International Journal of Reliable and Quality E-Healthcare
Volume 11 • Issue 1

Computational Analysis of the Impact of Yoga on QoL and Body Flexibility

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ABSTRACT

This research paper is an initiative to provide insight into the health and quality of life (QoL) benefits of yoga. The investigation aims to study the ancient therapy for de-stressing occupational stress and improving employees' quality of life by examining the intervention of yoga exercise on physiological health and quality of life (QoL). To find the impact of yoga and light aerobic exercise on the flexibility of the body muscles and quality of life intervention of yoga, light aerobic exercise was conducted on employees of PPS International at Greater Noida (Uttar Pradesh), India, a manufacturer of high-tech equipment for Indian railway and metro trains and related industries. After seeking permission for the study from the founder and promoter, the research team randomly selected 120 subjects of age group 35-45 years, all males. To establish the result, a computational analysis of the recorded data was done. The t-test was applied to analyse descriptive statistics, pre-test, post-test, mean scores, and standard deviation of three different groups with N=40 in each group.

KEYWORDS

COVID-19, Flexibility, Health, Mantra, Meditation, Muscle, Quality of Life (QoL), Yoga

INTRODUCTION

Yoga is known as yogis; it is derived from the Sanskrit word Yuga, meaning union or unification. Yoga-asana is considered one of the best techniques for self-realisation. The yoga philosophy and practices were given to us more than 4000 years ago by Maharishi Patanjali, one of India's seven sages. His most famous, classic and authenticated text is Patanjali Yoga Sutras' (Vivekananda, 2015). Yoga has been designed to practice, which can unite and amalgamate the body and mind with the soul. The yoga discipline enables one to reach a high consciousness level balancing the inner self with the outside world(Allison, 2007). In other words, it is a blueprint to achieve excellence in human

DOI: 10.4018/IJRQEH.295084 *Corresponding Author

life. The optimum human life span can be enhanced to 100plus years with Yoga practice (Sharma, 1995; Gupta et al., 2016).

Yoga differs from other aerobic exercises by its excellent mechanism to control the human mind (Nieman, 2011). Extensive scientific research has proved Yoga to be a valuable tool in combating the modern stressful life characterised by psychosomatic and psychiatric problems (Rath, 2016). People who practice Yoga have reported improvement in their work efficiency with a decreased level of stress; they have also experienced other benefits like reduction in blood pressure, increase in vitality, clarity in thinking, relaxed feeling while in action (Verma et al.,2017; Harne et al., 2019).

Quality of life (QoL) is defined as the perception of life with context to the value system, culture, environment condition, physiological health, psychological health, expectation from life and goals to achieve in an individual life (WHO-QoL User Manual, 1996; Karmakar et al., 2017). Those people who have higher (QoL) are better positioned to face the challenges and are optimistic; they actively contribute to community welfare and remain happy with family and friends. Many researchers have studied this fact, who found that less privileged people or very old aged people can live a better life with a change in perception towards life(Hooker, 2016). Some other researchers have explained the quality of life as individuals with subjective and objective aspects(Preedy et al., 2010; Helliwell et al., 2020).

The founder of the magazine Yoga and Health, Ronald Hutchinson, has written, 'Yoga Works! Nothing which did not work could survive for so long. Its continual evolution makes it unlike religions, which tend to become fossilised around their founders' sayings.

Millions worldwide are regular Yoga practitioners, which seem flexible enough to meet people's various needs. However, Yoga has been found to abode even in the present-day corporate boardrooms (Claridge et al., 2017). No physical exercise system can tone muscles and enhance flexibility with less pain, strain, and severe injury danger. There is perhaps no safer way to relax and calm the mind than yogic breathing and meditation (Bhandari et al., 2010). As per Rastogi et al. (2018), the stress level is directly related to biofeedback, an alternate therapy to reduce stress and tension-type disorders by self-control (Hooker et al., 2016).

This research design is an amalgamation of western kind of lifestyle at the workplace as employees are under high work pressure to meet the targets in the competitive market, and the eastern preview of Yoga in getting rid of muscle rigidness and providing a smooth, flexible body for better physical health with quality of life at workplace. The authors' effort is to bring forward the effect of Yoga among employees of India's multinational corporate houses; thereby, a population of blue & white collared employees with contemporary lifestyle challenges requires attention for this kind of research work.

For years, human beings have been trying their best to live a healthy, peaceful and simple life in society. But, unfortunately, humans have often faced danger, terror, etc., but now they have found their peace of life from Yoga and Meditation. This ancient system is the same treatment for stressed-out modern people of the twenty-first century. Yoga has been in existence for the past4,000 years. The various yoga disciplines were developed in India about 1,500 years ago for achieving a state of 'effortless flow of human life (Ross et al., 2014).

BACKGROUND

Yogacharya BKS Iyengar, one of the foremost yoga teachers in the world and also the founder of the style of "yoga as exercise" known as "Iyengar Yoga", states that "Yoga is being practised in India since ancient times. With the help of yogic techniques, mind and body can be controlled and helps the practitioners to achieve a higher degree of self – realisation by a change in diet and mental attitude"(Aubrey, 1995; Lukic et al., 2019).

