IMPACT OF HATHA YOGA ON STRESS AND ANXIETY IN PSYCHOSOMATIC ILLNESSES

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ABSTRACT

This research paper aims to delve into the transformative potential of Hatha Yoga as a holistic intervention for managing stress and anxiety associated with psychosomatic illnesses. Utilizing a mixed-methods approach, we will assess the psychophysiological responses of participants engaging in a structured Hatha Yoga program. Through comprehensive pre- and post-intervention evaluations, including physiological measurements, psychological assessments, and qualitative interviews, the study seeks to provide a nuanced understanding of the nuanced effects of Hatha Yoga on stress and anxiety levels. The findings hold the promise of contributing valuable insights to the integration of yoga therapy into psychosomatic illness management protocols, offering a holistic and sustainable approach to enhance overall well-being.

Keywords: - *Yoga, Hatha, Physical, Body, Mental.*

I. INTRODUCTION

Stress and anxiety have become prevalent aspects that have a considerable influence on the general well-being of persons in the current period, which is characterized by the unrelenting pace of modern life and the many problems that it provides. In many cases, psychosomatic diseases are the result of the complex interaction between the mind and the body. These illnesses are characterized by the manifestation of mental discomfort in the physical body, which further exacerbates the individual's suffering. When seen in this light, the ancient practice of Hatha Yoga appears as a comprehensive and holistic method to addressing the complex relationship that exists between mental and physical health. For the purpose of bringing the body and the mind into harmony, Hatha Yoga, which is a subset of the larger yogic tradition, incorporates a wide variety of physical postures, exercises that focus on controlling the breath, and meditation methods and techniques. With the purpose of providing light on the physiological and psychological processes via which this ancient practice brings about transformational healing, this article dives into the significant impact that Hatha Yoga has on stress and anxiety, as well as its role in minimizing psychosomatic disorders. It is possible to trace the origins of Hatha Yoga all the way back to ancient India, when yogis were interested in investigating the fundamental connection that exists between the body and the mind. The term "hatha," which originates from the Sanskrit words "ha" (meaning "sun") and "tha" (meaning "moon"), represents the coming together of opposing energies and reflects the equilibrium that is sought in this practice. In its most fundamental form, Hatha Yoga is intended to foster the development of physical strength, flexibility, and mental clarity, so laying the groundwork for wellness in its entirety. Researchers and practitioners alike have

resorted to Hatha Yoga as a therapeutic method to treat the modern afflictions of stress and anxiety. This is because these modern afflictions have grown more widespread in contemporary culture. The effect that Hatha Yoga has on the autonomic nerve system (ANS) is one of the primary contributing factors that contribute to the reduction of stress and anxiety experiences. It is the sympathetic and parasympathetic branches of the autonomic nervous system (ANS) that are responsible for the "fight or flight" and "rest and digest" responses, respectively. The ANS plays a crucial part in the regulation of physiological activities. This delicate equilibrium is often upset by chronic stress, which results in an over activation of the sympathetic nervous system and a subsequent chain reaction of physiological reactions that contribute to the development of psychosomatic symptoms and anxiety among individuals. Hatha Yoga is a potent moderator of the autonomic nervous system (ANS) because it places a focus on conscious breathing and purposeful posture development. Practices that engage the parasympathetic nervous system, such as pranayama (breath control) and asanas (physical postures), induce a state of relaxation and counteract the effects of chronic stress. Pranayama is a term that refers to the regulation of one's breath.

In addition, the awareness that is developed through the practice of Hatha Yoga is a powerful remedy for the constant mental chatter and rumination that are characteristic of anxiety. A non-judgmental acceptance of one's thoughts and feelings is fostered via the practice of Hatha Yoga, which encourages practitioners to root their consciousness in the here and now. This method, which is based on mindfulness, has been found to lessen the cognitive distortions that lead to anxiety and to provide a more balanced and realistic view on the stresses that are present in life. There is a further enhancement of emotional regulation and resilience via the incorporation of meditation methods within Hatha Yoga. These techniques include loving-kindness meditation and mindfulness meditation, and they provide people with the skills necessary to negotiate the problems that they face in their everyday lives. In addition to its influence on the autonomic nerve system and mindfulness, Hatha Yoga has a significant impact on the endocrine system. It has the ability to influence the release of hormones that play an important part in the functioning of the stress and anxiety systems. There is a correlation between the practice and a reduction in the hormone cortisol, which is often known as the "stress hormone," as well as an increase in the synthesis of endorphins, which are the natural chemicals that make the body feel good. These hormone modifications not only contribute to an overall feeling of well-being but also serve as a buffer against the negative consequences that chronic stress may have on those who experience it. In addition, the focus that Hatha Yoga places on deep diaphragmatic breathing activates the vagus nerve, which is a critical regulator of the parasympathetic nervous system. This further promotes relaxation and reduces anxiety. Hatha Yoga arises as a comprehensive treatment technique in the arena of psychosomatic disorders, which are characterized by a mind-body link that is both complicated and deep. Numerous disorders, ranging from irritable bowel syndrome to tension headaches, are included in the category of psychosomatic illnesses. These illnesses are characterized

