

EFFECTIVENESS OF YOGA MODULE ON IMPROVEMENT OF QUALITY OF LIFE (QOL) AMONG ENGINEERING STUDENTS

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ABSTRACT

The purpose of the present study is to discover the effectiveness of Yoga module on improvement of Quality of life among engineering students. For the present study the sample consisted of 48 (Male=26 and Female=22) systematically followed by randomness technique has selected who are studying 1st, 2nd, 3rd & 4th year of Mechanical Engineering students at Dr.B.R.Ambedkar University, Srikakulam located at Srikakulam District, Andhra Pradesh state. For the current study are used "World Health Organization Quality of Life (WHOQOL) BREF" and its developed by World Health Organization (1994a & 1994b) for measures of quality of life. Statistical tests are used Mean, Standard Deviation, t- test and Paired Sample t-test for the current study. The results observed that a positive difference between pre-test and post-test measures of quality of life domains are Physical health, Psychological health, Social relationships, Environment health, Overall quality of life and General health by the application of developed Yoga module as intervention.

Keywords: Yoga, WHO, Quality of life, Physical health, Psychological health, Social relationships, Environment health and General health

INTRODUCTION

Indian culture follows and exist that there is a concept of observing the positivity in every activity which begins from the upbringing received from the parents and society up to the school life, college life, and university life. It is the assistance or help provided by a more experienced person to a less experienced person to solve certain major problems of the individual (less experienced) i.e. social, educational, economic, emotional, vocational, mental, spiritual, etc. It is similar to a flow of water into the ocean after heavy rains via rivers Chibber (1999). According to Sivananda (1995) Yoga is the garland having flowers like happiness, satisfaction, peace, and many more; which always begins with a higher amount of discipline and freshens up the holistic health. Especially in children, if such seed is planted in their school life it can enhance the feeling for the daily practice of Yoga in the whole life. Yoga can easily reduce the health problems like Illness and disability whether it is chronic or severe along with these cognitive powers helps in dissolving the tough phases of life.

Definition and concept of Quality of Life:

A view of World Health Organization (1995) defined that the quality of life is a state of "An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns." The perception of quality of life (QoL) is the measurement made by individuals regarding the various opportunities available to them during a specific timeframe. This assessment is influenced by physical and psychological well-being, social connections, and an individual's interaction with their immediate surroundings (World Health Organization, 1995).

The term quality of life (QOL) was coined in the United States of America later Second World War. At first it meant "the good life" and was limited to having or not having typical consumer goods. The concept gradually evolved and its range widened to encompass life satisfaction, realisation of one's needs, aspirations and modifying one's environment for better in order to coping mechanism. The state of general quality of life began to be defined as an individual's appraisal of his/her own life situation within a specific time span (De Walden-Galuszko 1997). According to Dziurowicz-Kozłowska (2002) quality of life (QOL) is describes a broad range of physical and psychological characteristics and limitations of an individual's ability to function and derive satisfaction from doing so.

Introduction to Yoga:

The word or term Yoga derived from the Sanskrit root Yuj, which means "to Join" or "Union or Connection". It signifies union between the individual soul (Jivantma) and the universal soul (Parmatma). Yoga is one among the six systems of Indian philosophy known as 'Shad Darshanas'. The custom of Yoga was 3,000 year old tradition, according to William (2003) who mentioned that now a day's Yoga is a holistic approach in the Western world as to health and is classified by the National Institutes of Health as a form of Complementary and Alternative

Medicine (CAM). The founder of Astanga Yoga known as Maharishi Patanjali quoted definition of yoga is “Yogachittivrttinirodhah,” is the second sutra by the distinguished codifier of Yoga. This sutra has numerous interpretation and translation such as “Yoga is the termination of mental modifications of the mind” (Yogendra & Hansaji, **2011**). Yoga is usefulness in action and maintaining relaxation and awareness in action. “Yogahkarmasukaushalam” Arora DOP, 2019] (Bhagavad Geeta 2.50). The research study of Hagen (**2018**) observed that central yogic principles include the following eight limbs of yoga in Patanjali's Yoga Sutras are Yamas (social restrictions), Niyamas (Self-discipline), Asana (physical posture), Pranayama (control of breath), Pratyahara (senses withdrawal), Dharana (concentration), Dhyana (meditation) and Samadhi (integration).