Grabara et al. (2015) searched the impact of Hatha Yoga on spine flexibility of women over 50 years old for 20 weeks 1day/ week for 90 minutes. The result showed significant improvement in the backbone elasticity from 6.7 to 12.5 degrees compared to pre and post-yoga practice.

Lock et al. (2020) carried out a study on selected yoga asana for physical fitness on 30 male subject's age 21 to 25 years. A significant difference was observed in BMI ($p<0.5$), Mean, standard deviation and t-test on the flexibility of body muscles. Furthermore, the effect of yoga practice regarding the subjects' flexibility had more remarkable improvement from pre-and post-test ($p<0.05$).

Hosiso et al. (2013) studied aerobic exercises effect on improving the health-related fitness component of inactive and fat females of Dilla University, Ethiopia. The researcher selected 20 females and gave them 20 consecutive weeks of aerobic exercise. When the mean value score was compared before the test with the mean value score after 12 weeks of aerobic exercise, the mean difference value increased by 724.8m (52%). When the performance of an individual was compared with pre and post-test, 5.4 mean differences were recorded. The mean value of the subjects who were fat, having problem in sitting, and issues in muscular flexibility were examined, and the result of the test was -1.22, 0.88850 and 3.30 for pre & post-test; an increment of 4.52 was observed. The research findings concluded that aerobic exercise has a positive impact on muscular strength and push-ups. After 12 weeks, there was a significant result on the individual's sit-up and sit-and-reach performance. In addition, the improvement in the data showed an improvement in the motions of the joints of participants. At the end of the study, the mean value of BMI subjects was reduced to 2.18Kg/m2. The primary benefit of the experiment was to minimise the risk of obesity and ensuring healthy body parts. Body Mass Index and Body Weight were reduced after 12 weeks of exercise due to daily calories burn during aerobic exercise (Mathers et al., 2006; Klafke et al., 2019; Mathewos et al., 2013).

Mishra et al. (2018) conducted a study on three cancer patients with breast cancer, mouth cancer and chronic myeloid leukaemia. The researcher and team used light Yoga and meditation as supportive care therapy. According to Klafke et al. (2019), the rhythmic sound waves of mantras create a pious and heavenly atmosphere that provides immense good feeling with mental satisfaction that influence the behaviour of an individual to a great extent and help to change the perception of life and improvement of quality of life of patients. Furthermore, QoL has been defined as a psychological and physical condition that causes one to expand its efforts to satisfy the requisite standard of living. Therefore, quality of life has significantly associated with Yoga and Meditation (Reid et al., 2010; Mishra et al., 2018).

Another research by Karmakar et al. (2017)on the influence of senior citizen's quality of life included 30 subjects aged60 to 70 (all males). Forty-five days of various asana yoga was given to the subjects as an intervention. In addition, the researcher surveyed using the form of the WHOQOL-Briefquestionnaire, scoring norms were implemented accordingly. The result showed improvement in QoL after Yoga intervention but did not improve significantly at 0.05 levels. Therefore, if Yoga intervention is applied for an extended time, then the only quality of life of older adults can dramatically change (De et al., 2020; Richardson et al., 2008).

Research to assess QoL was conducted by Carlos et al. (2012) on 159 subjects of mixed gender with 16 weeks of physical activities.125out of 159 underwent the researcher's training program, which indicated better QoL in the progressive group (Oman et al., 2018; Rastogi et al., 2018).

In the 21st century, the modern lifestyle aims to achieve very high and unrealistic goals, leading to a highly stressed lifestyle. As a result, the quality of life has declined. Several diseases like cardiac disorder, renal damage, hypertension, and hormonal disorder are noticed at a mature stage. This Analysis of Modern Lifestyle and Yoga was carried out by researchers (Rath, 2016). According to Nieman (2011), Yoga works as an immunity booster and helps cure simple to complicated human body disorders (Dalal, 2010; Verma et al., 2017).

In contemporary times, the human resource department of an organisation has enabled the construction and maintenance of an employee work environment that has helped in the improvement of employees' performance while at the same time providing opportunities that involve them in taking the major decision of an organisation (Richardson et al., 2019).

Corporate organisations focus on "Wellness Programs" to help employees improve their health and mental well-being by offering various company-sponsored programs like Gym, Swimming, weight-

loss competitions, health screenings and much more. That is one of the best practices of corporate strategies. Most organisations are implementing various procedures so that their employees remain in good health and enjoy doing the work with a positive approach, zeal and enthusiasm (Allam. et al., 2007; Lukić et al., 2019).

According to Pandya (2001), ancient Indian culture has given numerous Vedic methods for achieving wellness. For example, Vedas (Yajurved 18/1 to 18/23) recommends human beings do Yoga every day, morning and evening, to attain spiritual refinement, mental peace, and a healthy body free from diseases. The Indian Vedic Mantra is now being practised worldwide, as it has exhibited a beneficial healing process. Vedic Mantras such as Om, Gayatri Mantra (GM) and Mahamritunjay Mantra (MM) are derived from the oldest Vedic literature, the Rig Veda (Mandala 3.62.10) & (RV7.59.12).