by the presence of psychological components that substantially contribute to the presentation and worsening of physical symptoms. There is a complete foundation for healing that is offered by the integrated method of Hatha Yoga, which treats both the mental and physical elements of these disorders. Via the cultivation of somatic awareness via the practice, people are able to notice and release tension that is carried in the body, so beginning the process of breaking the cycle of psychosomatic symptomatology.

As an additional benefit, Hatha Yoga may be used as an effective complementary therapy for the treatment of a variety of psychosomatic illnesses. The effectiveness of this treatment in reducing the symptoms of illnesses such as fibromyalgia, chronic fatigue syndrome, and somatic symptom disorder has been established via an extensive body of research. By addressing the underlying psychological factors to these diseases, the combination of physical postures, breath work, and meditation not only helps to alleviate the physiological aspects of these illnesses, but it also helps to develop a more integrated and balanced state of health. It is common for people to feel a significant change in their connection with their bodies and thoughts when they participate in the practice of Hatha Yoga. This change may result in improved self-awareness and empowerment in the management of their psychosomatic symptoms. Hatha Yoga is a long-standing and all-encompassing method that has been shown to be effective in addressing stress and anxiety, in addition to providing significant advantages in the field of psychosomatic disorders. A harmonic union of the mind and body is achieved as a result of its multidimensional influence on the autonomic nerve system, the endocrine system, and mindfulness. As people incorporate the practice of Hatha Yoga into their life, they start on a transforming journey toward greater well-being. This journey allows them to navigate the difficulties of contemporary living with resilience and inner harmony. Over the course of the subsequent chapters, we will dig more deeply into the various practices that are included in Hatha Yoga. We will investigate the therapeutic uses of these practices as well as the developing scientific data that supports their effectiveness in improving both mental and physical health.

II. REVIEW OF LITERATURE

Sarkar, Sankalan et al., (2021) Concerns about health have been raised all around the globe as a result of the pandemic caused by the coronavirus illness 2019 (COVID 19). There is a trend across medical and allied health professional institutions to look for strategies to reduce the amount of stress that students experience and to enhance their overall quality of life. In the fight against stress, the benefits of yoga have been shown to be effective. In the course of the COVID 19 pandemic, the purpose of this review was to investigate the psychophysiological effects of yoga on stress management among students who were studying to become medical and allied health professionals. The writers conducted a review of the current literature as well as official records, the majority of which focused on the impact that yoga has on students who are studying to become medical and health professionals. Compared to the general population, it is known that the level of mental stress experienced by these students is much

greater. Students like these are likely to have substantial repercussions as a result of sudden changes brought on by the epidemic. There is a correlation between social alienation and feelings of loneliness, which is further exacerbated by the presence of uncertainties about teaching, learning, and evaluation procedures. Yoga has received attention not just for its ability to improve mental health and quality of life, but also for its ability to assist improve respiratory and immunological health. Although several published studies have investigated the psychophysiological effects of yoga on students who are pursuing careers in the health care industry, only a small number of institutions that teach medical and allied health professionals have included yoga as part of their integrated curriculum in order to take a more holistic approach. As a reaction to the COVID 19 problem, the practice of yoga for the purpose of reducing stress and optimizing immune function need to be taken into consideration as a supplement to other therapies. In order to develop future healthcare workers who are both physically fit and psychologically healthy, it is necessary to include yoga into the curriculum of medical and health science educational programs.

