and stress at baseline and after 4 weeks.
The sample size was110 and Duration of the intervention was 4 weeks.

RESULT: In the yoga intervention group, There was a significant decrease in depression (%change-29.4, p*Value* is .000) anxiety (%change-33.3, pValue .000), stress (%change-37.1, pValue is.000).In the control group there was a significant decrease in anxiety (% change-7.84, pValue is 0.000) And stress (% change-11.53, pValue is 0.000) after 1 month compared to baseline in the Control Group. But, Depression showed no significant difference (% change -0.83, pValue is 0.102)

CONCLUSION: It was an Encouraging result, showed that yoga can reduce depression, anxiety and stress. Yoga intervention proved beneficial for Women with physical disability, to tackle their psychological problem. And also works as a therapeutic support.

KEY WORDS: Yoga, physical disabilities, depression.

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CHAPTER 1

INTRODUCTION

1.1 Psychological disorder:

It is defined as Disturbances of an individual's behavior or psychological functioning that are not culturally expected and lead to psychological distress, behavior disability, and/or impaired overall functioning. It is a disorder of the mind involving thoughts, behaviors, and emotions that cause either self or others, significant distress[1].

In the latest edition of the American psychiatric Association diagnostic manual, the DSM-5, it defines a mental disorder as a syndrome characterized by clinically significant disturbance in an individual's cognitive, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental process underlying mental functioning. Mental disorders are usually associated with significant distress in social, occupational, or other important activities.[2]

Overexcitement, anxiety, irritability, alertness, nervousness, attentiveness, activeness, guilt, worry are few examples of variables which can be measured to know whether a person is psychologically disturbed.

1.2 Types of psychological disorders [3]

- Attention Deficit Hyperactivity Disorder (Adults)
- Bipolar Disorder
- Borderline Personality Disorder
- Child and Adolescent Disorders
- Chronic or Persistent Pain
- Depression
- Eating Disorders and Obesity
- Generalized Anxiety Disorder
- Insomnia
- Mixed Anxiety
- Obsessive-Compulsive Disorder
- Panic Disorder
- Posttraumatic Stress Disorder
- Schizophrenia and Other Severe Mental Illnesses

- Social Phobia and Public Speaking Anxiety
- Specific Phobias (e.g., animals, heights, blood, needles, dental)
- Substance and Alcohol Use Disorders

1.3 Depression:

Depression **is** a mental disorder, characterized by the following[4].

- Depressed mood most of the day, nearly every day.
- Markedly diminished interest or pleasure in all or almost all activities most of the day, nearly every day.
- Significant weight loss when not dieting or a decrease or increase in appetite nearly every day.
- Difficulty sleeping, or sleeping too much nearly every day.
- Noticeably physically agitated or slowed down, as observed by others nearly every day.
- Fatigue or loss of energy nearly every day.
- Feelings of worthlessness or excessive guilt nearly every day.
- Diminished ability to concentrate or make decisions nearly every day.
- Recurrent thoughts of death or suicide.

These features lead to serious psychiatric problems.

Coleman has defined depression as “an emotional state characterized by extreme dejection, gloomy ruminations, feeling of worthlessness, loss of hope and often of apprehension [5].

A knowledge of the major approaches to conceptualizing, diagnosing, and treating depression can assist health practitioners in treatment[6].

1.4 Types of depression:

Dysthymia: Dysthymia is more than just feeling sad or “blue” for a while. It is diagnosed if a person has a depressed mood most of the time for at least two years. The symptoms usually include Lack of appetite, overeating, sleeping too little or too much, fatigue, Low self-esteem and Lack of concentration. It is also known as Persistent Depressive Disorder[7].

Major Depression: A major depressive episode that persists for at least two weeks. There

might be a single episode or recurrent. On the basis of intensity, major depression is classified into mild, moderate and severe. An episode with psychotic features of depression is rated as severe. Another classification provides five categories, namely, melancholic, atypical, catatonic, post-partum and seasonal[8].

Bipolar Disorders: It is also known as manic depressive illness. A person suffering from bipolar disorders have drastic shifts in moods and behaviors which are not normal. The classic symptoms include unusually joyous and overexcited state during the maniac episode and unusually sad and hopeless state during the depressive episode. Major depressive disorder causes significant morbidity, affecting people's ability to work, function in relationships, and engage in social activities. Moreover, major depressive disorder increases the risk of suicidal ideation, attempted suicide and death by completed suicide[9].

1.5 Prevalence of depression:

WHO reports that Depression is the leading cause of ill health and disability world-wide. According to the latest estimates from WHO, more than 300 million people are now living with depression, an increase of more than 18% between 2005 and 2015. Lack of support for people with mental disorders, coupled with a fear of stigma, prevent many from accessing the treatment they need to live healthy, productive lives. WHO' had organized a year-long campaign "Depression: let's talk". The overall goal of the campaign is that more people with depression, everywhere in the world, both seek and get help.[10]

1.6 Anxiety:

Anxiety is commonly experienced by every individual at some point or the other in life. It is one of the most prevalent mental health problems faced by young adults due to interpersonal or intrapersonal relationship and social challenges. Anxiety disorders are among the most common psychiatric disorders and meditative therapies are frequently sought by patients with anxiety as a complementary therapy[11].

Anxiety is a feeling that can be normal reaction to stress. It can help you cope with difficult situations. It can make you feel nervous or worried. Anxiety becomes a problem when it happens a lot, feels out of control, or causes you to avoid everyday situations. This arises due to faulty adaptation to the stress and strain of life.

Coleman has defined as “Anxiety is an internalized fear aroused by an impulse to commit mistakes”[12].

David Barlow defines anxiety as “a future-oriented mood state in which one is not ready or prepared to attempt to cope with upcoming negative events [13].

Anxiety disorders are subdivided into panic disorders, obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD), social anxiety disorder (SAD), phobias, and generalized anxiety disorder (GAD) make up over 86% of neurotic disorders.[14]

Anxiety originates in the fear response, the fight or flight reaction that evolved in the human species as a reaction to clear threats to well being[15].

Our body is systematized in such a way that it helps us to deal with real danger by using fight or flight responses. This response prepares our self to react against adverse condition, whether we have to fight with the situation or run away from the situation.

1.7 Symptoms of anxiety

- Stomach aches,
- increased heart rate,
- shortness of breath,
- sweating from palms and feet,
- trembling etc [16]

1.8 Stress:

Stress has a different meaning for different people under different conditions. The first and most generic definition of stress which was proposed by Hans Selye (1936): “Stress is the nonspecific response of the body to any demand”. It is a general adaptation symndrome[17].

Stress is the body's reaction to a change that requires a physical, mental or emotional adjustment or response. Stress can come from any situation or thought that makes you feel frustrated, angry, nervous, or anxious. Stress is caused by an existing stress-causing factor or "stressor." Dealing with a serious illness or caring for someone who is a cause for great deal of stress[18].

Different kinds of stress produce different kinds of response. This is confirmed by other investigators,

Different emotions-fear, anger, disgust, sadness, happiness, have shown different effects not only on the gastric activity but also on the heart rate, blood pressure, muscle tension, respiration rate and other physiological function[19].

1.9 Symptoms of stress:

- increased worrying,
- frustration,
- impatience,
- mood swing,
- negative thinking,
- hoplessness and
- indecisiveness.[20]

1. 10 Yoga as a solution

Yoga comes from the word 'yuj' meaning union. The union of human consciousness to supreme consciousness. It encompass posture (asana), breathing techniques (pranayama), strengthening exercises, and meditation. Currently, there are many types of yoga exist in the globe for clinical and non-clinical population. These various types of yoga help people to improve physical, mental, social and spiritual well-being. These different categorization are Bikram, Ananda Vinoyoga, Kudalini, Iyenger, Anusara, Sivananda yoga etc styles. All these practices and more than these are popular in different parts of world and emphasis on a spiritual connection between mind and body. Yoga is considered to be one of the most effective tools useful for overcoming physical and psychological distress. Yoga aims at cultivation of correct attitudes and reconditioning of the neuromuscular systems (Kuvalyananda S, 1968). Yoga is a practical discipline, believed to have originated in the early civilization on the Indian subcontinent, incorporating a wide variety of practices whose goal is the development of a state of mental and physical health, well-being, inner harmony and ultimately (Aurobindo, 1999). Yoga techniques include the practice of meditation, regulation of respiration with a variety of breathing exercises, and the practice of a number of physical exercises and postures, in which the focus is more on isometric exercise and stretching than on aerobic fitness. Yoga is considered to be one of the most effective tools useful for overcoming physical and psychological distress. Yoga aims at cultivation of correct attitudes and reconditioning of the neuromuscular systems says Kuvalyananda S, 1968.[21] (Therapists Yoga 2006)

According to yoga, depression is a disorder with locked up speed or non-manifestation of thought. Poor mastery over emotion like fear, anger, and frustration leads to uncontrolled speed of mind and this goes on to disturb of energy (Prana) balance resulting in physiological response of depression such as inertia, lack of interest, lack of appetite, constipation, insomnia, suicidal thoughts etc. It is understood that depression is a psychosomatic ailment *(Adhija-Vyadhi*). The imbalance caused by stress in the form of excessive speed of mind in *Manomaya kosha* over a period of time disturbs the prana[22].

Yoga has been effective in treating depression, even in taking antidepressant medications or participating in conventional psychotherapy. Lower GABA levels have been found in people with depression and anxiety. It is speculated that the physical postures of yoga would increase GABA activity levels in the brain, thus decreasing anxious and depressive symptoms. Even one hour of yoga session is effective in increasing GABA levels by approximately one-quarter from baseline[23].