Sharma (1998), in his book, 'Gayatri Mahavigyan', has revealed the vast knowledge of the Vedas encoded in the form of Mantras and Chhandas (hymns)composed in Vedic meter in the Sanskrit language hence recited or sung in a rhythmic, poetic form. By continuous rhythmic chanting, one can become fully de-stressed in a brief period and achieve consciousness. Every word of the Vedic Mantra is so carefully selected and arranged that the recitation of Vedic Mantra triggers vibrations in different parts of the human body as a neural network and stimulates the hypothalamus gland in the brain to release hormones such as serotonin responsible for controlling mood, fatigue, appetite, sleep or feelings and reduce stress and depression level, also influencing our immune system (Bindlish et al., 2011; Demir, 2015).

Meditation Therapy is an ancient Vedic therapeutic approach that is shown to improve the mental health condition of an individual to a great extent (Harne et al., 2019). It creates a positive thought process, reduces anxiety in many, leading to the betterment of health and good quality of life of cancer, diabetes, hypertension patients etc. by chanting of Mantra sound energy which is generated by the vibrations of the Vedic Mantras which impact the healing of disorders of the mind, body and soul (Klafke et al., 2019).

METHODOLOGY

Yoga discipline was introduced as a wellness program under Employees' Welfare Activities at PPS International at Greater Noida (Uttar Pradesh), India. This company is engaged in manufacturing High-Tech equipment for Indian Railway & Metro Trains &related Industries. For this study, consent was taken from the Founder and Promoter of PPS International.

The researcher randomly formed three investigational groups of 120 subjects; all subjects were of the same working profile; technical male employees age between 35-45years. The intervention programs were organised for one hour daily for four weeks. Group A with 40 subjects for testing variables on Yoga, Pranayama and Meditation.Group B with 40 subjects for testing variables on light aerobic exercise. Group C is the controlled group which did not participate in any activity (Figure 1). The training was given for yoga asana, pranayama and meditation. However, no formal training was provided for light aerobic exercise as it included the use of stairs in place of lift walking and jogging (Dhungana et al., 2018; Feuerstein et al., 2008).

To study and investigate the effect of Yoga and light aerobic exercise, the tool t-test was applied for analysis, descriptive statistics (Mean, SD and Range) on pre-test and post-test as examined on all three groups. For measurement of variables of Upper and Lower body flexibility, the assessment was done in Inches. The scores were collected with the help of 3 assistants in the presence of the researcher. Evaluation for Quality of Life, a survey from the WHO-Quality of Life Scale (WHO-QL-BREF) (WHOQOL USER MANUAL1996) was used (Figure 2). The scale comprises 26 items that were required to answer on 5-point Likert Scale. The questionnaire was administered to different respondents through Google Doc, online survey form, e-mails and telex message platform. Twenty-six questionnaires of WHO-QoL showed consistency with Cronbach's alpha a= 0.87 making it a reliable and valid instrument among Indian samples (Figure 3).

Figure 1. Shows the Sampling Model for investigation study following Yoga module

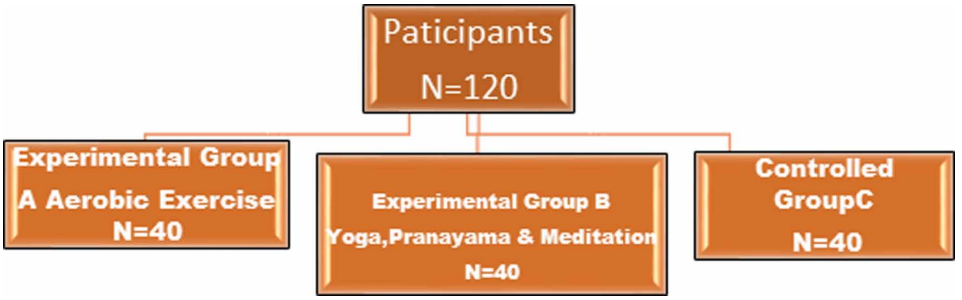


Figure 2. Selection of health-related variables

Figure 3. Yoga and Meditation Training is given to the Employees by the researcher

According to Table 1, the Yoga Module developed for employees is according to Patanjali Yoga Sutra with the name of posture with style and benefits of the pose and duration(Vivekananda, 2015).

The objectives were:

1. To determine the impact of yoga asana, pranayama and meditation or light aerobic exercise on selected health variables(upper and lower body muscles flexibility).
2. To find the influence of yoga meditation and pranayama or light aerobic exercise on employees' quality of life.

