

# Effect of Yogic Practices and Physical Exercises on Selected Psychological Variables Among Higher Secondary School Boys.

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## **ABSTRACT**

A survey has been made in the coastal areas of Tondi-Tiruvadana Taluk where Pondugudi Government Higher Secondary School is situated. The plight of the School Boys were seized and the study was proposed to find out the effect of Yogic Practices and Physical Exercises on selected Psychological variables among plus one class School Boys. It was hypothesized that there would be significant differences on selected psychological variables due to the effect of Yogic Practices and Physical Exercises among Higher Secondary School plus one Class Boys for the present study. 45 Boys were selected at random and their ages ranged from 17 to 19 years.

For the present study pro-test and Post-test was administered using random group design which consists of Experimental and Control Groups. The selected subjects were randomly grouped into three equal numbers of 15 subjects each and they were assigned as yogic practices Group-YPG-I, Physical Exercise group-PEG-II, and Control Group CG-III. YPG-I Yogic Practices Group underwent Yogic practices, PEG-II Physical Exercises Group placed under physical exercises training and CG-III Control Group kept idle and no training was assigned. The data was collected before and after training sessions for a period of six weeks other than declared routine school holidays. The obtained data was analyzed using analysis of covariance (ANCOVA-tool). "F" value was arrived at to meet the significant level of confidence at 0.05. The hypotheses formulated were in tune with the calculated values. Among the groups YPG, PEG and CG. Yogic practices group-I had shown better impact on Psychological variables of Memory, Attention and Stress among higher secondary school plus one class boys.

**Key Words:** *Yoga Sutras of Patanjali, Sthiram Sugham Asanam, Drishti, Ujjayi, Kundalini Yoga, YIN Yoga, Pranayama, PGI Memory Scale, NIMHANS Test, Beck Anxiety Questionnaire*

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***Yoga Sutra of Patanjali:** It is a collection of Sanskrit Sutras (**Aphorisms** the theory and practice of yoga-195 Sutras) on (According to **Vyasa** and **Krishnamachary**) and 196 Sutras (According to other scholars including **BKS Iyengar**). The yoga sutra was compiled sometime between 500 BCE and 400 CE by the sage Patanjali in India who synthesized and organized knowledge about yoga from much older traditions.*

***Sthiram Sugham Asanam:** Asana is what is steady and pleasant, Motionless and agreeable form of Staying. **Pranayama:** Prana-Breath, Ayama-Stretching, extending and restraining. **Drishti-**Point of focus (yoga) of the connection. **Ujjayi:** is an audible breath taking technique produced by a slight contraction of throat muscles, which creates an oceanic sound at the back of the throat with each inhale and exhale. **Kundalini Yoga:** Life force Energy “You can get elevate your consciousness and feel great”. **YIN Yoga:** A slower style of yoga which poses are held for a minute and eventually up to five minutes or more. **YIN** Yoga targets the body’s connective tissues.*

#### INTRODUCTION:-I

There are lots of references to yoga in Hindu Scriptures, especially in the Gita, the Upanishads and other Puranas. According to the **Bhagavad Gita**-“Yoga is balance (Samatva)”. “Yoga is known as the disconnection (viyoga) of the connection (samyoga) with suffering”. Yoga Sutras attribute “yoga is the control of the whirls of the mind”. Yoga is ecstasy (Samadhi)”, **YOGA BASHYA**. Yoga is said to be the Oneness of Breath, Mind and Senses, and the abandonment of all states of existence, **MAITR UPANISHAD**. “Yoga is the Union of the individual Psyche (Jivatman) with the transcendental Self (Paramatman)”, Yoga-Yjna-**VALKYA**. Yoga is said to be the unity of Exhalation and inhalation and of blood and semen, as well as the union of Sun and Moon and of the individual Psyche with the transcendental Self”. Yoga-**SHKH –UPANISHAD**. (Delightyoga.com).