In previous study it has been shown that there is a significant improvement after the practice of different postures of yoga on depressive disorder, and yoga may be a novel clinical intervention for the mental health disorder like depression[24].

Many young adults with clinical anxiety and depression turn to non pharmacologic and nonconventional interventions, including exercise, meditation, tai-chi, qigong, and yoga. The application of yoga based lifestyle intervention as a therapeutic intervention, which began early in the twentieth century, takes advantage of the various psycho physiological benefits of the component practices[25].

1.11 Disability:

World Health Organization, describes as: ‘Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. ‘‘Disability is thus not just a health problem. It is a complex phenomenon, reflecting the interaction between features of a person’s body and features of the society in which he or she

lives. Overcoming the difficulties faced by people with disabilities requires interventions to remove environmental and social barriers'

A disability is a result of the interaction between a person with a health condition and a particular environmental context. Individuals with similar health conditions may not be similarly disabled or share the same perception of their disability, depending on their environmental adaptations. For example, having access to technical aids, services or medication, or physical adaptation to the environment may allow individuals to overcome their disabling conditions.

Disability is not an all-or nothing phenomenon but involves degrees of difficulty, limitation or dependence, ranging from slight to severe. Questions should be designed to capture those with severe as well as those with less severe forms of disabling conditions and should take into account any assistive devices or accommodations that the person may have. Coverage: Different purposes require different disability data. Eliciting information: In places where disability is a stigma, people may be reluctant to report it.

Also, this being a very sensitive question, the investigators need to be adequately trained to collect data on disabilities. The design of questions to identify persons in the population with disabilities presents complex problems. But efforts are to be made to design the questionnaire in such a manner that, all the target population could be correctly identified.

People with disabilities are vulnerable because of the many barriers they face: attitudinal, physical, and financial. Addressing these barriers is within our reach and we have a moral duty to do so. But most important, addressing these barriers will unlock the potential of so many people with so much to contribute to the world.

Medical Certification of disability Section 2(i) of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 defines disability as:- (i) Blindness; (ii) Low vision; (iii) Leprosy-cured; (iv) Hearing impairment; (v) Loco motor disability; (vi) Mental retardation; (vii) Mental illness

In Movement

1. Do not have both arms or both legs; or
2. Are paralyzed and are unable to move but crawl; or
3. Are able to move only with the help of walking aids; or
4. Have acute and permanent problems of joints/muscles that have resulted in limited movement; or
5. Have lost all the fingers or toes or a thumb; or

6. Are not able to move or pick up any small thing placed nearby; or

7. Have stiffness or tightness in movement; or

8. Have difficulty in balancing and coordinating body movements; or

9. Have loss of sensation in the body due to paralysis or leprosy or any other reason; or

10. Have any deformity of the body part/s like having a hunch back; or

11. Very short statured (dwarf)

All the subjects in the study had Locomotor Disability and most of them suffered diplegia, where legs are affected more severely than the arms. For most, the disability was due to cerebral palsy.[26]

1.12 Locomotor Disability

It is the disability of the bones, joint or muscles leading to substantial restriction of the movement of the limbs or a usual form of cerebral palsy. Some common conditions giving raise to locomotor disability could be poliomyelitis, cerebral palsy, amputation, injuries of spine, head, soft tissues, fractures, muscular dystrophies etc Cerebral Palsy – A group of non-progressive conditions characterized by abnormal motor control posture resulting from brain insult or injuries occurring in the peri- natal, neo-natal or infant period of development.[27]

1.13 Global prevalence of women with disabilities:

Fact Sheet

There are more than 1 billion people with some form of disability, accounting for 15 per cent of the world population. In spite of remarkable advances towards accessible and disability-inclusive societies, an enormous gap remains between commitments made and the daily experiences of persons with disabilities[28].

Girls and women with disabilities:

Girls and women of all ages with any form of disability are generally among the more vulnerable and marginalized of society[29].

Education:

Less than 5 per cent of children and young persons with disabilities have access to education and training; And girls and young women face significant barriers to participating in social life and

development[30]. The global literacy rate for adults with disabilities is as low as 3 percent, and 1 per cent for women with disabilities[31].

Employment and paid work:

People with disabilities in general face difficulties in entering the open labour market, but, seen from a gender perspective, men with disabilities are almost twice as likely to have jobs as women with disabilities. When women with disabilities work, they often experience unequal hiring and promotion standards, unequal access to training and retraining, unequal access to credit and other productive resources, unequal pay for equal work and occupational segregation, and they rarely participate in economic decision making[32].

Health:

Every minute, more than 30 women are seriously injured or disabled during labor. However, those 15 – 50 million women generally go unnoticed[33].

Women with disabilities, of all ages, often have difficulty with physical access to health services. Women with mental disabilities are particularly vulnerable, while there is limited understanding, in general, of the broad range of risks to mental health to which women are disproportionately susceptible as a result of gender discrimination, violence, poverty, armed conflict, dislocation and other forms of social deprivation[34].

Depressive disorders account for close to 41.9 per cent of the disability from neuropsychiatric disorders among women compared to 29.3 per cent among men[35]

Housing:

Women with disabilities face significant barriers in accessing adequate housing and services[36].

1.14 National relevance of women with disabilities:

Disability statistics:

It includes Disability in seeing, in hearing, in speech, in movement, mental retardation, mental illness, any other disability. Their count is given below.

In India the disabled population is a significant section as they constitute 2.21% of the total population according to the census 2011.

The Count:

As per the Census 2011,

• In India out of the 121 Cr population, 2.68 Cr persons are 'disabled' which is 2.21% of the total population.

• Among the disabled population 56% (1.5 Cr) are males and 44% (1.18 Cr) are females. In the total population, the male and female population is 51% and 49% respectively.

• Majority (69%) of the disabled population resided in rural areas (1.86 Cr disabled persons in rural areas and 0.81 Cr in urban areas).

• In the case of total population also, 69% are from rural areas while the remaining 31% resided in urban areas.

• The percentage of disabled population among males and females are 2.41% and 2.01% respectively. At all India level as well as disaggregated by various social groups, the proportion of disabled in the corresponding population is higher for males than females.

Types of disability:

The Census 2011 revealed that:

• In India, 20% of the disabled persons are having disability in movement, 19% are with disability in seeing, and another 19 % are with disability in hearing. 8% has multiple disabilities.

• 17% of the disabled population is in the age group 10-19 years and

16% of them are in the age group 20-29 years

Among the disabled in the age group 20-39 years, 22% are having disability in movement and 18% has disability in hearing. 6% has multiple disabilities.

• The highest number of disabled persons is from the State of Uttar Pradesh. Nearly 50% of the disabled persons belonged to one of the five States namely Uttar Pradesh (15.5%), Maharashtra (11.05%), Bihar (8.69%), Andhra Pradesh (8.45%), and West Bengal (7.52%).

According to the census, 2011:

In India, with the total population of 1210854977, number of disabled people are 26814994,which is about 2.21%. in Karnataka, with the total population of 61095297, 1324205 are disabled, which is 2.17%

Table:1

State ,	Number of Disabled,	Total Population	% disabled to total population
INDIA	2,68,14,994	121,08,54,977	2.21
KARNATAKA	13,24,205	610,95,297	2.17

Table 2: Gender wise statistics (India)

In India : Disability In Movement		
Persons	Male	Female
54,36,826	33,70,501	20,66,325

Table 3:

In Karnataka: Disability in Movement		
Persons	Male	Female
2,71,982	1,71,139	1,00,843

Table:4 Disability in movement: between 10 to 30 years

INDIA BETWEEN AGE:	TOTAL	MALE	FEMALE
10-19	46,16,050	26,10,174	20,05,876
20-29	41,89,839	24,18,974	17,70,865.

Women with disabilities: According to Census-2011, there are 11,824,355 women with disabilities as compared to 14,986,202 men with disabilities and the disabled women constitute 44.09 percent of total disabled population.

Women with disabilities require protection against exploitation and abuse. Special programmes has been developed for education, employment and providing of other rehabilitation services to women with disabilities keeping in view their special needs**.**

Table :5

Population, India 2011			**Disabled persons ,India 2011**		
Persons	Male	Female	persons	Male	Female
121.08cr	62.32cr	58.76cr	2.68cr	1.5cr	1.18cr

Table 6: Distribution by sex (%)

Female	**Male**
38%	62%

Table 7: Percentage of persons with disability in urban and in rural areas

DISABILITY IN URBAN AREA	**DISABILITY IN RURAL AREA**
31	69

Provisions for Persons with Disabilities*:*

The Government has established the National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities to meet the following objective:

(i) To enable and empower persons with disability to live as independently and as fully as possible within and as close to the community to which they belong.

(ii) To strengthen facilities to provide support to persons with disability to live within their own families.

(iii) To extend support to registered organizations to provide need based services during period of crisis in the family of persons with disability.

(iv) To deal with problems of persons with disability who do not have family support.

(v) To promote measures for the care and protection of persons with disability in the event of death of their parent or guardian.

(vi) To evolve procedures for the appointment of guardians and trustees for persons with disability requiring such protection.

(vii) To facilitate the realization of equal opportunities, protection of rights and full participation of persons with disability and

(viii) To do any other act which is incidental to the aforesaid objects.