While the hypotheses included:

Table 1. Yoga module and protocols

Posture	Title / Name of Asana	Benefits	Duration
Prayer	Chanting of Gayatri Mantra	Increases concentration	2 Minutes
Warm-Up	Movement of Neck Shoulder. Waist and Knee	Warming up the body	6 Minutes
Standing Posture	Tarasan	Helps in correcting posture	20 Minutes
Standing Posture	Vrkshasana	It helps with balance and endurance.	
Standing Posture	Padhastasana	Pinal nerves are stimulated and toned.	
Standing Posture	Ardha – Chakrasana	Ardhachakrasana strengthens the back and abdominal muscles.	
Standing Posture	Trikonnasanna	Stretches and strengthens the thighs, knees, and ankles.	
Sitting Posture	Bhadrasana	It strengthens the legs and opens the hips.	
Sitting Posture	Vajrasana	It helps to relieve knee pain, strengthening thigh muscles.	
Sitting Posture	Ardha- Ushtraasana	It helps to increase chest size and lung capacity, stimulates abdominal organs, improves the function of the respiratory system	
Sitting Posture	Shashaasana,	This asana relaxes the mind and relieves depression. It tones the pelvic muscles and relieves sciatic pain. It can help with sexual disorders. It gives an excellent relaxing stretch to the upper body.	
Sitting Posture	Uttanamandukasana	Improves the function of the respiratory system. ..	
Prone Lying Posture	Makarasana	It works for the lungs' efficient functioning, lowers the waist region, and makes it more challenging.	
Prone Lying Posture	Bhujangasana	Strengthens the spine, stretches the chest and lungs, shoulders, and abdomen, tones the buttocks and stimulates abdominal organs.	
Prone Lying Posture	Salabhasana	Strengthens the muscles of the spine, buttocks, and backs of the arms and legs. Stretches the shoulders, chest, belly, and thighs	
Spine Lying Posture	Setubandhasana	Stretches the chest, neck, spine, and hips. Strengthens the back, buttocks, and hamstrings. Improves circulation of blood.	
Spine Lying Posture	Uttanapadasana	Cures stomach disorders like acidity, indigestion, and constipation. Strengthens the abdominal organs. Strengthens the back and hip, and thigh muscles.	
Spine Lying Posture	Ardhahalasana	It helps strengthen the thigh and calf muscles. As a result, it can help you lose weight and reduce belly fat.	
Spine Lying Posture	Pavanmukasana	Resolves constipation problem	
Spine Lying Posture	Savasana	Woks on the central nervous system, aiding the digestive and immune systems. It calms the mind and reduces stress. Reduces headache, fatigue and anxiety. Helps lower blood pressure.	
Pranayama	KapalBhati	Primarily Affects Stomach, Pancreas, Liver, Spleen, Intestine, Prostate And Kidney to function more efficiently	8-10 Minutes
Pranayama	AnulomaViloma Pranayama	Patience, focus, and control. Relieving stress and anxiety. Improvements to brain, respiratory, and cardiovascular health.	
Pranayama	Sheetali Pranayama	It cools the body and helps nerves and muscles relax. This pranayama is beneficial for people suffering from high blood pressure. It can help treat disorders of gulma (chronic dyspepsia) and spleen or other related diseases. It promotes digestion.	
Pranayama	BhramariPranayam	Reducing the stress, anxiety, anger, and frustration; reducing the blood pressure; providing an excellent resonant voice; and removing throat ailments	
Pranayama	Bhastrika Pranayama	Favourable effect on the respiratory and digestive system. Drains excess phlegm from the lungs. Oxygenates the blood increasing the vitality of all the organs and tissues. Strengthens and tones the abdominal region.	
Meditation	Meditation / Dhayan	It calms the mind and rejuvenates the body	8-10 Minutes
	Shanti Paratha	Spreading happiness feelings	Minutes

Hypothesis 1

It was hypothesized that:

$H_{1,}$ there will be a significant difference between yoga asana, pranayama, meditation, or light aerobic exercise on health variables upper and lower body muscles. (Accepted)

H_0 There would be no significant impact of yoga asana, pranayama, meditation, or light aerobic exercise on health variables upper and lower body muscles. (Rejected)

Hypothesis 2

H_1 There will be a higher influence of Yoga asana, pranayama and meditation or light aerobic exercise on employees' quality of life.

H_0 There will be no influence of Yoga asana, pranayama and meditation or light aerobic exercise on the Quality of Life of employees.

RESULTS AND DISCUSSION

After one month of yoga training, the following test was conducted to assess the upper body flexibility (Backstretch). The purpose was to measure the shoulder muscle's elasticity and flexibility. The instrument used was a measuring tape/ scale. The test was done with the help of an assistant.

Method

One hand was extended towards the back of the head above the shoulder and stretched towards the middle of the back, palm touching the back, and fingers pointed down. The other hand placed at the rear stretched to touch the fingers of the upper hand. Release the stretch and repeat it on the other side. The best score was taken as closest centimetres or ½ inch.

Figure 4 shows the best scores are in the nearest cm or half an inch. Again, better the score shows better performance.

According to Table 2, the Range for Measurement is given in inches; the best score was taken closest centimetres or ½ inch with the backstretch of upper limbs in the backward direction

According to Figure5, the average upper body flexibility (backstretch) elasticity of the shoulder muscle is below average <-6.5 due to obesity and lack of yogic exercise.