Yoga and Quality of life:

Yoga means "the union or joining of body and mind". It consists of Asana (physical postures), Pranayama (breathing exercises) and meditation and has been practiced in eastern traditional medicine for over 5000 years. Yoga has practiced to alleviate and improve the physical, mental, social and spiritual health. There is a need to show that yoga is not merely an exercise system but it has many more health benefits. According to Complementary Alternative Medicine (CAM) & GROUP TW (1998) suggested that yoga is a holistic approach followed by the western world from 3000 years. Ranjeeta Kumari et al. (2024) expressed that the practice of yoga is made a fruitful result in schools for the healthy promotion in physical activity and fitness of students with respect to quality of life which means to maturity in physical, psychological, social, spiritual and emotional functions. According to Promodh Dattarao (2023) Yogic practice of regular mode can significantly enhance quality of life by improving physical health, mental well-being, and social functioning. Practitioners report higher levels of happiness, reduced stress, and greater satisfaction in somatic, psychological, and environmental domains. It is an effective, holistic tool for managing chronic illnesses and fostering personal awareness. Agnieszka Magiera & Agnieszka Pac (2022) results observed that quality of life in the school environment (53.4%) and the psychological well-being (51.6%). Beck et al (2017) results observed that yoga can increase self-compassion. Nevins (2016) uttered that yoga is an intervention for managing stress among the students. Here the students are engaging in physical activity or yogic exercise in their life style.

According to Sharma et al.(2015) the quality of life elements of physical health, psychological health, social health, and environmental health features improved by an integrated yoga program. Yoga is depending on the philosophy that is practical and useful for our daily lives (Verma et al, 2015). Yoga is one such potential intervention module of substitute and balancing medicine, that is emerging as a foundation of mind, body medicine, which improves their ability to withstand stressful stimuli and thereby, their quality of life (Yadav, et al. 2015). Moreover, Yoga is claimed to improve all aspects of health, including mental, physical, emotional, social, and spiritual (Bhavanani, **2014**). The other study, Jennifer, Bidyut Bose & Alex Schrobrenhauser-Clonan (2014) result found that a significant reductions in anxiety, depression and global psychological distress. The study provides evidence of the potential for transformative life skills to influence important student social-emotional outcomes among high-risk youth. According to (Nagaranjan & Debnath, 2014) believed that the practicing Yogic techniques are help to improve the cognitive functions like concentration and memory. Balasubramaniam et al. (2013) uttered that Yoga promotes mental health and Wellbeing among Young People in the areas of intro- receptors resiliency, endurance energy, sleep, immunity and decrease of weight and pain. The other study, Bhardwaj (2012) stated that Yoga activities made to strength and regulation blood pressure, heartbeat and normalization of the gastrointestinal and regulation of the digestive system. According to Bussing et al. (2012) observed that the practice of Yoga and Meditation can positively affects on mood, behaviour and overall mental health in various ways. It brings increased concentration, relaxation and peace of mind, helps to relieve symptoms of anxiety and stress among students or working professionals. Chong et al. (2011) reveals that Yoga has beneficial effects in treating anxiety and trials have been performed in which it is shown to be beneficial in diminishing anxiety which Yoga fulfil criteria. It also removes posttraumatic stress disorder. Studies have shown that it helps in diminishing stress, sadness, disturb sleep and anxiety. Ross (2010) asserts that Yoga emphasizes that balance of physical, mental and spiritual health. According to Atkinson et al. (2009) Yoga is an alternative medicine for mind-body that integrates an individual's recognized physical, mental and spiritual components to improve aspects of health, particularly stress related illnesses. In other study that expressed in ancient literature yoga results in the balance of body that help tolerance of various environmental changes (Carmody & Baer, 2008). According to Arora (2008) the practice of yoga produces a physiological state opposite to that of the flight-or-fight stress response and with that interruption in the stress response, a sense of balance and union between the mind and body can be achieved. According to De. L.C. & D.R.Singh (2007) believed that practicing of Yoga made to get release from pain and sufferings.

The regular practice of Yoga promotes strength, endurance, flexibility, facilitates characteristics of friendliness, compassion, greater self-control, while cultivating a sense of calmness and well-being (Collins et al., 1998). Brown et al.(2005) believed that this is the right time for improving present and long-term mental health by applied yogic techniques. It can help to enhance well-being of individuals through psychotherapy and meditation training programme. According to Gitananda (**1981**) observed that yogic practice is made contribute towards mental health & wellbeing and getting higher awareness on body, mind and emotions.

METHOD

Objectives:

➤ The purpose of the present study is to identify the effectiveness of Yoga module on improvement of Quality of life among engineering students.