CHAPTER 2

ANCIENT LITERATURE

Vishada (Depression):

2.1 Vishada according to Ancient Scriptures:

According to Bhagavad Gita

Arjun was under severe depression. He did not want to fight against his near and dear ones. He told Krishna his bow and arrows are falling, he dropped them, his mouth has dried, he is feeling uneasy. These are some signs of depression where we have no strength to fight against our close relatives. But his cousins had no such feelings; they were restless to fight against them. They were making all preparations to punish *Pandavaas* for no fault of theirs. Krishna tried his best to bring some kind of peace but the enemies did not agree. They were bent on fighting against *Pandavaas*. (Gita 1.28-30)

तान्समीक्ष्य स कौन्तेयः सर्वान् बन्धूनवस्थितान् ॥

कृपया परयाविष्टो विषीदन्निदमब्रवीत् । च१ ॥२७फ

tānsamīkṣya sa kaunteyaḥ sarvān bandhūnavasthitān ||
kṛpayā parayāviṣṭo viṣīdatridamabravīt |

अर्जुन उवाच

दृष्टेवमं स्वजनं कृष्ण युयुत्सुं समुपस्थितम् ॥

सीदन्ति मम गात्राणि मुखं च परिशुष्यति ।

वेपथुश्च शरीरे में रोमहर्षश्च जायते ॥च१ ॥२९ ॥

arjuna uvāca
dṛṣṭevamaṁ svajanaṁ kṛṣṇa yuyutsuṁ samupasthitam ||
sīdanti mama gātrāṇi mukhaṁ ca pariśuṣyati |
vepathuśca śarīre meṁ romaharṣaśca jāyate ||

गाण्डीवं स्रंसते हस्तात्वक्चैव परिदह्यते ।

न च शक्नोम्यवस्थातुं भ्रमतीव च मे मनः ॥च१ ॥३० ॥

gāṇḍīvaṁ sraṁsate hastātvakcaiva paridahyate |
na ca śaknomyavasthātuṁ bhramatīva ca me manaḥ ||

Meaning: O Krishna! Seeing my relatives willing to fight, my limbs are weakening, my mouth is drying up, my body shakes and my hairs stand on end. My *gandeev* (bow) is slipping from my hands and my fingers burn. I can no longer stand; it is as if I am dizzy' (Gita 1.28-30).

This was the reaction to the infatuation by which he was overwhelmed. The force of his emotions took root. His thoughts became disturbed. As a result, he was also physically affected by this disturbance. His powerful limbs lost their vitality. His shining, courageous face, became lackluster. His imposing, rock-like body trembled. The mighty archer did not have the energy to even lift his bow. The fire of anguish permeated his every pore and his steadfast mind lost its balance.

According to Yoga Vasishtha

In the following *shlokas*, Valmiki explained despair of Rama.

निरस्त स्थो निरसो सौ निरिहो सौ निर स्पदह्

न मुधो न च मुक्त्तो सौ तेन तप्यमहे भ्र्सम् ॥ ४५ ॥

nirasta stho niraso sau niriho sau nira spadah
na mudho na ca muktto sau tena tapyamahe bhrsam (45)

Meaning: In obedience to the wishes of the preceptor Vasistha, the king Dasaratha ordered an attendant to fetch Rama. This attendant returned and announced that Rama would follow in a minute, and added, "The prince seems to be dejected and he shuns company."

Bewildered by this statement, Dasaratha turned to Rama's chamberlain and wished to know the facts concerning Rama's state of mind and health. The chamberlain was visibly distressed and he said: "Lord, since his return from the pilgrimage, a great change has come over the prince. He does not seem to be interested even in bathing and in the worship of the deity. He does not enjoy the company of the people in the inner apartments. He is not interested in jewels and precious stones.

Even when offered charming and pleasing objects, he looks at them with sad eyes, uninterested. He spurns the palace dancers, regarding them as tormentors!

He goes through the motions of eating, walking, resting, bathing and sitting like an automaton, like one who is deaf and dumb.

According to Patanjali Yoga Sutra

दुःखदौर्मनस्याङ्गमेजयत्वश्वासप्रश्वासाः विक्षेप सहभुवः ॥३१॥

duḥkha-daurmanasya-aṅgamejayatva-śvāsapraśvāsāḥ vikṣepa sahabhuvaḥ

Meaning: Suffering, depression, nervousness, and agitated breathing are signs of this lack of clarity. Mental distractions are those movements, which causes us to forget, or lose inner awareness. When we become very absorbed with our thoughts, and lose our equilibrium, there even may side effects in our emotions, like depression (*daurmanasya*) and anxiety (*duhkha*), trembling in body, or absence of calm, even breathing.

स्वरस्वाहि विदुषोऽपि समारूढोऽभिनिवेशः ॥९॥

svarasvāhi viduṣo-'pi samārūḍho-'bhiniveśaḥ

Meaning: Anxiety (*abhinivesha*) arises spontaneously and can even dominate your entire existence. *Abhinivesha* is an instinctive defect. The urge for self-perpetuation is so strong that it does not spare even the wise. If *avidya* is the root cause of affections, so *abhinivesha* results in pain.

Great Gifts of Despair

While on the subject of despair, the following is noteworthy and of special interest. India (*Bharat*) has been blessed with many *shastras* that have their basis in despair. Valmiki's despair led to the first poem, the *Ramayan*. This historic *shastra* results from the despair of the *kraunch* bird, whose partner was suddenly killed by a hunter's arrow. Valmiki saw this and he too became plunged into despair.

He voiced this despair in the form of a chant, a poetic meter. Then Brahmaji arrived there, consoled Valmiki and instructed him to use this chant:

‘रामस्य चरितं कृत्स्नं कुरु त्वम् ऋषिसत्तममह्ल

‘Rãmasya charitam krutsnam kuru tvam rishisangamam’

‘Describe the complete story of Bhagwan Shri Ram.’ Then, truly,

‘शोकः श्लोकत्वमागतः’

‘Shokaha shlokatvamãgataha’ –

‘That despair was transformed into a verse (shlok).’

Meaning: This resulted in the Ramayan. The story of Veda-Vyas is well known. Once, he was seated alone on the banks of River *Saraswati*, engrossed in *atma*-contemplation. He thought of his contributions, such as the classification of the Vedas and the writing of other *shastras*. Despite this, he did not at all feel bliss within his *atma*. On the contrary, his *atma* cried out,

‘तथापि बत मे दैह्यो ह्यात्मा... अस पन्न इवाभाति’

‘Tathãpi bata me daihyo hyãtmã… asampanna ivãbhãti’

‘O! After doing so much, why is there despair within?’ (Shrimad Bhagavat 1.4.30).

Meaning: This was the despairing voice of his *atma*, which felt empty and unfulfilled. At that time, Naradji arrived there. Vyasji revealed his sense of despair to him. Naradji advised him to write a *shastra* describing the divine exploits of the manifest avatar of *Paramatma* as the solution to remove his pain. Vyasji did as advised, and wrote the *Shrimad Bhagavat Mahapuran*. As a result, he experienced great joy. Thus, out of Vyasji’s despair, the *Shrimad Bhagavat Mahapuran* was born.

‘सोहं भगवो शोचामि। तं मां शोकस्य पारं तारयतु।’ –

Soham bhagavo shochãmi, tam mãm shokasya pãram tãrayatu.’ –

‘O God! I am drowning in the ocean of despair. So please save me from this misery.’

Meaning: This is the despair voiced by Naradji in the first mantra of the seventh *adhyay* (chapter) of the *Chandogya Upanishad*. He opened his heart at the feet of the great Rishi Sanatsujat. In response, Sanatsujat revealed the *bhoomividya* to remove Naradji's despair and bring him joy. Thus, Naradji's despair resulted in the bhoomividyã being revealed in the seventh *adhyay* of the *Chandogya Upanishad*.

As revealed earlier, the despair of Arjuna gifted us the *Bhagavad Gita*.

2.2 Depression according to Ayurveda

Clinical Features Of Depression Compared To *Lakshanas* Of *Vishada*:

असिद्धि भयत् विविदेशु कर्मासु साधोप्रवृत्तिः विशदः। सु।सु।१।२४

asiddhi bhayat vivideśu karmāsu sādhoapravṛittiḥ viśadaḥ। su।su।1।24

Meaning: Fear of failure to perform any action is Vishada.

Etiology of Depression:

a. **Aharaja (Dietary Causes)**

Tamasika aahara including unhygienic, improperly cooked, stale food. (BG.17/10)

b. **Viharaja (Life Style Causes)**

- Avyayama (Lack of physical and mental exercise)
- Aayasa (Stress)

c. **Rogaja (Secondary To Medical Conditions).**

Vishada is observed as a symptom in *Vataja Jvara* in the classics. But it can occur in all somatic disorders, because, if allowed to persist for long time, psychic diseases and somatic diseases get combined with each other. (Cha.Vi.6/8)

Manasika Karana (Psychological Factors)

Shoka produced due to loss of beloved one or any financial or social loss (Su.Su.1/3), Bhaya, Irshya, Dainya, Lobha, Chinta, and Krodha may lead to Vishada.

2.3 Pathogenesis (Samprapti) Of Depression

Samprapti

The samprapti of the maanasa roga is an inferential attempt made by the compiled matter of classical text of Ayurveda. How the pathophysiology of vishada, kaphaja unmade, tandra are having the almost similar path as maanasa roga.