According to Table 3, for the upper body muscle flexibility (backstretch of upper limbs), the aerobic exercise group pre-mean score is-0.88 with std. deviation 3.36, which is the highest in the entire group. However, in the yoga group, a post mean score of 1.05 with std. deviation 3.13 is the highest among all three groups, showing significantly improved physiological variables (muscle flexibility) with Yoga and aerobic exercise intervention. The pre mean score of controlled groups is 1.38 with std. deviation 3.50 recorded lowest.

Result Analysis: According to Table 4, the t-value of group A & group B was 3.36 and 5.6, respectively this value is higher than the table value (1.684) at 39 df, indicating that the null hypothesis is rejected, accepting the alternate hypothesis that there is a higher significant difference on the impact of yoga asana, pranayama, meditation, or light aerobic exercise on health variables (upper body muscles) than the controlled group who were non-practitioners.

Figure 6 shows a graphical presentation of descriptive statistics of the Yoga and aerobic exercise group's upper body flexibility which showed significantly higher flexibility than the controlled group. It may be said that group A and group B are found to have substantially better backstretch than group C.

Figure 4. Upper body flexibility (backstretch) result is above average

Table 2. Range for measurement in inches

Age	Below Average	Normal (inches)	Above Average
35-45	<-6.5	-6.5 to 0	>0

Lower Body Flexibility

Sit-and-reach to touch the toes is the most common tests to assess the flexibility and elasticity of lower body muscles.

Measurement: A measuring tape was used as the equipment for the test.
Procedure: Subjects were made to sit on the chair, with a position so that one leg is stretched out in front with knees straight, heels grounded, and ankle at 90^0. The subjects were instructed to breathe in and, with the breath out, stretch the body in front to touch the toe of the stretched foot.

According to Table 5, when the fingertips and ties come in contact, the score is zero. If not, then the distance is considered a negative score; overlapping is regarded as a positive score.

As per (Table 6), in the Yoga group pre-mean score is 1.25 with std. deviation 2.09 and post mean score 2.26 and std deviation 1.83 is recorded highest in all the three groups indicating significant

Figure 5. Upper Body Flexibility (backstretch) Result is below Average

Table 3. Descriptive statistics of upper body flexibility

Group	TEST	Mean	Std. Div.	The minimum backstretch of upper limbs	The maximum backstretch of upper limbs	Range
Group A Aerobic Exercise N40	Pre- Test	-0.88	3.36	-9	4	13
	Post- Test	0.5	2.58	-6	4.5	10.5
Group B Yoga group N40	Pre -Test	-1.25	3.38	-8.5	4.5	13
	Post -Test	1.05	3.13	-4.4	7.5	12
Group C Yoga group N40	Pre- Test	-1.38	3.5	-13	4	17
	Post- Test	-1.75	3.54	-12	4	16

improvement in the physiological variable lower body muscle flexibility with yoga intervention. On the other hand, the pre mean score of controlled groups was 0.13 with std. deviation 1.66 recording no improvement in lower body muscle flexibility in the non-practising group.

Result Analysis: According to Table 7, the t-value of group A & Group B is 2.46 and 5.15, respectively this value is higher than the table value (1.684) at 39 df, indicating that the null hypothesis was rejected, accepting the alternate hypothesis that, there is a higher significant difference due to impact of yoga Asana, Pranayama, meditation, or light aerobic exercise on health variables lower body muscles than the controlled group who were non-practitioners.

Table 4. Paired t-test at 0.05 significance for upper body flexibility

Compared Group	Test	Mean	Std. Deviation	df	SEM	t value	Significance level
Group A Aerobic Exercise	Pre-Test	-0.88	3.36	78	0.17	3.36	*
	Post Test	0.5	2.58				
Group B Yoga group	Pre-Test	-1.25	3.38	78	0.26	5.6	*
	Post Test	1.05	3.13				
Group C Controlled	Pre-Test	-1.38	3.5	78	0.35	0.9	*
	Post Test	-1.75	3.54				

Note: *Significance at 0.05level.

Figure 6. Graphical Presentation of Descriptive Statistics of Upper body Flexibility