Bhargav, Hemant et al., (2020) This chapter is divided into four subsections: the first section of the chapter provides an update on current evidence for yoga therapy in common mental health disorders, the second section provides brief overview on neurophysiological abnormalities in psychiatric disorders and their relationship with psychological stress, the third section deals with summary of evidence for neurophysiological effects of yoga in mental health disorders, and the last section emphasizes on practical aspects of yoga therapy with details of clinically useful yoga practices for common mental health disorders. Depression, anxiety, schizophrenia, child and adolescent psychiatric disorders, drug use disorders, and geriatric psychiatric diseases are some of the mental health conditions that are discussed in this chapter among others.

Maddux, Rachel et al., (2017) it is necessary for the general population to have access to and be able to afford good coping methods in order to deal with the stressors that are associated with contemporary work life. It has been shown that yoga may alleviate stress in clinical samples; however, further research is required to investigate the effects of typical yoga courses at gyms on persons who are functioning. The purpose of this research was to explore the effects of eight and sixteen weeks of gym yoga session on stress levels and psychological well-being. The Method and the Design: Ninety people who reported experiencing moderate to high levels of stress were randomly allocated to either a waitlist crossover group that did not practice yoga for eight weeks and then practiced yoga for eight weeks, or to a group that had been practicing yoga for sixteen weeks in a row. At the beginning of the study, eight weeks, and sixteen weeks later, stress and psychological health factors were evaluated. The results showed that participants in the Yoga group saw significant decreases in stress as well as all psychological health metrics over the course of sixteen weeks. Yoga practitioners demonstrated substantial reductions in stress, anxiety, and overall psychological health, as well as significant gains in well-being, as compared to the group that served

as the control. A substantial reduction in stress, anxiety, sadness, and sleeplessness was seen in the group that did not practice yoga for a period of eight weeks after they crossed over to the alternative group and began practicing yoga. In conclusion, it indicates that yoga in the gym is good for reducing stress and promoting psychological wellness among workers who are facing stress.

Huang, Fu-Jung et al., (2013) one of the most important factors that may lead to both physical and mental disease is stress. Regular practice of Hatha yoga is recognized to provide long-term benefits, one of which is the decrease of stress. There is presently no information available about the effectiveness of a single session of Hatha yoga in terms of reducing stress. The purpose of this research was to evaluate the relationship between the efficacy of a single 90-minute Hatha yoga session and an eight-week course that consisted of 90-minute classes each week. We employed a design that was quasi-experimental and recruited sixty-three female community members in New Taipei City who were between the ages of forty and sixty. A group of thirty participants were assigned to the experimental group, while thirty-three individuals were assigned to the control group. The experimental group participated in the Hatha yoga class that lasted for eight weeks. The group that served as the control did not get any aid. Both the Perceived Stress Scale (PSS) and the heart rate variability (HRV) were used in order to evaluate various methods of stress reduction. The following statistical methods were used in the analysis of the data: Chi-square, independent t test, paired t test, and generalized estimating equations Following a single session of Hatha yoga lasting for ninety minutes, the PSS scores of the experimental group were found to be considerably lower than those of the control group ($p = .001$). Although there was an improvement in the HRV of the experimental group (both the low-frequency norm and the high-frequency norm), these improvements did not meet the criteria for statistical significance ($p = .059$). No significant difference was found between the PSS scores of the single 90-minute class and those of the 8-week course ($p = .157$), and the HRV of statistics was found to be significant ($p = .005$). It was determined via the use of generalized estimating equations how the efficiency of stress reduction (HRV and PSS) changed over time after the implementation of the Hatha yoga intervention. On the basis of the findings, it was observed that the post-intervention HRV and PSS of the experimental group had a substantial drop ($p < .001$) in comparison to the control group. Our research lends credence to the idea that practicing Hatha yoga on a consistent basis and for an extended period of time has tangible and substantial advantages to one's health. Participation in a single Hatha yoga session that lasts for ninety minutes may dramatically lower the amount of stress that is sensed. Conducting Hatha yoga on a consistent basis may result in an even greater reduction in the sensation of stress.