Samprapti and Aetiopathogenesis

यथा दुष्टेन दोषेन यथे च अनुविसर्पत ।

निर्व्रींत्तिः आमयस्यसो सम्प्रप्तिहि ॥ अ हृ । नि ।१ ८

yathā duṣṭena doṣena yathe ca anuvisarpata |

nirvrittiḥ āmayasyasou sampraptihi || (a h| ni|1 8)

In Ayurveda, general pathogenesis is very well described as the process of manifestation and spread of the disease exactly from the beginning of accumulation of the morbid matter. This can be applied in establishing psycho pathogenesis of mental diseases also.

Depression takes birth at the subtlest level of mind right from the experience of first adverse event in the life. Its growth depends upon various positive and negative factors at physical, personal, familial, social and psychological as well as spiritual planes. And it gets manifested when the innate positive factors are conquered by the extern-internal negative factors affecting mind. This is the story of the struggle for existence of positivism, persistently going on in the mind, ultimately resulting into victorious and dangerous pessimistic attitude almost towards everything called ‘depression.’ So we must consider the normal physiological factors affecting the functions of mind.

2.4 Ayurvedic Treatment of Depression

Principles of treatment

हृदिन्द्रिय शिरः कोश्टे सम्षुढे वमनाधिबिः ।

मनह् प्रसादमप्नोति स्म्रिथिं सज्ञ च विन्धति ॥ च । चि ।९ ।२८

hrudindriya śiraḥ kośṭe samṣuḍhe vamanādhibiḥ|

manaha prasādamapnoti smrithiṁ sajña ca vindhati|| ca| ci|9|28

Meaning: By giving *vamana* (process of cleaning stomach) and other *panchakarma* treatment the purification of *hrudaya, indriya and kostha* take place. It will leads to *prasannatha* of *mana* and improves *smarana shakthi* and *vivek sheelatha* in the person.

आलस्य श्रम दौर्बल्यम् दौर्गन्ध्यं अवसादकः ।

स्लेष्म पित्त समुत्क्लेश् निद्रनशो अतिनिद्रत ॥ च । सु । १६ ।१४

ālasya śrama daurbalyam daurgandhyam avasādakaḥ|

sleṣma pitta samutkleś nidranaśo atinidrata|| ca| su| 16|14

Meaning: The people who are having following symptoms are fit for shodhan therapy.

- Alasya (Laziness)
- Shrama (Tiredness)
- Dhourbalayam (Inability)
- Dhourgandhyam (Foul smell)
- Avasadakah
- Sleshma Pitta Samutklesh
- Nidranash (Loss of sleep-Insomnia)
- Atinidrata (Excessive sleep)

The patients who are having the above said signs and symptoms are prescribed to undergo *shodhana*.

***Chikitsa* for *Vishada*:** Vishada is one of the vata nanathmaja vyadhi (Cha.Su.20/12). Vata nanathmaja vyadhi chikitsa is taken as a treatment for vishada. (Cha.su.20/13)

- Snehana
- Svedhana
- Anuvasana basti
- Asthapana basti
- Abyanga
- Uthsada
- Parishekha
- Nasya karma

CHAPTER 3

Scientific Literature Review

3.1 Yoga – Depression, Anxiety and Stress

Many studies claim Yoga to be very effective on the psychological issues for all ages, where they are able to do Yoga as per their capacity. The following references holds good for this:
In recent literature, the prevalence of depression in one among every twenty people suffers and females are much higher (around 9.5%) than males (5.8%). The depression rate in young adults and adolescents is estimated ranges between 9 to 13% [37].

Studies by Pilkington, Kirkwood, Rampes , & Richardson in the 2005 conclude that Yoga-based interventions proved to be an attractive option for the treatment of depression and there reduced or impaired mobility [38].

Yoga has biological, psychological, and behavioral mechanisms by which it has a positive impact on depression patients. Shows the studies by Shapiro, Uebelacker et al., in the year.2010[39]

In a study Titled " Effects of yoga on depression and anxiety of women" by Javnbakht, M. Hejazi Kenari and R.Ghasemi, M., 2009, has shown the result that Yoga can reduce perceived levels of anxiety in women who suffer from anxiety disorders[40].

In the Harvard Mental Health Letter there was the following details regarding a Yoga therapy study, where, women in the yoga group reported improvements in perceived stress, depression, anxiety, energy, fatigue, and well-being. Depression scores improved by 50%, anxiety scores by 30%, and overall well-being scores by 65%. Initial complaints of headaches, back pain, and poor sleep quality also resolved much more often in the yoga group than in the control group.[41]

Mr. Woodyard's study says : Yogic practices enhance muscular strength and body flexibility, promote and improve respiratory and cardiovascular function, reduce stress, and chronic pain, improve sleep patterns and enhance overall well- being and reduced symptoms of depression.[42]

Yoga practice as well as learning about theoretical and practical aspects of yoga appears to reduce depression, [43].

Improving depressed mood in young adults, elder adults and geriatric population Improvement in mood has been reported with yoga asana practice and yogic breathing practice (Therapists,2006).

A study by Andrea Forfylow, 2011, shows that Yoga appears to be an effective clinical intervention for anxiety and depression. Many study conclude with practical suggestions and implications for mental health professionals interested in using yoga[44]

A study was done by Brown & Gerbarg, in the year 2005 on the effect of Sudharshan kriya yogic breathing on stress anxiety and depression in volunteers. Sudarshan Kriya yoga, a sequence of specific breathing techniques (ujjayi, bhastrika, and Sudarshan Kriya) can alleviate anxiety, depression, everyday stress, post-traumatic stress, and stress-related medical illnesses Mechanisms contributing to a state of calm alertness include increased parasympathetic drive, calming of stress response systems, neuroendocrine release of hormones, and thalamic generators.[45]

A study was done by Field, Diego, & Hernandez-Reif, in the year 2010 to show the effect of Yoga on increased relaxation and Tai chi or yoga both has effects on anxiety, heart rate, EEG and math computations. One study was conducted with 38 adults participated in a 20-min Tai chi/yoga class. The session was comprised of standing Tai chi movements, balancing poses and a short Tai chi form and 10 min of standing, sitting and lying down yoga poses. The conclusion was the increased relaxation contributes to the increased speed and accuracy noted on math computations following the Taichi/yoga class[46]

Yoga reduces symptoms of anxiety and depression, yoga in reducing depression symptoms and showing the effect of yoga on depression and anxiety. One study by Skowronek, Mounsey, Handler, & Guthmann, in the year 2014 provided an answer to a question if yoga can reduce symptoms of anxiety and depression, the randomized controlled trials regarding the role of yoga in reducing depression symptoms, and showing the positive effect of yoga on depression and anxiety.[47]

A comprehensive yoga programs improves pain, anxiety and depression in chronic low back pain patients more than exercise: A study done by Tekur, Nagarathna, Chametcha, Hankey, & Nagendra, 2012 showed that Yoga is more than an exercise. It improves to reduce pain, anxiety and depression in chronic low back pain patients, Seven days intensive residential Yoga program reduces pain, anxiety, and depression, and improves spinal mobility in patients with chronic low back pain more

effectively than physiotherapy exercises. The total patients were 80 with chronic low back pain to yoga and physical exercise groups. They underwent asanas, pranayamas, meditation, yogic counseling, and lectures on yoga philosophy. This study showed the positive changes in pain, anxiety depression and spinal mobility for chronic low back pain patients on short-term by residential yoga program[48]

Major depressive disorder (MDD) is a common, debilitating chronic condition in the United States and worldwide. Particularly in women, depressive symptoms are often accompanied by high levels of stress and ruminations, or repetitive self-critical negative thinking. There is a research and clinical imperative to evaluate complementary therapies that are acceptable and feasible for women with depression and that target specific aspects of depression in women, such as ruminations. To begin to address this need, a study was conducted by Kinser, Patricia Anne Bourguignon, Cheryl Whaley, Diane Hauenstein, Emily Taylor, Ann Gill as a randomized, controlled, mixed-methods community-based study comparing an 8-week yoga intervention with an attention-control activity in 27 women with MDD. After controlling for baseline stress, there was a decrease in depression over time in both the yoga group and the attention-control group, with the yoga group having a unique trend in decreased ruminations. Participants in the yoga group reported experiencing increased connectedness and gaining a coping strategy through yoga. The findings provide support for future large scale research to explore the effects of yoga for depressed women and the unique role of yoga in decreasing rumination.[49]

Effects of Hatha Yoga on Stress in Middle-Aged Women:

Stress is considered a crucial trigger for physical and mental illness. Stress reduction is a known long-term benefit of regular Hatha yoga practice. To prove the efficacy of a single-session Hatha yoga class on stress reduction, A study investigated the comparative effectiveness of a single 90-minute Hatha yoga class and an 8-week, 90-minute-class-per-week course. This was done by By Huang, Fu-Jung Chien, Ding-Kuo Chung, Ue-Lin in the year 2013.They used a quasi experimental design and recruited 63 female community residents in New Taipei City aged 40-60 years. Participants were randomly divided into an experimental group (n = 30) and a control group (n = 33). The experimental group received the 8-week Hatha yoga course. The control group received no intervention. The Perceived Stress Scale (PSS) and heart rate variability (HRV) assessed stress reduction effectiveness. Chi-square, independent t test, paired t test, and generalized estimating equations were used for data analysis.Their results showed as, After a single 90-minute class of Hatha yoga, experimental group