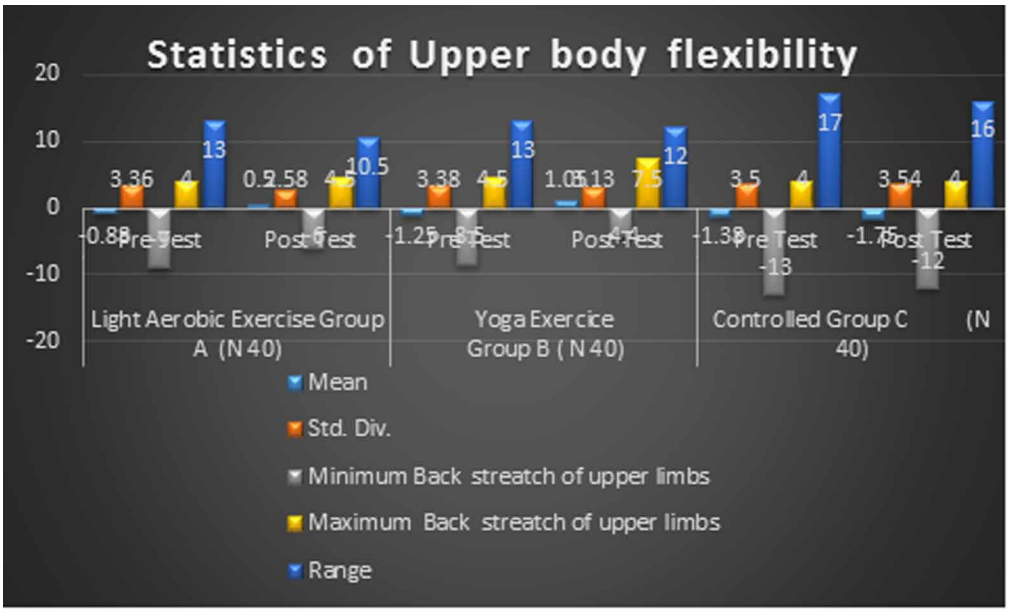


Table 5. The range for measurement in inches

Age	Below Average	Average (inches)	Above Average
35-45	<-2.5	-2.5 to 4	>4.0

The graphical presentation of descriptive statistics of lower body flexibility exhibits that the yoga group showed significantly higher flexibility of the lower body than the aerobic exercise group and controlled group C (Figure 7).

Quality of Life

Perception for Quality of Life (QOL) is a measure or an indicator of multidimensional factors validated by consensus derived from a population of a diverse group of employees(Kang. et al., 2012). Significant factors of QOL can be the perception for health, physical health, psychological

Table 6. Descriptive Statistics of Lower body flexibility

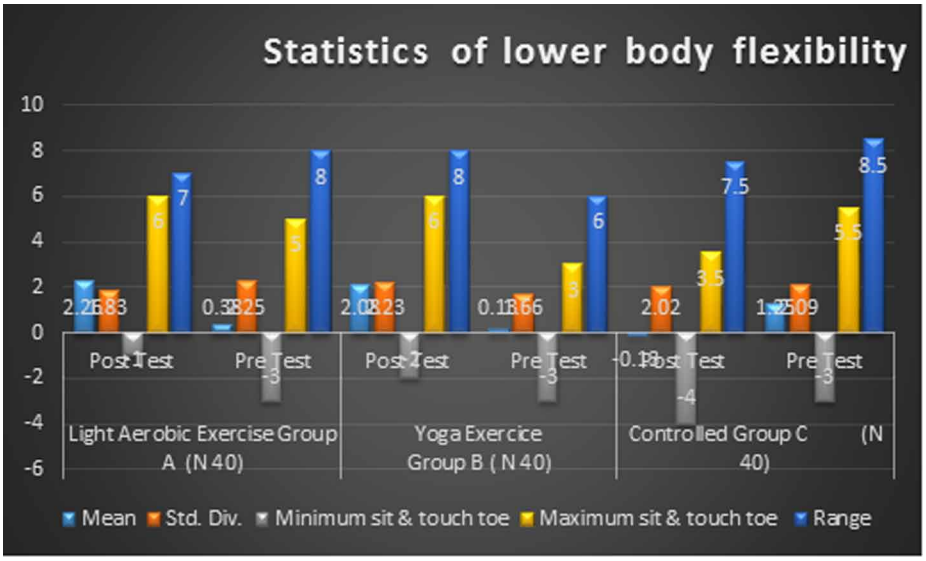
Group	TEST	Mean	Std. Div.	Minimum sit & touch toe	Maximum sit & touch toe	Range
Aerobic Exercise Group N40	Pre- Test	0.38	2.25	-3	5.5	8.5
	Post- Test	2.08	2.23	-1	6	7
Yoga Group B N40	Pre -Test	1.25	2.09	-3	5	8
	Post- Test	2.26	1.83	-1	6	8
Group C Controlled N40	Pre -Test	0.13	1.66	-3	3	6
	Post- Test	-0.13	2.02	-4	3.5	7.5

Table 7. T-Test at .05 significance for Lower Body Flexibility is calculated

Compared Group	Test	Mean	Std. Deviation	df	SEM	t value	Significance level Sig. (one-tailed)
Group A Aerobic Exercise Group N40	Pre-Test	0.38	2.25	39	0.41	2.46	*
	Post Test	2.08	2.23				
Group B Yoga Exercise N40	Pre-Test	1.25	2.09	39	0.33	5.15	*
	Post Test	2.26	1.83				
Group C Controlled N40	Pre-Test	0.13	1.66	39	0	-1	*
	Post Test	-0.13	2.02				

Note: *Significance at 0.05level.

Figure 7. Graphical presentation of descriptive statistics of lower body flexibility



health, environmental health, perception for a social relationship, perception for quality of life, etc. In addition, the absence of any mental illness, lack of negative orientation in behaviour and thoughts, a positive approach towards every action, and high self–esteem, good memory, and oratory skills are essential determinants of QoL. For the assessment for Quality of Life, a survey form of the WHO-Quality of Life Scale (WHOQL-BREF) (WHO-QOL USER MANUAL1996) was used. The scale comprises 26 items that were required to answer on 5-point Likert Scale.