“In the Krita yuga, the way was jnana in the Treta, it was Karma, in the Dvapara, it was both Jnana and karma, but in, it is yoga that gives joy and freedom.” (**T.Krishnamachary**). The modern life lures us with comforts and conveniences. The price of which we pay in the form of obesity, hypertension, heart problems which further pave the way for mental health issues encircling the society. In the midst of modern atrocities, the science of yoga is the ray of hope that illuminates our path with equanimity, harmony and well-being. With the varying traditional yoga styles, the wisdom of ancient scriptures which emphasis upon the nutritious diet, the discipline of yoga offers the practioners the way to lead a healthy life style. From restoring the body vitals to its former glory to strengthening the emotional resilience continue reading to learn more about the importance of yoga in modern life .Yoga is stilling the endless flow of thoughts in mind (**Chitta Vritti Nirodhah**). While having a modern life, your brain is constantly engaged in endless thoughts and never rests in tranquility. As a result you lack focus, skill and vitality. The yoga calms the brain and enhances its vital functioning .The techniques of Pranayama involve taking deep breath that nourish the brain and meditation involves focusing on the breath that fosters inner connection and peace.

(**Chiefhealth.US**) Owing to improper breathing and eating your internal organs suffer a lot. When you are internally unhealthy, there’s no way you can feel healthy outside. The science of yoga incorporates the wisdom of healthy eating and proper breathing allowing you to take care of your vital organs in a healthy manner. With healthy lungs and stomach, you can to a greater content lead a life of wellness (**Cheifhealth.us**)

By implementing the Yamas and Niyamas written in the yoga sutras of Patanjali, You invite more discipline and mindfulness into your living. The five Yamas and Niyamas are the ethical codes of acts with compassion and living life in the present movement. **(Bio-Mohan Singh)**.

To bring the coastal area –rural Backward based Government Higher School Boys into the yogic stream to regulate their wavered life style, a specific model of yoga and Physical Exercise was designed. The Government Higher Secondary School of Pondugudi in the Coastal Rural area found most suited for our study. To regulate and to obtain a better result for the benefit of the subjects to improve their Memory, Attention and to eliminate the stress factor in their routine school life, the study was to find out the “ **Effect of Yogic Practices and Physical Exercises on selected Psychological variables among Higher Secondary School Boys.**”

#### NEED AND SIGNIFICANCE OF THE STUDY-II

Majority of the School going young boys nowadays face difficulties in their studies. Their learning faces the following problems at its base.

1. Lack of Synchronizing of the body and mind during learning process
2. Not following or having proper sense and attention with their social routine.
3. Feeling of anxiety and lack of relaxation and retrieval of memory.

In addition onto this, present day students face many other obstacles also. Modern education had made the children to carry a heavy load of books and note books. It gives strain to the backbone. Switching over to online teaching mode from class room studies, creates lots of problems in understanding and getting clarifications in case of doubts. Intervening parents during on time mode in tuning children poses problems in their attention on observations. Children suffer from postural defects, direct continuous sitting in the class room as well as while online teaching in view of COVID-19 safety norms. They also face psychological disturbances arising out of fatigue, fear of homework and lack of proper counseling etc. All these causes affect children experience decline in their memory, attention and lead to increased level of stress. Relaxation is needed for the young children physique as well as their mind. As physical education trains more towards body only, where as yoga can achieve both body and mind. The seashore bound rural backward village Government Higher Secondary School like Pondugudi in Tiruvadanai Taluk exposure to modern health tips for students are limited. Their attendance and academic achievements are poor though; yoga has been introduced in schools just for sake as Government policy. Hence, the Pondugudi Government Higher Secondary was identified and effective yoga as well a physical exercise model was designed and implemented for plus one class boys. An urgent need to undertake a study of this type with yogic practices and Physical Exercises training to find out the Effect of Yogic Practices and Physical Exercises on scientific lines to improve Memory, Attention and attain free from stress.