PSS scores were significantly less than those of the control group (p = .001). Although experimental group HRV (low-frequency norm and high-frequency norm) had improved, these changes were not statistically significant (p = .059). PSS scores for the single 90-minute class and 8-week course did not significantly differ (p = .157) and HRV of statistics is significant (p = .005). Generalized estimating equations analyzed changes in the effectiveness over time of stress reduction (HRV and PSS) after the Hatha yoga intervention. Results showed the post intervention HRV and PSS of the experimental group decreased significantly (p < .001) more than the control group. So they concluded that regular, long-term practice of Hatha yoga provides clear and significant health benefits. Participation in a single 90-minute Hatha yoga class can significantly reduce perceived stress. Doing Hatha yoga regularly can reduce perceived stress even more significantly.[50]

Efficacy of Hatha yoga for Depression:

To review the evidence for the efficacy of hatha yoga for depression and possible mechanisms by which yoga may have an impact on depression, and to outline directions for future research. There was an interesting study, by Uebelacker L, Epstein-Lubow G, Gaudiano B, Tremont G, Battle C, Miller I in the year 2010 where the methods were Literature review and synthesis. A literature search for clinical trials examining yoga for depression uncovered eight trials: 5 including individuals with clinical depression, and 3 for individuals with elevated depression symptoms.Although results from these trials are encouraging, they gave a conclusion as they should be viewed as very preliminary because the trials, as a group, suffered from substantial methodological limitations. However, They say, that there are several reasons to consider constructing careful research on yoga for depression. Which I felt was very important and should be considered. First, current strategies for treating depression are not sufficient for many individuals, and patients have several concerns about existing treatments. Yoga may be an attractive alternative to or a good way to augment current depression treatment strategies. Second, aspects of yoga-including mindfulness promotion and exercise-are thought to be "active ingredients" of other successful treatments for depression. Third, there are plausible biological, psychological, and behavioral mechanisms by which yoga may have an impact on depression. We provide suggestions for the next steps in the study of yoga as a treatment for depression.[51]

A study by Uebelacker, 2010, supports, Hatha Yoga practices support in attractive alternative to good way to augment current depression treatment strategies. Second, aspects of yoga-including

mindfulness promotion and exercise-are thought to be "active ingredients" of other successful treatments for depression. Third, there are plausible biological, psychological, and behavioral mechanisms by which yoga may have an impact on depression. Hatha yoga provides suggestions for the next steps in the study of yoga as a treatment for depression.[52].

One study by de Manincor, Bensoussan, Smith, Fahey, & Bourchier, in the year 2015. with twenty-four teachers who agreed to participate, showed the effectiveness of yoga interventions for reducing depression and anxiety.[53]

A study by Saeed, Antonacci, & Bloch, in the year 2010. Says,Exercise, yoga, and meditation all are helpful for depressive and anxiety disorders. Anxiety and depression are among the most common conditions cited by those seeking treatment with complementary and alternative therapies, such as exercise, meditation, tai chi, and yoga.High energy exercise to reduce depression. Mindfulness meditation and exercise have positive effects as adjunctive treatments for depressive disorders. Tai chi and meditation have not shown effectiveness as alternative treatments for depression and anxiety[54]

A study by Field in the year 2012 shows:Yoga and massage therapy reduce prenatal depression and prematurity. Eighty-four prenatally depressed women were randomly assigned to yoga, massage therapy or standard prenatal care control groups to determine the relative effects of yoga and massage therapy on prenatal depression and neonatal outcomes. Following the 12 weeks of twice weekly yoga or massage therapy sessions (20 mints each) both therapy groups versus the control group had a greater decrease on depression, anxiety and back and leg pain scales.[55]

A study titled, Level of Depression in Physically Disabled, by Nadia Hussain, Madiha Sikander , Madiha Maqsud, showed, Disabled persons were at substantially elevated risk for depressive symptoms and major depressive disorder. A sample of 35 people were taken and A cross sectional survey was done. And concluded that physical disability leads to depression.[56]

Table:8: A summary of scientific review of literature

No	Author, year, journal	Title of the Study	Sample size and Intervention	assessment	Result	Conclusion
1	Field T, Diego M, Hernandez-Reif M, 2010 Complementary Therapies in	Tai chi/yoga effects on anxiety, heart rate, EEG and math	38 adults participated in a 20-min Tai chi/yoga class. The	using the State Anxiety Inventory (STAI), EKG, EEG	Heart-rate increased during the session, as would be	The increased relaxation may have contributed to the increased

	Clinical Practice	computations	session was comprised of standing Tai chi movements, balancing poses and a short Tai chi form and 10 min of standing, sitting and lying down yoga poses.	and math computations .	expected for this moderate-intensity exercise. Changes from pre to post-session assessments suggested increased relaxation including decreased anxiety and a trend for increased EEG theta activity	speed and accuracy noted on math computations following the Tai chi/yoga class
2	Tekur, P. Nagarathna, R. Chametcha, S. Hankey, Alex Nagendra, H. R., 2012 Complementary Therapies in Medicine	A comprehensive yoga programs improves pain, anxiety and depression in chronic low back pain patients more than exercise	Assigned 80 patients (37 female, 43 male) with CLBP to yoga and physical exercise groups. The Yoga program consisted of specific . asanas and pranayamas for back pain, meditation, yogic counselling, and lectures on yoga philosophy. The control group program included physical therapy exercises for back pain, and matching counselling	Sit and reach instrument, STAI, BDI	Both groups' scores on the numerical rating scale for pain reduced significantly, 49% in Yoga 17.5% in control. State anxiety (STAI) reduced . 20.4%. and trait anxiety 16%. Depression (BDI) decreased in both groups, 47% in yoga and 19.9% in controls. Spinal mobility ('Sit and Reach' instrument) improved in both groups, 50%, in yoga. 34.6% in controls.	Seven days intensive residential Yoga program reduces pain, anxiety, and depression, and improves spinal mobility in patients with CLBP more effectively than physiotherapy exercises.

			and education session			
3	Kinser P, Bourguignon C, Whaley D, Hauenstein E, Taylor A Archives of Psychiatric Nursing, vol. 27, issue 3 (2013) pp. 137-147, 2013, Archives of Psychiatric Nursing	Feasibility, Acceptability, and Effects of Gentle Hatha Yoga for Women With Major Depression: Findings From a Randomized Controlled Mixed-Methods Study	8-week yoga intervention with an attention-control activity in 27 women with MDD. Gentle Hatha Yoga Practices were gives		There was a decrease in depression over time in both the yoga group and the attention-control group, with the yoga group having a unique trend in decreased ruminations. Participants in the yoga group reported experiencing increased connectedness and gaining a coping strategy through yoga.	The findings provide support for future large scale research to explore the effects of yoga for depressed women and the unique role of yoga in decreasing rumination
4	Huang F, Chien D, Chung U, 2013 Journal of Nursing Research, vol. 21, issue 1 (2013) pp. 59-66.	Effects of Hatha Yoga on Stress in Middle-Aged Women	This study investigated the comparative effectiveness of a single 90-minute Hatha yoga class and an 8-week, 90-minute-class-per-week course. recruited 63 female community residents in New Taipei City aged 40-60 years. Participants were randomly	They have used a quasi experimental design and The Perceived Stress Scale (PSS) and heart rate variability (HRV) assessed stress reduction effectiveness. Chi-square, independent t test, paired t test, and generalized estimating equations were used for	Changes in the effectiveness over time of stress reduction (HRV and PSS) after the Hatha yoga intervention were noticed. Results showed the post-intervention HRV and PSS of the experimental group decreased significantly ($p < .001$) more than the control group.	Findings support the position that regular, long-term practice of Hatha yoga provides clear and significant health benefits. And reduces perceived stress significantly.

			divided.	data analysis		
5	Hussain, N., Sikander, M., & Maqsud, M. (2014). *Journal of Riphah College of Rehabilitaion Sciences*, *2*(2), 12–15. .	Level of Depression in Physically Disabled.	A cross sectional survey with sample of 35 physically disabled people was conducted.	The standard tool Beck Depression Inventory has been used and all required thorough research to ensure the inclusion of as many available assessments as possible, related to depression in physically disabled.	Indications of symptoms of depression in people with physical disability according the disability symptoms may be mild, moderate or severe. Disabled persons were at substantially elevated risk for depressive symptoms and major depressive disorder. Also shows that out of 35 individuals 2.86% were of mild mood disturbance, 42.086% were moderately depressed, 37.14% severely depressed and 14.29% were in extreme depression.	It was concluded that physical disability leads to depression and a standardized self-report scale BDI may well be used effectively to screen those patients with physical disabilities, who may need psychological help.

6				They were subjected to more or less thumbnail pressure	Fibromyalgia people perceived at lower pressure levels than others. yoga people had highest pain tolerance.	mental and physical health are not just closely allied, but are essentially equivalent yoga can regulate stress and therefore pain responses

CHAPTER 4

AIM AND OBJECTIVES

4.1 Aim

The aim of this study is to observe the Impact of yoga on psychopathologies among young women with physical disabilities

4.2 Objectives

The objectives of the study are:

- To find out the effect of one month yoga on depression in young women with physical disability.
- To find out the effect of one month yoga on anxiety in young women with physical disability.
- To find out the effect of one month yoga on stress in young women omen with physical disability.

4.3 Research Hypothesis

Yoga can reduce depression, anxiety and stress in young women with physical disabilities.

4.4 a. Null Hypothesis

Yoga cannot reduce Depression, anxiety and stress in young women with physical disabilities.

b. Research Question

Does Yoga intervention improve depression, anxiety and stress among young women with disabilities?

CHAPTER 5

METHODOLOGY

5.1 Source of Subjects

Subjects were from Association for disabled people Jeevan Bhimanagar, centers.