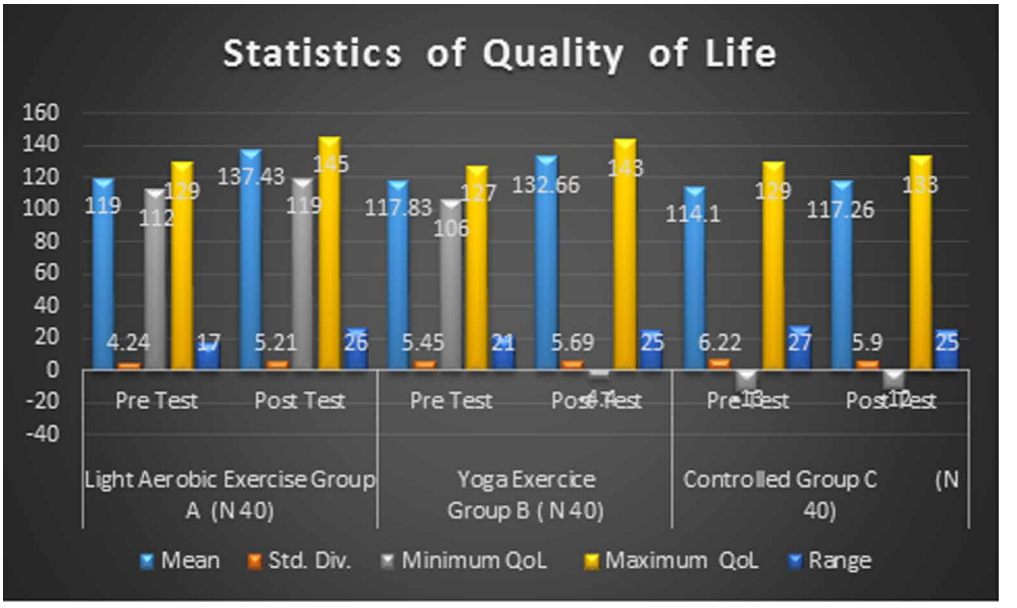
According to Table 8, for the Quality of Life, the Yoga group pre-mean score was 120.83 with std. deviation 4.25 and post mean score 137.66 and std deviation 4.89 was recorded highest in all the three-group indicating the significant influence on improvement in the Quality of Life of employees observed with yoga intervention. Furthermore, the Aerobic exercise group also showed significant improvement in average mean score. On the other hand, the pre mean score of controlled groups, which recorded the lowest, was114.1 with std. deviation 3.93.

Figure 8 exhibits a graphical presentation of descriptive statistics of quality of life. The Yoga and aerobic exercise group showed a significantly better Quality of life than the controlled group C.

Table 8. Descriptive statistics of quality of life

Group	TEST	Mean	Std. Div.	Minimum QoL	Maximum QoL	Range
Light Aerobic Exercise N-40	Pre -Test	118.21	4.24	112	129	17
	Post- Test	126.43	4.67	119	143	25
Yoga Group N 40	Pre-Test	120.83	4.25	106	127	21
	Post- Test	137.66	4.89	118	145	26
Controlled Group N40	Pre -Test	114.1	3.93	102	129	27
	Post- Test	117.26	4.21	108	133	25

Figure 8. Graphical Presentation of Descriptive Statistics of Quality of Life



Result: The't' test value of the Yoga and aerobic exercises was higher than the tabular value. The significance value at .05 is 1.990 at 78 degrees of freedom (df= 78) was applied. Hence, we rejected the null hypothesis that Yoga or aerobic exercise has no significant impact on muscle flexibility. The findings conclude that for the employees who practice Yoga or do light aerobic exercise, significant improvement was observed in upper and lower body muscle flexibility, and a significant effect is reflected in the quality of life. Furthermore, such employees are likely to experience less stress compared to non-practitioners.

Result Analysis: According to Table 9, the 't' value of group A & Group B is 2.12 and 2.31, respectively. This value was higher than the table value (2.023) at 39 df level of significance taken is 0.05 Sig. (two-tailed test) indicating that the null hypothesis is rejected, accepting the alternate hypothesis that there is a higher impact and influence of light aerobic exercise and Yoga asana, pranayama, a meditation on quality of life than the controlled group non-practitioners.

RECOMMENDATIONS AND DIRECTIONS

The traditional Indian way of practising, Yoga with Pranayama and meditation, develops positive psychology inhuman life. The well-being of an individual depends upon both mental and physical fitness (Acharya, 1995)**.** The relationships with other people, social activities, and personality development to lead delighted and joyous lives can be achieved with simple Yoga and light aerobic exercise. Yoga makes a person fit, happy, attentive and helps to maintain a balance between stressful work pressure, mental stress, emotional dissonance and physical, mental wellness. With each passing day, it makes life more satisfied and happier. It is recommended that yoga practice or physical exercise be included as a mandatory activity under Employees' Welfare Activities in Government and Private Sector organisations. The findings will be resourceful across various organisations in establishing health settings for promoting the psychological well-being of employees. The ancient discipline of Yoga can also be practised in the modern context so that there is no cultural bias or clash of ideal.