### **STATEMENT OF THE PROBLEM-III**

To learn any subject material the students must enjoy sound health both in body and mind. The minimum physical training available in the form of games provides little nourishment to mind. Games and their physical exercise give work only to the body at the cost of more energy and strain. Yoga practices nourish both body and mind with minimal effect and give relaxation in body and mind. But most of the Higher Secondary School Students are not exposed to even simple yogasanas till date, though yoga is considered as the hereditary asset of our land. For the students from Pondugudi Government Higher Secondary School located in the Seashore with predominantly backward rural place the training and the study is very much essential to improve memory, attention and to reduce stress. Therefore in the present investigation the author developed an exclusive model to suit the students of this school on Yogic practices and Physical exercises training to ascertain the effectiveness of Psychological variables such as Memory, Attention and Stress. Hence the problem entitles and coined for the present study is as follows:-

“Effect of Yogic practices and Physical exercises on selected Psychological variables among Higher Secondary School Boys.”

### **OBJECTIVES OF THE STUDY-IV**

“To identify the effect of Yogic practices and Physical exercises on Memory, Attention and Stress of Psychological Variables of Government Higher Secondary School Boys”.

### **HYPOTHESES-V**

The following are the Hypotheses made for the study

There is mean difference between Pro-test and Post-test on “Memory Scores of Students”.

There is mean difference between the pro- test and post- test on “Attention Scores of the Students.”

There is mean difference between the pro- test and post- test on “Stress Scores the Students”.

### **METHODOLOGY-VI**

Here our aim of study was to find out the Effect of Yogic Practices and Physical Exercises on selected Psychological variables among Higher Secondary Plus one Boys. The hypotheses formulated were that there would be significant differences on selected Psychological Variables due to the application of yogic practices and physical exercises among Higher Secondary School Plus one class Boys. For the purpose of the present research work 45 Boys from Pondugudi Government Higher Secondary School Plus one Class Boys were selected at random and their ages ranged from 17 to 19 years. For the present study pro-test and post-test random group design applied in selection which consists of experimental Groups YPG-I, PEG-II and Control Groups-CG-III. The selected experimental Groups YPG-I, PEG-II underwent yogic practices and physical exercise respectively and the Control Groups –CG

-III was kept idle without assigning any training. The data was collected before and after six weeks of training program scheduled in the morning, one hour daily other than Sundays and declared holidays. The School Physical Directors, volunteers and yogic experts from Yoga Life Science Trust, Devakottai were associated for smooth and streamlined training and obtaining actual data. The statistical tools used were MS Excel App, Origin App and SPSS Software. The collected data was analyzed using Analysis of Covariance (ANCOVA).The “F” value arrived was significant at set 0.05 level of confidence.

**RESULTS AND DISSCUSION-VII**

Six weeks regular Yogic practices and Physical Exercise training imparted to Government Higher Secondary plus One Class Boys and primary data collected for the purpose of analysis. The most suited and relevant tools were used for validation of obtained results. The Table-I here in shows the variables and tools-validated for the purpose of variables and tools used for collection of data for analysis.

**TABLE-I**

<b>Psychological Variables selected for the test</b>	<b>Tools for Validation of results</b>
Variables	Test-Tool
Memory Test	ICMR –PGI-Memory Scale validated by Dwaraka Prasad and NN Wig (1979)
Attention Test	NIMHANS ( Test of Scanning variables by NIMHANS-INDIA)
Stress Test	Beck Anxiety Questionnaire by Fathima Sathish

he values presented in the Table-II are the findings arrived on Analysis of Covariance of dependent “F” test value between Experimental Groups and Control Group on selected Psychological variables of Government Higher Secondary School plus- One Class Boys for Pro and Post- test. Significance of Mean Gains and Losses between Pro and Post- Test Scores on Selected variables of Yogic Practices Group (YPG) and Physical Exercise Group(PEG).