5.2 Sample Size

Total of 110 participants, 55 participants of experimental group and 55 participants for control group.

5.3 Setting

Study was conducted in the premises of Association for Disabled people.

5.4 Inclusion Criteria

Participants, who had (a) physical disability (b) aged 18 to 25 years (c) no prior exposure to yoga, and (d) agreed to participate in the study were included in the study.

5.5 Exclusion criteria

Women with (a) speech and hearing impairment (b) partial blindness, (c) severe disability, (d) mental illness were excluded from the study.

5.6 Informed consent & Ethical Considerations

All subjects were informed about the current research and an informed consent was obtained from the Organization. Oral consent was taken from the participants. And written consent was taken from the Organization.

5.7 Design of the study

This was a 2 group pre-post study, with the two groups matched on age, with physical disability and same environmental background.

Both groups were assessed for depression, anxiety and stress at baseline and after 4 weeks.
The yoga group participated in one hour of yoga practice, five days per week, while the control group followed their regular activities 5 days per week.

5.8 Variables studied

Socio demographic data sheet containing personal details of the participants like name, age, education and place.

Depression, anxiety and stress were assessed using the DASS 21 scale.

5.9 Assessments

Assessments were made on the group before and after four weeks on intervention by giving DASS21 questionnaire.

5.9.1 DASS21 Questionnaire

The DASS 21 consists of three self reported scales designed to measure clinical levels of depression, anxiety and stress. Seven questions are asked in each category about symptoms experienced over the past week and are scored point scale

Did not apply to me at all=0

Applied to me to some degree, or some of the time=1,

Applied to me to a considerable degree, or a good part of the time=2,

Applied to me very much, or most of the time=3

Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content.

The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia.

The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect.

The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient.)

To determine the clinical level of each outcome (depression, anxiety and stress) the scores for each category are totalled and multiplied by two.

Table:9 Interpretation of scores

	Depression	**Anxiety**	**Stress**
Normal	0 – 9	0 – 7	0 – 14
Mild	10 – 13	8 – 9	15 – 18
Moderate	14 – 20	10 – 14	19 – 25
Severe	21 – 27	15 – 19	26 – 33
Extremely Severe	28+	20+	34+

The factor structure, reliability, and validity of the Depression Anxiety Stress Scales[57] and the 21-item short form of these measures (DASS–21) were examined in nonclinical volunteers.

This was a study replicating the DASS ,distinguishing the features of Depression, physical arousal, psychological tension and agitation and extends these observations to DASS21.

Also this study by H. Lovibond & P. F. Lovibond, 1995 showed the internal consistency and concurrent validity of the DASS and DASS 21 were in the acceptable to excellent ranges. Mean scores for the various groups were similar to those in the previous research and in expected direction[58]

5.10 INTERVENTION

Four weeks of Yoga intervention was given 5 days a week (1hour session).

Yoga schedule were as follows:

TABLE-10 Yoga Intervention

SLNO:	NAME OF PRACTICE	DURATION
1	Sithilikarana Vyayama	10 minutes
2	Asana, Sukshma Vyayama	10 minutes
3	MSRT	20 minutes
4	Pranayama & Mudras	15 minutes
5	Om chanting & Relaxation	5 minutes

1. Sithilikarana Vyayama

As the name indicates, these are loosening practices performed in repetitions and speed.
The goal of shithilikarna vyayama is a good physique by training the muscles of the spine. Strong and flexible muscles over the spine are necessary for performing the asanas better with a proper hold over the vertebral joints.

Sithilikarana Vyayama helps in loosening various joints in the body and also stretches and relaxes different muscles of the spine with movements like flexion, extension, lateral bending.

The objectives of these vyayama are to remove lethargy and tiredness within the body, helps to develop stamina of the body and disciplines body-mind complex.

Sithilikarana Practices for intervention

Type of practice	**Name of practice**
• Breathing Practices	Hands in and out breathing Hand stretch Breathing
• Loosening Practices	Twisting, Side bending in sitting posture

2. Asanas:

Asanas are physical postures or forms (sitting, standing and lying down) with proper breathing techniques and often imitating many of the animal postures. Each posture is maintained for sufficient period of time without discomfort. Longer is the time of retention, greater are the benefits achieved.

Description about Asanas:

Main focus was given to Sulshma Vyayama.: starting from Toe bending, ankle rotation, knee bending, knee crank, half butterfly full butter fly, hand clenching, wrist bendind, wrist joint rotation, elbow bending, elbow rotatioin, shoulder rotation, neck movements and neck rotation. All synchronizing with the breathing. also did vakrasana, pachimothanasana

Chair Suryanamskara, in this, even though they were not able to do the full steps involved , they did the twisting part, side bending, bringing the knee towards their chest, little forward and backward bending.

These helped them to strengthen their muscles and joints, inprove their digestive system, cope with their insomnia, regulate their menstrual cycle, reduce anxiety and stress.

3. **MSRT:**

It is one of the advanced guided yoga relaxation technique that can be practiced in supine and sitting posture for achieving the goal of positive health, will power, concentration, deep relaxation, specifically to strengthen the immune defence and quality of life.

MSRT involves experiencing with closed eyes, the internal vibration and resonance developed while chanting the syllable A,U,M,OM and Mahamruthyunjaya Mantra sounds (which shifts the brain activity).

The technique helps to get mastery over the mind. A new habit of switching off the mind to silence and deep rest through a systematic training gives you a capacity of not getting lost in the Depression and Anxiety loop (Sripadaswamy DS and Vasudha 2006).

4. **Pranayama:**

Pranayama is an art and science of proper controlling the breath or prana. Sectional breathing practices were taught which are divided in 4 sections that is, abdominal breathing, thoracic breathing and clavicular breathing. This was followed by full yogic breathing which is the combination of all three breathings. Nadi Suddhi Pranayama was practiced 9 rounds.

The principles involved in these techniques are slowing down of breathing rate and helps to calm down the mind. Prolonged practices, slow exhalation with awareness are the ways to get mastery over the breath.

Pranayama & Mudras	Kapalabhati (Frontal brain cleansing) Vibhagiya pranayama (Sectional breathing) Nadisuddhi pranayama (Alternate nostril breathing) Bhramari pranayama (Humming bee breathing)

5. **Mudras:**

Mudras are psychic, emotional, devotional and aesthetic gestures or attitudes. They connect the annamaya Kosha, Pranamaya Kosha and later influence the Manomaya Kosha. Since the pranic circulation is essential for the regulation of our body function, Mudras can be effective to channelize our energy inwards. Initially Mudras give awareness of the flow of the Prana, then the Pranic balance.

Each finger is connected with each element, like, Thumb with Agni, first finger with Vayu, middle finger with akasha, Ring finger with Prithvi, and little finger with Jala.

In our sessions , the participants practiced Chin Mudra, Gyan Mudra, Adi Mudra, Brahma Mudra and Hrudaya Mudra.

6. **Om chanting and Relaxation**:

Chanting few rounds of Om and Relaxation in Shavasana.

CHAPTER 6

DATA EXTRACTION AND ANALYSIS

6.1 Data Extraction:

Assessments DASS 21 was carried out on the first two days before starting the class and on the last two days after the class. Questionnaire was explained to the participants in Kannada. Data were extracted by following the standard procedure**.**

6.2 Data Analysis:

Data were analyzed by using SPSS statistics (version 21). Wilcoxon Signed Ranks Test The data was normally distributed hence, the parametric tests were used to observe intra group and inter group comparison. Within group paired t test and between groups Independent t test were performed.

CHAPTER 7

RESULTS

7.1 Study profile

The study sample initially consisted of 113 girls with physical disability in the age range 18-25 years. Of 113, three came under exclusion criterion; one girl was partially blind with disability, one was Speech and hearing impaired, 1 had mild mental illness, giving a final sample size of 110 (55 in each group) who completed all assessments. It was required that the participants attend at least 80% of the yoga sessions.

7.2 Results- Descriptive statistics

Within Group:

A) **Control Group:**

There was a significant decrease in Anxiety (-7.84, pValue is 0.000) and Stress (% change-11.53, pValue is 0.000) after one month compared to baseline in the Control Group. But, Depression showed no significant difference (% change -0.83, pValue is 0.102)

B) **Yoga Group:**

There was a significant decrease in Depression (%change-29.4, pValue is .000) Anxiety (%change-33.3, pValue .000), stress (%change-37.1, pValue is.000) after one month of yoga intervention compared to baseline.

Between Groups:

With respect to Age there was no significant difference between the control group and the Yoga Group.

Post Intervention:

There was a significant difference in Depression (pValue is .000), Anxiety (pValue is .000), Stress (pValue is .000) between the two groups after one month of Yoga Intervention in the baseline.

Table 1: Indicating the differences in mean, percentage change and Pvalues between the groups.