Hypothesis:

➤ There will be significant difference on improving of Quality of life in pre-test and post-test by used Yoga module among engineering students.

Research design: research is a systematic observation and to provide answer to certain questions. Also to find out the relationship between and among the variables this means to identify the cause and effects relations of variable. For the current study is used one- group Pre-test-post-test design and it's developed by Campbell & Stanley (1963).

Sample:

The sample consisted of 48(Male=26, Female=22) Engineering students as experimental group among 246 students who are studying 1st, 2nd, 3rd & 4th year of Mechanical Engineering students for the academic year 2023-24 at Dr.B.R.Ambedkar University, located at Srikakulam District, Andhra Pradesh state and age from 16 to 19 years for the present study. For the present study is used non-probability sample technique like Systematic sampling. The sample has systematically selected for every 5th roll number in a particular class of first year, second year, third year and fourth year who are studying Mechanical Engineering programme for the academic year 2023-24.

Tool

For the current study is used World Health Organization Quality of Life (WHOQOL) BREF instrument was developed by World Health Organization (1994a & 1994b). It consists of 26 items and assessing Quality of life domains like Physical health, psychological health, social relationships and Environment health. Also measures overall Quality of life and General health.

Procedure:

The present study consisted of three phases. In Phase I, permission has taken from the Principal, College of Engineering Dr.B.R.Ambedkar University, Srikakulam. The instrument has administered. Wherever doubts were raised, the researcher has explained to the subjects.

In Phase II, based upon the findings of Phase I data, a Yoga module interventions are designed for a period of 24 weeks for experimental group each session comprised 45 minutes over a span of twenty-four weeks during morning time. Yoga interventions has administered on the experimental group.

Yoga protocol: According to Swami Satyananda Saraswati (2009), Ramarao (2006), Iyengar (1995) & International Day of Yoga Common Yoga Protocol (2024) the following Yogic practice protocol has practiced for engineering students.

In Yoga module of Prayer (Om chanting), Asanas like Surya Namaskaras or Sun Salutation, Badrasana, Vakrasana, Ustrasana, Shashankasana, Tiryaktadasana, Tadasana, Trikonasana, Parivrtta Trikonasana, Veerabadrasana, Ekapadasana, Natarajasana, Sarpasana, Salabhasana, Danurasana, Uttanapadasana, Pavana muktasana, Navasana, Sarvangasana, Mathyasana, Vajrasana, Padmaana, Makarasana, Savasana, Pranayama techniques like Anuloma-Viloma Pranayama, Kriyas like Kapalabhati and Meditation technique like Om meditation was given to experimental group in twenty four weeks. Each session took 45 minutes in morning section.

In Phase III, the Post-test has administered after the conclusion of Yoga module of twenty-four week's duration of the experimental group for identify the effectiveness of Yoga module on improvement of Quality of life among Engineering students.

Statistical analysis:

The collected responses were tabulated, analyzed and interpreted by using SPSS (Windows-16) by Mean, Standard Deviation, t- test and Paired Sample t-test.

RESULTS & DISCUSSION

Table-1, Results on mean difference between Pre-test and Post –test on Physical health among engineering students.

Physical health	Type of test	Type of test	t-value
	Pre- test	Post-test	
Number of subjects	48	48	35.21**
Mean	12.19	22.11	
Std.Deviation	2.67	1.81	

** P< 0.01. Significant level

The results on the paired -independent sample t-test (Table -1) showed that in Physical health, the mean score of the respondents in pre-test is (M=12.19) and the post-test mean score is (M=22.11) and the t-value is (35.21), which is highly significant.

It indicated that engineering students are improved in the areas of like activities of daily living with work capacity & energy and control of dependence on medicinal substances, medical aids fatigue Mobility Pain and discomfort Sleep by followed Yoga module in daily life.

Table-2, Results on mean difference between Pre-test and Post –test on psychological health among engineering students.

Psychological health	Type of test	Type of test	t-value
	Pre- test	Post-test	
Number of subjects	48	48	26.04**
Mean	14.03	22.01	
Std.Deviation	2.57	1.86	

** P< 0.01. Significant level

The results on the paired -independent sample t-test (Table -2) showed that in psychological health, the mean score of the respondents in pre-test is (M=14.03) and the post-test mean score is (M=22.01) and the t-value is (26.04), which is highly significant. It indicated that engineering students are improved in the areas of like bodily image and appearance, positive feelings self-esteem, feel spirituality, Religion or personal beliefs, thinking, learning, memory and concentration by followed Yoga module in daily life.