**TABLE II**

Variables	Mean values		Mean values		Mean Deviation		Standard Deviation		DM		“ F” Ratio	
	YPG	PEG	YPG	PEG	YPG	PEG	YPG	PEG	YPG	PEG	YPG	PEG
	Pro-test	Post-test	Pro	Post	Pro	Post	Pro	Post	Pro	Post	Pro	Post
Memory	77.26	74.40	93.03	85.91	15.77	11.51	08.91	05.77	0.35	0.26	3.16	36.79
Attention	66.66	67.46	91.00	86.40	24.34	18.94	04.30	08.27	0.11	0.18	9.02	44.15
Stress	17.80	18.29	34.37	26.17	19.57	09.88	07.33	03.01	0.17	0.07	2.39	90.83

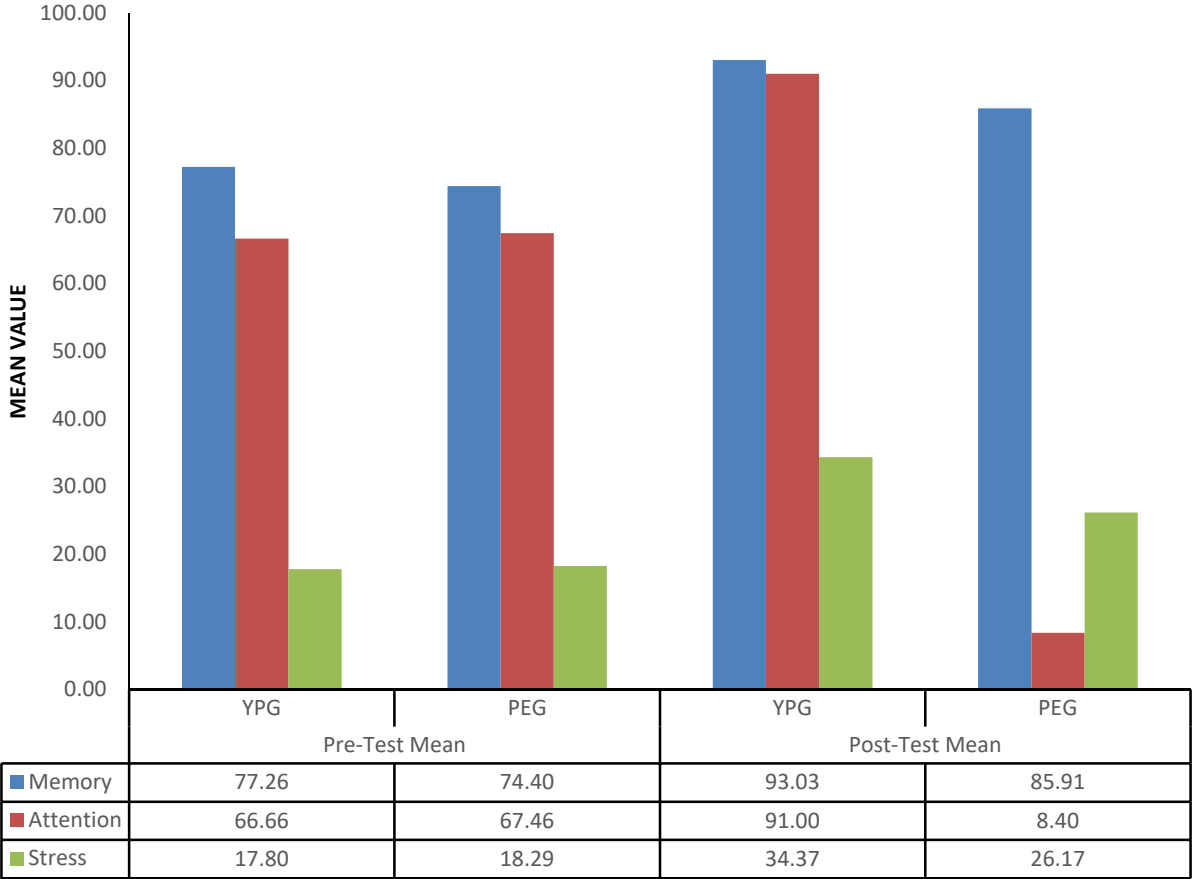
*Source: Authors own Calculation .significant at 0.05 level of confidence*

Table value (1, 45)2.75. The Table –II shows that obtained “ F” value for Pro and Post- Test mean differences with selected variables of Memory, Attention and Stress(YPG: 77,26, 66.66 and 17.80 and 93.03,91.00 and34.37 and PEG: 74.40,67.46 and 18.29 and 85.91,86.40 and 26.17).