Ch, Venkateswarlu. (2012). Yoga is a practice that has been around for a very long time. By using their yogic capacity, the majority of the monks and saints were able to picture the globe. Both the Buddhist and Hindu civilizations acknowledged the significance of yoga and encouraged those who practiced it to acquire a yogic way of thinking within themselves. According to

the findings of the medical specialists, performance yoga will help the various sections of the body to work together in order to carry out their functions in an appropriate way. As we are all aware, the mind exerts influence over the whole body. The mind is responsible for directing the functioning of every aspect of the body. Through the correct use of Asanas, Pranayama, and Meditation, a man may develop a mind that is as powerful as his body. All mental tensions are removed from the human psyche as a result of this. Those who are considered to be specialists in the present day have confidence and trust in yoga, which shields men from the harmful influences of society. The practice of yoga is thus an appropriate method for achieving the end of mind control and for maintaining a life that is filled with a great deal of tranquility, both of which are vital in the modern day. The purpose of this descriptive study is to examine the influence that regular yoga practice has on the treatment of psychosomatic disorders by using the findings of prior research.

Chong, Cecilia et al., (2011) The purpose of this article is to provide a comprehensive analysis and evaluation of the impact that yoga has on the management of stress in adults who are in good health. For the purpose of locating randomized controlled trials (RCTs) and clinical controlled trials (CCTs) that investigated the effects of yoga on stress management in healthy individuals, a comprehensive literature search was carried out. The selected studies were categorized according to the kinds of interventions, length, outcome measures, and findings that were included in the classification. In addition, they were evaluated qualitatively in accordance with the criteria established by the Public Health Research, Education, and Development. Based on eight randomized controlled trials (RCTs) and controlled clinical trials (CCTs), the comprehensive review found that yoga had a beneficial impact on lowering stress levels or stress symptoms. On the other hand, the majority of the studies suffer from methodological flaws, such as the fact that the length of the intervention was brief and there was a scarcity of follow-up data provided. The results of this review demonstrated that yoga has beneficial benefits on the decrease of stress in healthy adult populations. In the other hand, in account of the limited number of studies and the related methodological issues, the conclusion need to be viewed with care. It is recommended that more research be carried out in order to determine the long-term benefits of yoga as well as the underlying biological processes that contribute to the stress reduction impact of yoga.

III. RESEARCH METHODOLOGY

The selection of Variables, training procedure and statistical techniques are explained below.

Psychological Tools

All of the examinations were carried out in accordance with the established protocol. Through the use of a validated psychological questionnaire, the psychological aspects were evaluated. An evaluation of stress was carried out with the assistance of the Everly and Girdano stress scale. This scale has a total of fourteen questions, each of which has four possible answers, and the scores range from zero to forty-two. When the score is lower, the level of psychological stress is also lower. Rainer Martens (1977) developed a

questionnaire for psychosomatic disorders that consisted of 15 items, and researchers used this questionnaire to quantify anxiety.

Training Procedure

Both the experimental and control groups participated in training sessions for their respective games. The training sessions were conducted in the morning for one hour and in the evening for two hours, following a schedule of six days per week for a period of six weeks. In addition to the games training, the experimental group also participated in yoga training for one hour in the morning immediately prior to the games training. There are eleven asanas and two pranayamas that are included in the yoga instruction.

Statistical Procedure

For the purpose of determining whether or not there was a statistically significant difference between the control group and the experimental group in terms of the data of pre and post mean values obtained for stress and psychosomatic disorders, the analysis of covariance (ANCOVA) was used as the statistical technique. There was a predetermined threshold of significance that was set at 0.05.

IV. RESULT AND ANALYSIS

The results of the analysis of covariance on the data acquired from the pre and post tests on stress and psychosomatic disorders have been tabulated and are provided in tables I and II respectively.

Table 1. Computation of Analysis of Covariance On Stress

Teat	Group				
	Exp.	**Control**	**SV**	**Sum of Squares**	**Mean Square**	**F Value**
Pre Test	24.855	23.855	B	7.4	7.4	0.574
			W	383.664	13.596	
Post Test	20.677	24.476	B	108.5	108.4	9.832
			W	325.660	11.906	
Adjusted Mean	20.255	27.786	B	155.746	155.37	53.23
			W	78.585	2.092	

The following table provides a summary of the findings from a research study that used a pre-test and post-test design. The study compared two groups which were designated as "B" and "W" under experimental and control circumstances. The dependent variable, which is denoted by the letter "SV," is symbolic of the total of squares, the mean square, and the F value for each of the groups and conditions.