FUTURE RESEARCH AND LIMITATIONS

This research was undertaken to support health benefits with Yogasanas, Pranayama and meditation. Though all efforts were made to prepare a comprehensive research study, there was a lack of controlled trials and cross-cultural diversity within the investigation population, which prevented presenting the findings from various capabilities within young Indian male employees. Therefore, the result seems to be less conclusive. Hence it is recommended that a more robust interventional research design be prepared for better outcomes. Different physiological and health variables may be taken to study

Table 9. Descriptive statistics of quality of life

Group	TEST	Mean	Std. Div.	df	SEM	Value	Level of Significance Sig. (two-tailed)
Light Aerobic Exercise N-40	Pre -Test	118.21	4.24	39	0.26	2.12	**
	Post- Test	126.43	4.67				
Yoga Group N-40	Pre-Test	120.83	4.25	39	0.81	2.31	**
	Post- Test	137.66	4.89				
Controlled Group N-40	Pre -Test	114.1	3.93	39	1.35	1.43	**
	Post- Test	117.26	4.21				

Note **Level of Significance 0.05 Sig. (2-tailed)

Yoga, Pranayama and Meditation with a longer time duration in a future study. A well-designed interview method may also be adapted to gather information regarding participants' experience for a prospective study (Sri Ram Sharma, 1995).

This research initiative may support health benefits associated with the combined practice of Yoga, Pranayama and Meditation. It is also recommended to introduce Yoga and meditation under India's employees' welfare activity in private and government sector companies to help professionals cope with workplace stress.

CONCLUSION

The intervention group in the study witnessed an insignificant trend effect indicating Yoga and pranayama and mediation effectively enhance the flexibility of the body and perception for quality of life among Indian youths.

The research tried to bridge the gap by investigating a module with Hath yoga and found that all subcomponents were independent and well interacting. Moreover, the integrated module of Yoga with different postures provided equal importance in reducing anxiety, stress, and depression and calming the mind with meditation; thus, enhancing muscle flexibility with yoga asana and increasing the vital capacity of Lungs with deep breathing pranayama.

It was found that Yoga helps in providing holistic health to an individual. Regular practice of Yoga with Pranayama and Meditation helps in improving the quality of life. This supportive alternate ancient therapy can reduce the therapeutic burden and also help in reducing the side effects which deteriorate the QoL of people suffering from chronic diseases.

ACKNOWLEDGMENT

We authors wish to thank our spiritual teacher Gurudev Pt. Sri Ram Sharma Acharya ji, who inspired us to adopt and propagate the rich Indian cultural heritage. With his blessings, we could complete this research work successfully. Furthermore, we express our special thanks and regards to Mr. P.K. Agarwal ji, Founder and Promoter of PPS International, Greater Noida (UP.) India for granting permission to undertake this research study on employees working in his firm and providing adequate facilities.

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APPENDIX

Practical Training for Yoga & Meditation given by the Researcher

Figure 9. Postures of Yoga Asana Set-1

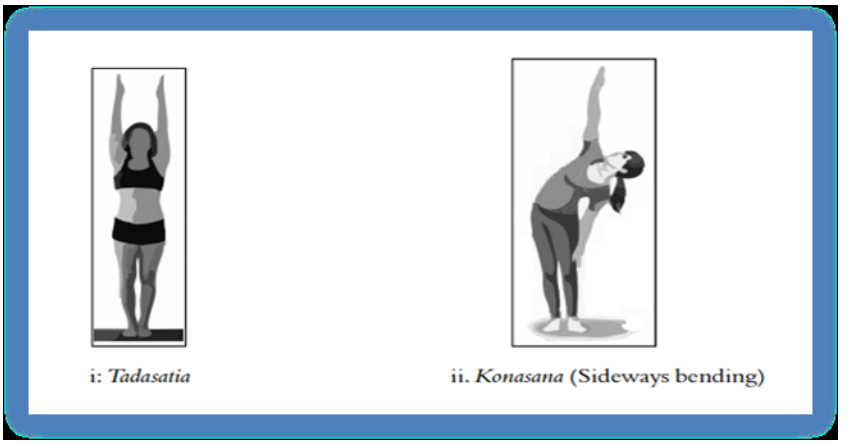

Figure 10. Postures of Yoga Asana Set-2

Figure 11. Vajrsana

Figure 12. Vrikshasana

Figure 13. Tadasana

Figure 14. Padhastasana

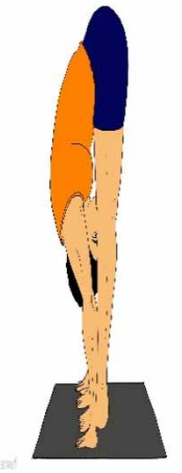

Figure 15. ArdhaChakrasana

Figure 16. Trikonasana

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