The obtained ratios when compared to table values at (1.45) was 2, 75 of the degrees of freedom. It was found to be statistically significant at 0.05 level of confidence. It was observed that the mean gains and losses arrived from the Pro and Post- test were significantly improved in Psychological Variables namely 1) Memory 2) Attention and maintained at optimum level in 3) Stress: The values obtained are for memory 15.77, 11.51, Attention: 24.34, 18.94 and Stress: 19.57, 7.88. The Values attributed that the formulated hypotheses is accepted at 0.05 significant level of confidence.

**Figure -1**

A comparison of Pre and post test means in relation to Experimental Groups Psychological variables Of Memory Attention and Stress.



**Figure-II**

A comparative study of pro-test and post-test means of Control group of Government Higher Secondary School Boys:

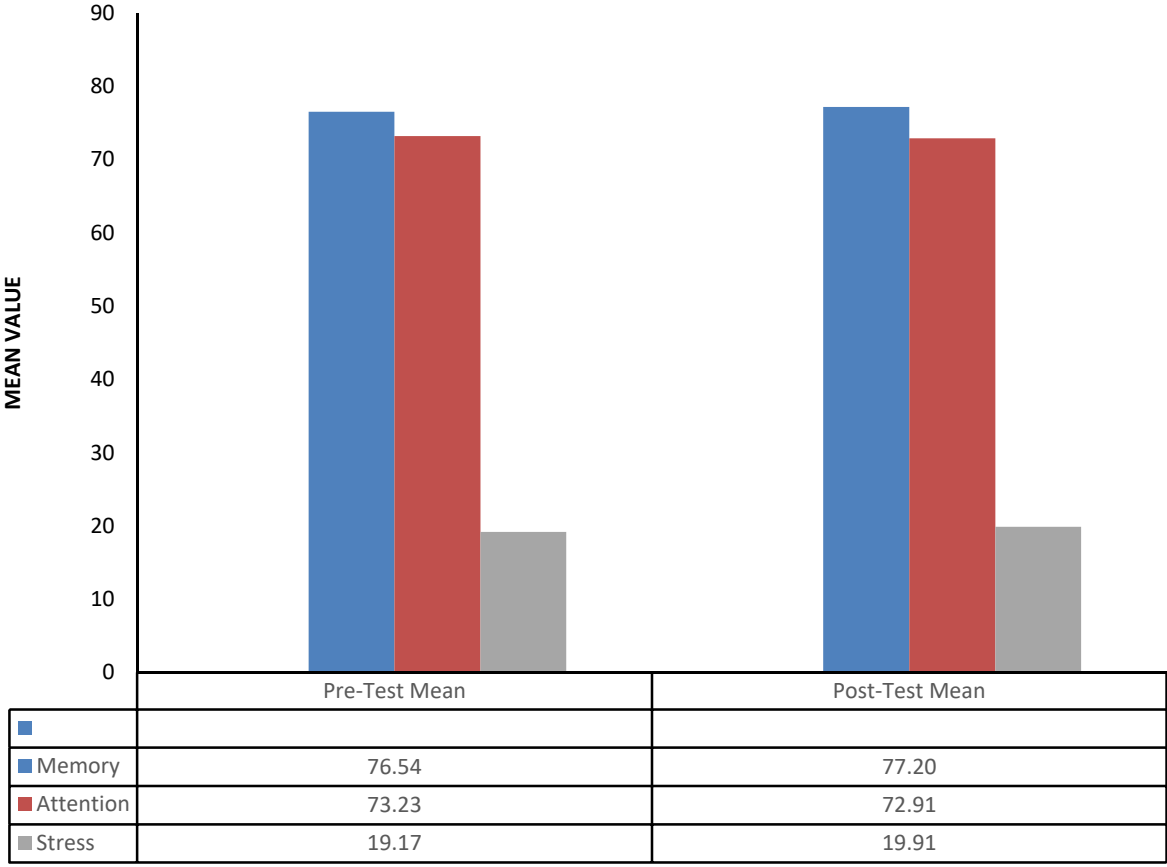




Table –III shows significance of mean Gains and losses between selected variables Scores compared to Control Group.

Significance of Mean Gains and Losses between Pro and Post- test scores on Control Group CG-III (CG- Not participating in my training)

**Table-III**

Variables	Pre-Test Mean	Post-Test Mean	Mean Difference	Standard Deviation		DM =SD 1/N		“F” Ratio
				Pro	Post	Pro	Post	
Memory	76.54	77.30	0.66	07.89	07.80	0.18	0.17	02.16
Attention	73.23	72.91	0.32	08.61	08.41	0.19	0.19	01.02
Stress	19.17	19.91	0.74	04.61	05.34	0.11	0.12	02.36

Source: Authors own Calculation from Collected Primary Data

“F” ratio obtained on table value (1, 45) at 2.75

**Significant value set at confidence level 0.05**

The obtained “F” value of 3,16 ,9.02 and 3.36 when compared to table value at (1,45) of 2.75 of the degrees of freedom (1,45) it was found to be statistically insignificant at 0.05 level of confidence. It was also observed that the mean gains and losses arrived from pro and pre- test scores were not significant in Psychological variables of Memory, Attention and Stress.

**CONCLUSION-VIII**

Yoga provides linkage between body, mind and soul. Yoga starts from cleanliness of body and mind through the process of word and action of a man. Yoga makes the mind to go deep into the subconscious level and purifies even the accumulated evil thoughts. The yoga is divided into four main groups namely Bakthi yoga, Karma yoga, Raja yoga and Gnana Yoga. The special model of yoga and Physical exercise referred their attributes and envisioned their future fully revolved around Scholastic Achievement, Academic Achievement. Under the circumstances mentioned