	Yoga				**Control**				
Variables	Pre	Post	% change	P value	Pre	Post	% change	P value	Between group Post p values
Depression	11.2±1.3	7.9±1.3	-29.4	.000	12.0±1.0	11.9±1.1	-0.83	.102	.000
Anxiety	4.8±1.1	3.2±.952	-33.3	.000	5.1±1.0	4.7±1.1	-7.84	.000	.000
Stress	3.5±.979	2.2±.994	-37.1	.000	5.8±2.2	5.2±2.0	-11.53	.000	.000

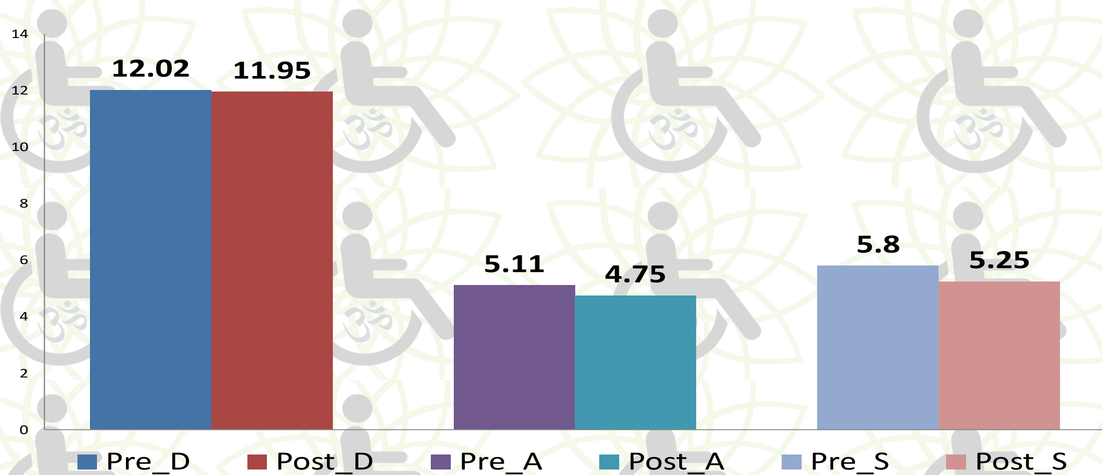


Figure 1: Showing the difference in the means of control group, before and after intervention.

There was a significant decrease in Anxiety (-7.84, pValue is 0.000) and Stress (% change-11.53, pValue is 0.000) after one month compared to baseline in the Control Group. But, Depression showed no significant difference (% change -0.83, pValue is 0.102).

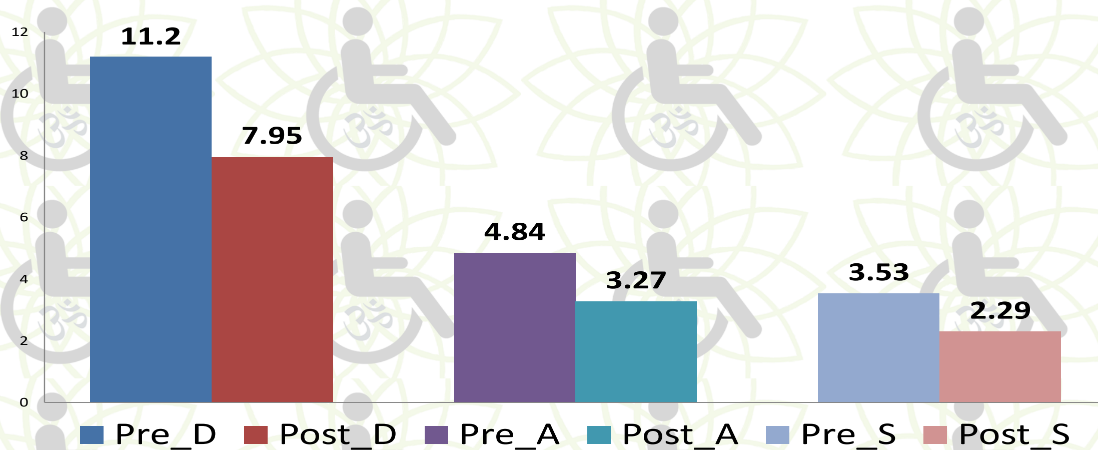


Figure 2: Showing the difference in the means of yoga group, before and after intervention.

There was a significant decrease in Depression (%change-29.4, pValue is .000), Anxiety (%change-33.3, pValue .000) and stress (%change-37.1, pValue is.000) after one month of yoga intervention compared to baseline.

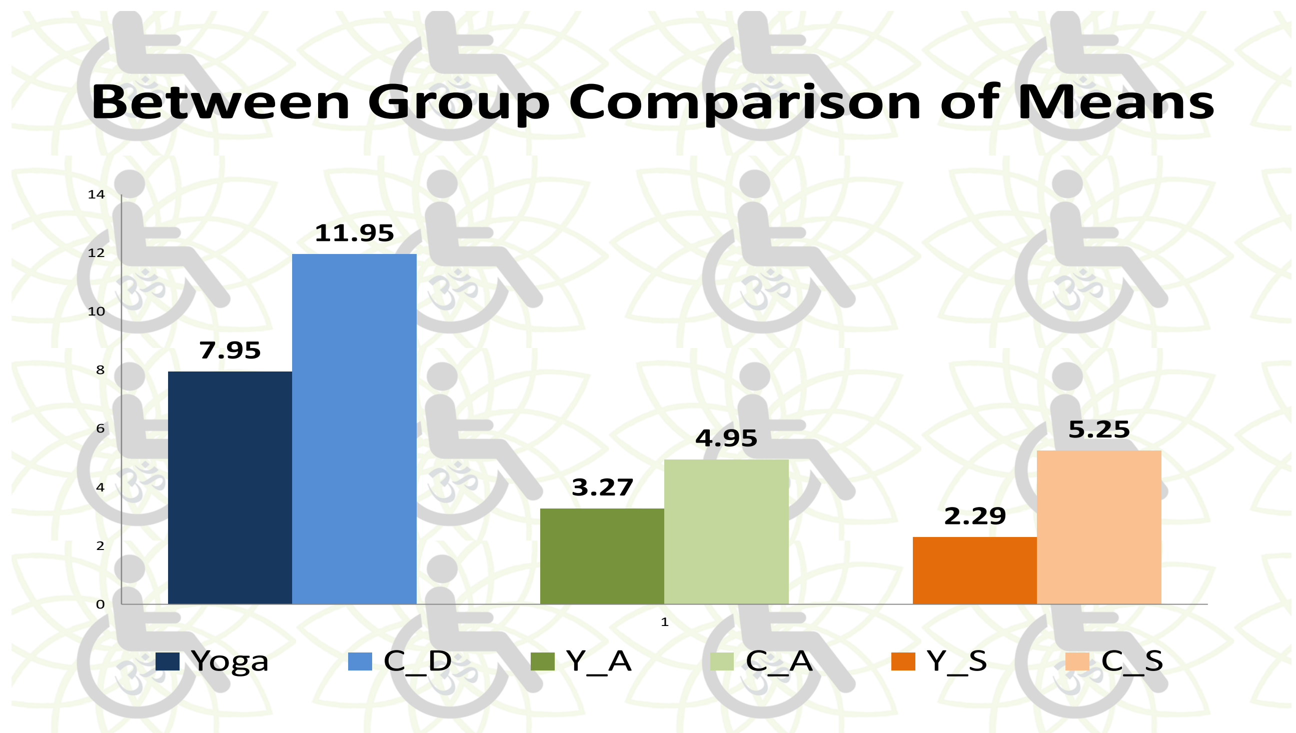
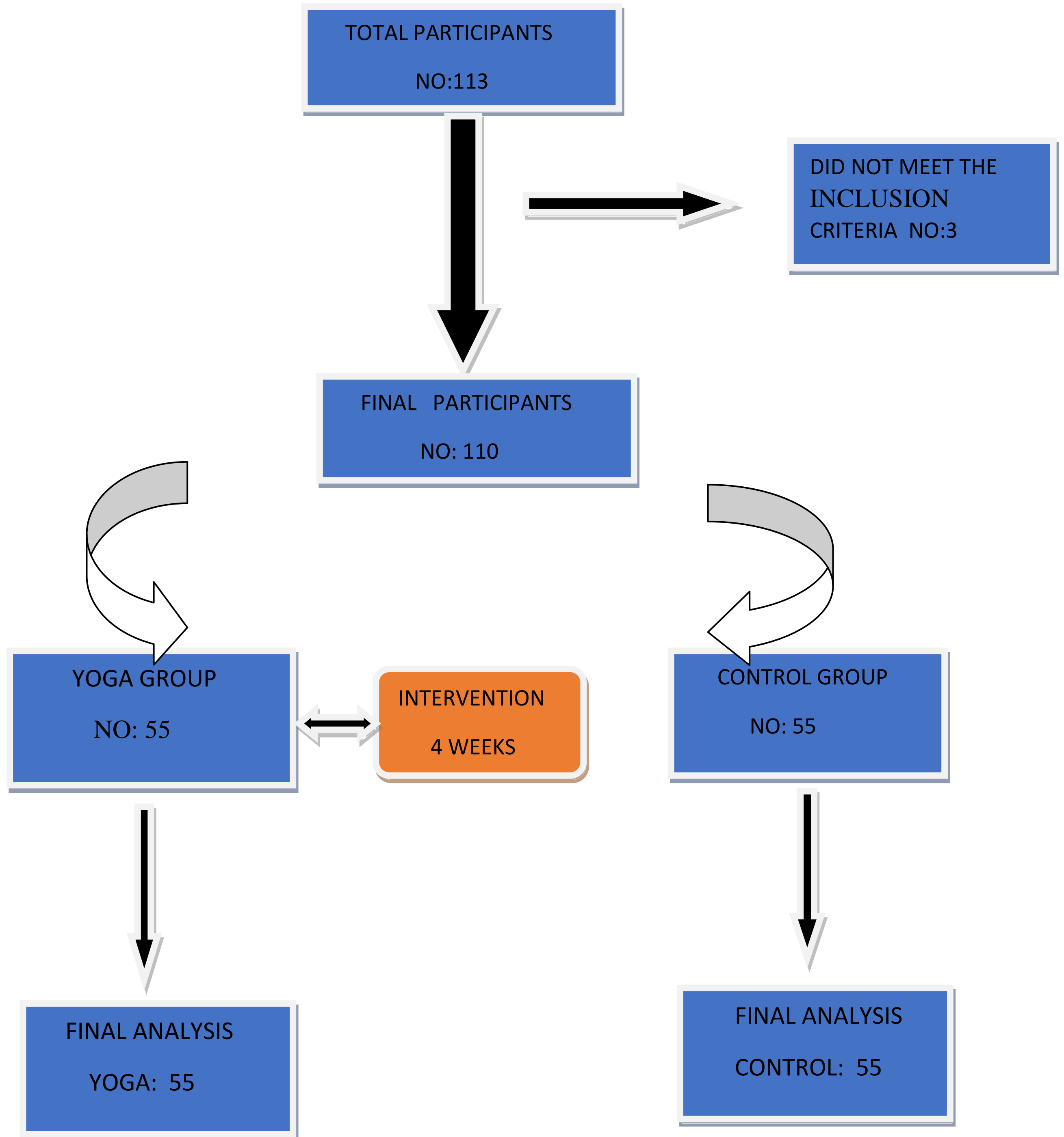