A total of 24.855 squares is the sum of squares for the experimental group (B) during the pre-test phase. The mean square for this group is 7.4, which results in a F value of 0.574 overall. During the pre-test phase, the control group, denoted by the letter W, has a sum of squares value of 383.664, a mean square value of 13.596, and there is no reported F value. This preliminary comparison reveals that there

are dissimilarities between the groups prior to the implementation of any experimental intervention.

When we go on to the post-test phase, we find that the total of squares for the experimental group (B) is 20.677, and the mean square is 108.5, which results in a F value of 9.832. On the other hand, the control group (W) in the post-test phase has a total of squares of 325.660, a mean square of 11.906, and there is no reported F value. Specifically with regard to group B, the findings of the post-test indicate that there are substantial differences between the experimental group and the control group.

At the post-test phase, the table also gives adjusted means for both groups. The experimental group (B) has an adjusted mean of 20.255, while the control group (W) has an adjusted mean of 27.786. Both of these adjusted means are shown in the table. By using these adjusted averages, any baseline differences that may have occurred may be accounted for. In addition, the total of squares, mean square, and F value that correspond to each of the two groups are shown below.

The table demonstrates that there are differences between the experimental group and the control group in both the pre-test and post-test phases. Furthermore, there are significant variances in the F values that are found in the post-test, which suggests that the experimental intervention had an effect. It is possible that more statistical analysis and interpretation may be required in order to get a comprehensive understanding of the importance of these results in relation to the research.

Table 2. Computation of analysis of covariance on psychosomatic illnesses

Teat	Group		SV	Sum of Squares	Mean Square	F Value
	Exp.	Control				
Pre Test	19.562	18.331	B	9.336	9.336	0.538
			W	322.767	11.325	
Post Test	16.706	17.668	B	24.5	24.4	4.309
			W	138.555	4.295	
Adjusted Mean		18.606	B	35.622	35.164	9.969
			W	98.039	3.446	

There is a table that provides information on the outcomes of a research that used a pre-test and post-test design. The study focused on two groups that were designated as "B" and "W" and was conducted under experimental and control circumstances. As part of the dependent variable, which is designated by the letter "SV," the sum of squares, the mean square, and the F value are calculated for each group and condition.

When the pre-test period is included, the total of squares for the experimental group (B) is 19.562, and the mean square is 9.336, which results in a F value of 0.538. In the meanwhile, the control group (W) in the pre-test phase displays a total of squares of 322.767, a mean square of 11.325, and there is no reported F value. Some discrepancies between the experimental group and the control group are shown by

these preliminary pre-test findings, which were obtained before any experimental manipulations were carried out.

As we go on to the post-test phase, we see that the total of squares for the experimental group (B) is 16.706, and the mean square is 24.5, which results in a F value of 4.309. On the other hand, the control group (W) in the post-test phase displays a total of squares of 138.555, a mean square of 4.295, and there is no reported F value. It seems that there are some substantial differences between the experimental group and the control group, notably in group B, according to the findings of this post-test.

Furthermore, the table presents adjusted means for both groups during the post-test period. The experimental group (B) has an adjusted mean of 18.606 and the control group (W) has an adjusted mean of 35.622. Both of these adjusted means are included in the table. To take into account any variations in baseline characteristics that may exist across the groups, these adjusted means are applied. In addition, the post-test phase includes the presentation of the corresponding sum of squares, mean square, and F value for both of the groups participating in the study.

The table illustrates the changes that take place between the experimental group and the control group during both the pre-test and post-test phases. The post-test F values show that there are significant differences between the two groups, which indicates that the experimental intervention had an effect. Additionally, additional statistical analysis and interpretation are required in order to get a comprehensive understanding of the importance of these results within the framework of the research.

V. CONCLUSION

One of the most effective and comprehensive approaches to addressing the widespread problems of stress, anxiety, and psychosomatic disorders that are prevalent in today's society is Hatha Yoga. Individuals are equipped with efficient skills to manage the problems of modern life as a result of the influence that Hatha Yoga has on the autonomic nerve system, the endocrine system, and the development of mindfulness. In its capacity as a therapeutic modality, it not only treats the physiological aspects of stress-related disorders, but it also addresses the psychological factors that contribute to the condition in the first place, therefore promoting a harmonious integration of the mind and the body. The transforming journey of self-awareness and empowerment that is began by Hatha Yoga provides a road to greater well-being and resilience in the face of the complicated challenges that our time presents.

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