in the study, the data collected were properly processed using MSEXcel, Origin and SPSS Software applications. The Pro and Post-test Scores was analyzed using ANCOVA Statistical tool to find out the significance set at 0.05 level of Confidence. “F” value to the table value was found that the yogic practices group was better in improvement of Memory, Attention and maintained comfortable scale of Stress than Physical Exercise and Control Group. In the

present study, it is evident that the yogic practices group improves their selected variables, there by excellent academic achievement. Hence it is recommended to the yogic practitioner's, physical education trainers and teacher educators ' to adopt these findings to improve the Students Memory, Attention and to maintain required level of Stress and primarily for an Excellent Scholastic Achievement.

## References:

- [1] Arora.S, Bhattacharya, Modulation of immune responses in stress. By yoga .Int.J yoga. 2008: 45-55.[PMC Free article] [Pub Med] [Google Scholar]
- [2]. Ankad. R.B, Herur.A, Patil, S, Shasikala. G.V & Chinagudi.S. (2011).Effect of short term pranayama and meditation on cardiovascular functions in healthy individuals. Heart Views .12(2):58-62.
- [3]. Bhavani.A.B, Madanmohan, Sanjay.S, and Basavaraddy, (2012).Immediate cardiovascular effects of Pranava pranayama in hypertensive patients. India J Physio pharmacol. 56(30):273-8.
- [4]. Chidambaram Raja.S, (2014) .Effect yogic practices and aerobic exercises on Strength endurance, self concept, blood pressure. International journal recent research and applied studies. (1-6-7) 33-36.
- [5]. Saroja .M, (2012). Effects of complex training and yogic practices on selected physical and psychological variables among college boys. Yoga Mimamsa Vol.XLIV No: 3:206-215.
- [6] .Nayar.HS, Mathur, RM, Kumar.S.R, Effect of yogic practices on human efficiency. Indian J Med Res: 63:1369-76.Pub Med research 1975. [Google Scholar.]
- [7] Kochupillai, V.Kumar.P, Singh.D, Agawam.D, Bharadwaj.N, Bhutani.M.et.al Effect of rhythmic breathing on (Sudharsankriya and pranayama) on immune functions and tobacco addicts. Ann Accord N.Y. Accord Science 2005; 056:242-52.{Pub Med} {Google Scholar}.
- [8] S .Mani, K.Vaithianathan, Effect of Yogic Practices and Physical Exercises on selected Physiological variables among Government Higher Secondary school Boys.Suraj Punj Journal for Multidisciplinary Research.ISSN NO: 2394-2886.Volume 11 ,Issue 6, Page No:40-46.
- [8]Restorative yoga,{AssessedJuly2012},at <http://santosha.com/restyorativeyoga.html>..