Figure 3: Showing the difference in the means of control and yoga group after intervention.

There was a significant difference in Depression (pValue is .000), Anxiety (pValue is .000), Stress (pValue is .000) between the two groups after one month of Yoga Intervention in the baseline.

Flow of participants from screening to completion of Four week trial.



CHAPTER 8

DISCUSSION

The present study was a 2 Group Pre Post Study with a control group and an Intervention Group. It examined effects of 4 weeks Yoga training on Depression, Anxiety and Stress on young women with Physical disabilities. Intervention group of 55 women was compared with a control group of 55 Women. The Intervention Group showed significant decrease in Depression, Anxiety and Stress. Relative to control group, Women in the Intervention group demonstrated a greater reduction in depression symptoms. The results of this study are in consistent with the previous research studies conducted by Nadia, et al.

Many elements that are disproportionally common in the lives of Women with Physical Disability including socio economical disadvantage, functional limitation, pain and their chronic health condition, poor diet, physical inactivity, violence, low self esteem, sexuality problem, chronic stress, environmental barriers, barriers to health care, have linked with higher rates of Depression.

The prevalence of major depression is higher in women than in men; in 2010 its global annual prevalence was 5.5% and 3.2%, respectively. Depression is more than twice as prevalent in young women than men (ages 14–25 yr), but this ratio decreases with age. Indeed, starting at puberty, young women are at the greatest risk for major depression and mental disorders globally. Importantly, before puberty, girls and boys have similar rates of depression; the rate is perhaps even higher for boys. At ages older than 65 years, both men and women show a decline in depression rates, and the prevalence becomes similar between them[59].

In this study even in control group, there was a decrease in Anxiety and stress. May be because, the participants were from a rural background, came for their vocational training. Their data were collected at the time of joining. In the period of that 1 month, they had their daily routine,

they were kept engaged, where they were learning basic personal hygiene, training in handicrafts, horticulture etc. they were living and interacting with people like them with physical disability, where it does not affect their self esteem, they wouldn't feel low, in fact they feel blessed/accept their disability when they see people with severe disability than them. And moreover, anxiety and stress occur on day to day basis, Depending on the situation. It is a daily affair and can show improvement in less time.

There was no significant reduction in Depression in the control group, because it is a long term issue. Also takes a long time and persistent effort from both sides, months together. It requires an external support, to specifically work on it.

In the Intervention group, there was a significant decrease in Depression, Anxiety and Stress levels. Because Yoga postures are used to teach mindfulness of bodily sensations during gentle movements and stretching. Findings suggest that mindfulness-based interventions may be helpful in the treatment of several disorders (Baer,2003). The yoga intervention used in this study was an integrated module that included loosening practices, breathing practices, chair Suryanamaskar, asanas, pranayama, mudras ,while maintaining mindful awareness, followed by relaxation with DRT or shavasana to produce calmness of mind and heightened internal awareness; all these could have influenced the psychological wellbeing. In addition, the study also included Pranayam techniques such as Vibhagya swasan, Nadishuddhi , Bhramari giving mental relaxation, adequate supply of oxygen to the abdomen, chest, lungs, and upper lobar or clavicular region. Improvement in oxygen supply due to Vibhgya svasan and brain getting relax through Bhramari would explain the significant change in psychological variables such as worry, fear, anger ,anxiety, stress depression etc. A balanced set of Asanas and Pranayam could therefore improve psychological well being by increasing both mind control and strength. Along with this they were given yogic counseling, had bhajan session to handle their emotional issues.

Moreover, practicing sithilikarana vyayamas, sukshma vyayamas , asanas and other breathing practices could have brought about hormonal changes within the individuals of the intervention group. Following these yogic practices for one month could have resulted in the elevation of

GABA (Gamma Amino Butyric) levels, physiologically. This might have contributed to reduction of depression. The findings are in alignment with the studies conducted by Streeter, C. et al titled, Yoga Asana Sessions Increase Brain GABA Levels: A Pilot Study which demonstrated increased levels of GABA following 60 minute of yoga session (Streeter et al., 2007).

Other factors contributing to reduction in depression, anxiety and stress could be attributed to group dynamics while doing yoga, improved mental health (Smith, Hancock, Blake-Mortimer, & Eckert, 2007). Also, asana practice could have led to better health perception in terms of increased range of movement, muscle strength, enduring capacity besides reduced somatic pain. These results are similar to the ones conducted by Cowen et al, whose study has shown Significant improvements at follow-up were noted for all participants in diastolic blood pressure, upper body and trunk dynamic muscular strength and endurance, flexibility, perceived stress, and health perception (Cowen & Adams, 2005).

CHAPTER 9

CONCLUSION

It was an Encouraging result, showed that yoga can reduce depression, anxiety and stress. Yoga intervention proved beneficial for Women with physical disability, to tackle their psychological problems. Yoga may also improve their physical, social and spiritual well being. Yoga given was an integrated model for specific purpose. Efforts to find the prevalence of depression among women with physical disability will be highly valuable. This helps in providing interventions that can enhance their overall well being in life.

CHAPTER 10

APPRAISAL

10.1 Strength of the Study

- To the best of our knowledge, the study was the first with good sample size .
- The strength of the positive results was the duration of the intervention .
- 2 groups, Intervention and the control group was considered to be the strength of the study.
- Good validation of questionnaires like DASS 21 strengthened results.
- Use of both Kannada and English language during assessment (questionnaires.) was very helpful
- Quality Training, the Yoga module, and the cooperation of the participants with no dropouts.
- Significance of findings was excellent.

10.2 Limitation of the Study

- The study was assessed using questionnaires, so it has its own limitations. Some students may not have participated in testing to their best ability
- Study was limited to particular time of the day, so it will not be the same the next day.
- The participants were not literates/educated, so the questionnaire was filled by asking oral questions, also there are chances that a few girls were not free to explain or open up.
- The participants were only girls.

10.3 Suggestions for future research

- Tracking a program scheduled for more duration for women with physical disability would be worthwhile. Further investigation with longer follow-up to know the uniformity of the result for different age groups, should be considered.

- Future studies should be designed with increased sample size and equal ratio between men and women. Also with other variables.
- They can work on the stress level of the caretakers of the disabled people in the organization.
- Also can do a study on the parents and the siblings of the disabled, their psychological state, and their socio economic state.

10.4 Suggestion for the stake holders

People with physical disabilities experience psychological issues in all walks of life. We have seen in our study, Women experience the most, especially of the age range of 18 to 25, that is the age when they make a serious consideration to begin a career, do further studies, financial security. Also to make choices about their personal life, like marriage and children. Plan for their future health insurances etc. but what they go through is helpless situation, abuse, violence, difficulty in finding a job, with education, facing the world, interacting with people and making friends. Especially the people from rural areas suffer a lot.
Women with disabilities require protection against exploitation and abuse. Special programmes has been developed for education, employment and providing of other rehabilitation services to women with disabilities keeping in view their special needs. Only thing it should reach them.

It is not only the food and shelter that matters, which obviously is taken care by their parents and siblings, there is much more for them to have a normal life like other people. Why should they be deprived of?

So, there is a need to bring in the awareness regarding the existing laws, facilities and Social programme provided by the Government, for the disabled people. It should reach the gross root level.
The NGO's can be encouraged to take such responsibilities to spread the awareness on Government policies, and help them to participate and make use of them.

More disability friendly facilities are required, like in the public place, hospitals government offices, and entertainment, health and fitness centers, where they can have special slots, equipments for them.

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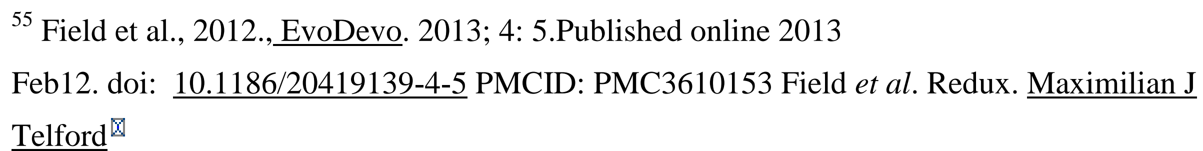

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