- [9] [Http://www.apa.org](http://www.apa.org)<2018/127 to *American Psychological Association on various stages of Memory: APA philosophy (Application, m et al. vol 73 No.1)*
- [10] [Http://www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov) PMC *the influences of Emotions on learning and memory*-NCBI-NIH by Cm Tyng.2017 cited by 433-Recent studies using functional neuro imaging techniques detect and recognize
- [11]. Intro yoga “*Yoga Philosophy and Patanjali what is kriya yoga*” yoga journal 28 august 2007. Retrieved 23 January 2021.
- [12] Griffin Mark (2 January 2012 Shikipat. *The Doorway to Enlightenment* [p213.ISBN 978098 - 1937502. (en.m.wikipedia .org).
- [13]. “Edwin Bryant (2011, Rutgers University) *The Yoga Sutras of Patanjali* [ep en.m. Wikipedia.org]
- [14]. *The Yoga Philosophy* [T.R Taty (Translator), with Bhojara Commentary Harward University Archives p.80 (en.m.wikipedia .org)
- [15]. Y.Swami (1987)” *The Nature of Faith in the Sankaran Vendanta Tradition*”[ Numen,vol-34,Fasc,(June 1987 Pages 18-44)
- [16]. Agase.K.S (904) *Patanjali Yoga Sutrani* [Pune: Anandasrama.P.10) (en.m.wikipedia .org).
- [17]. N.Tummers (2009), *Teaching Yoga for Life*, ISBN 978-0736070164, Page 16-17 (en.m.Wikipedia.org).
- [18]. Geeta Iyengar (a998), *Yoga: A Germ For women*, ISBN 978.8170237150, Page 29-30.
- [19]. RS Bajpai (2002), *the Splendours and Dimensions of Yoga*, Motilal Banarsidass, ISBN 978 817156 9649, Pages 136-144.
- [20]. *Indian Philispy* Sarvepathi Radhakrishnan P.314 (en.m.wikipedia .org)
- [21].*Reconciling Yoga's; Haribhadras Collection of views on yoga*. By Christopher Chapple, Haridhadrasuri, John Thomas, Cassey.P.15.
- [22].Gopal.A, Mondal.S, Gandhi.A, Effect of integrated yogic practices on immune responses in examination stress. A preliminary study .Int J Yoga. 2011.4.26-32.[PMC] {free article } [Pub Med] [Google Scholar ].

[23] Paul -Labrador.M, Polk.d, Dyyer J H, Velasques. I, Nidich.S, reinforth.M, et.al. Effects of randomized controlled trial of Transcendental meditation on components of the metabolic syndrome in subjects with coronary heart disease. Arch intern Med .2006; 166;[218-24][Pub Med Free article] [Pub Med] [Google Scholar].

[24] Santaella .DF, Devassa .DR, Rojo.MR, Amato MB, Dragger.IF, Cassali.KR.et.al.Yoga respiratory training improves respiratory functions and cardiac sympathovagal balance in elderly subjects