Table-3, Results on mean difference between Pre-test and Post –test on Social relationship among engineering students.

Social relationship	Type of test	Type of test	t-value
	Pre- test	Post-test	
Number of subjects	48	48	18.12**
Mean	5.02	10.08	
Std.Deviation	1.27	1.79	

** P< 0.01. Significant level

The results on the paired -independent sample t-test (Table -3) showed that in social relationships, the mean score of the respondents in pre-test is (M=5.02) and the post-test mean score is (M=10.08) and the t-value is (18.12), which is highly significant.

It indicated that engineering students are improved in the areas of like personal & social relationships, social support and sexual activity by followed Yoga module in their daily life.

Table-4, Results on mean difference between Pre-test and Post –test on Environmental health among engineering students.

Environmental health	Type of test	Type of test	t-value
	Pre- test	Post-test	
Number of subjects	48	48	28.95**
Mean	14.27	25.63	
Std .Deviation	3.01	2.93	

** P< 0.01. Significant level

The results on the paired -independent sample t-test (Table -4) showed that in Environmental health, the mean score of the respondents in pre-test is (M=14.27) and the post-test mean score is (M=25.63) and the t-value is (28.95), which is highly significant.

It indicated that engineering students are improved in the areas of Environment financial resources like freedom, physical safety & security, health & social care, home environment like opportunities for acquiring new information & skills, participation in activities opportunities for recreation, leisure activities and good in physical environment by followed the Yoga module in their daily life.

Table-5, Results on mean difference between Pre-test and Post –test on overall quality of life among engineering students.

Overall quality of life	Type of test	Type of test	t-value
	Pre- test	Post-test	
Number of subjects	48	48	23.79**
Mean	2.03	3.93	
Std.Deviation	.98	.67	

** P< 0.01. Significant level

The results on the paired -independent sample t-test (Table -5) showed that in overall quality of life, the mean score of the respondents in pre-test is (M=2.03) and the post-test mean score is (M=3.93) and the t-value is (23.79), which is highly significant.

It indicated that engineering students are improved in overall quality of life in the directions of physical health, psychological health, social relationship and environmental health by followed Yoga module in their daily life.

Table-6, Results on mean difference between Pre-test and Post –test on overall general health among engineering students.

Overall mental health	Type of test	Type of test	t-value
	Pre- test	Post-test	
Number of subjects	48	48	17.04**
Mean	2.01	4.07	
Std.Deviation	.93	.69	

** P< 0.01. Significant level

The results on the paired -independent sample t-test (Table -6) showed that in general health, the mean score of the respondents in pre-test is (M=2.01) and the post-test mean score is (M=4.07) and the t-value is (17.04), which is highly significant.

It indicated that engineering students are improved in overall general or mental health by followed Yoga module in their daily life. The research studies showed that self-esteem was also positively associated with all the domains of physical well-being, psychological well-being, moods & emotions, self-perception, autonomy, parent relation, home life, financial resources, social support and peers, school environment and social acceptance.

The hypothesis of the present study that there will be significant difference on improving of quality of life in pre-test and post - test by used Yoga module among Engineering students is accepted due to the results of the current study is observed that Yoga module is effectively worked on improving of quality of life among Engineering students.

CONCLUSIONS

The current study is proved that Yoga module interventions are effectively worked on improved of quality of life among engineering students. The results indicated that Yogic techniques are very useful and helpful to improve the dimensions of physical health, psychological health, social relationships, environment health, overall quality of life and general health among the adolescent students in educational institutions. It is proved that Yoga is an alternative therapy or intervention technique for to maintainand improves the overall quality of life among individual's life in our society.

Recommendations

- The concept of Yogic concepts or content is too introduced in educational curriculum in secondary and intermediate education.
- Government is to appoint Yoga teachers in school and college level.
- Yoga is an ancient art, therefore, the role of Yoga and its impact should be availed by Educational Institutions and parents with the support of a trained Yoga therapist are accentuated.
- To conduct workshops and training programmes on Yoga and Meditation in schools and colleges for the benefit of students and to maintain harmony of society.
- Regular follow up of the students is an important principle in monitoring their behaviour by the parents, teachers, Yoga therapist, Psychologist and individual self at regular intervals.
- The Government and Research institutes are to encourage for doing research and conduct awareness programmes on yoga and subject-wellbeing for maintain “health and wealthy society”.

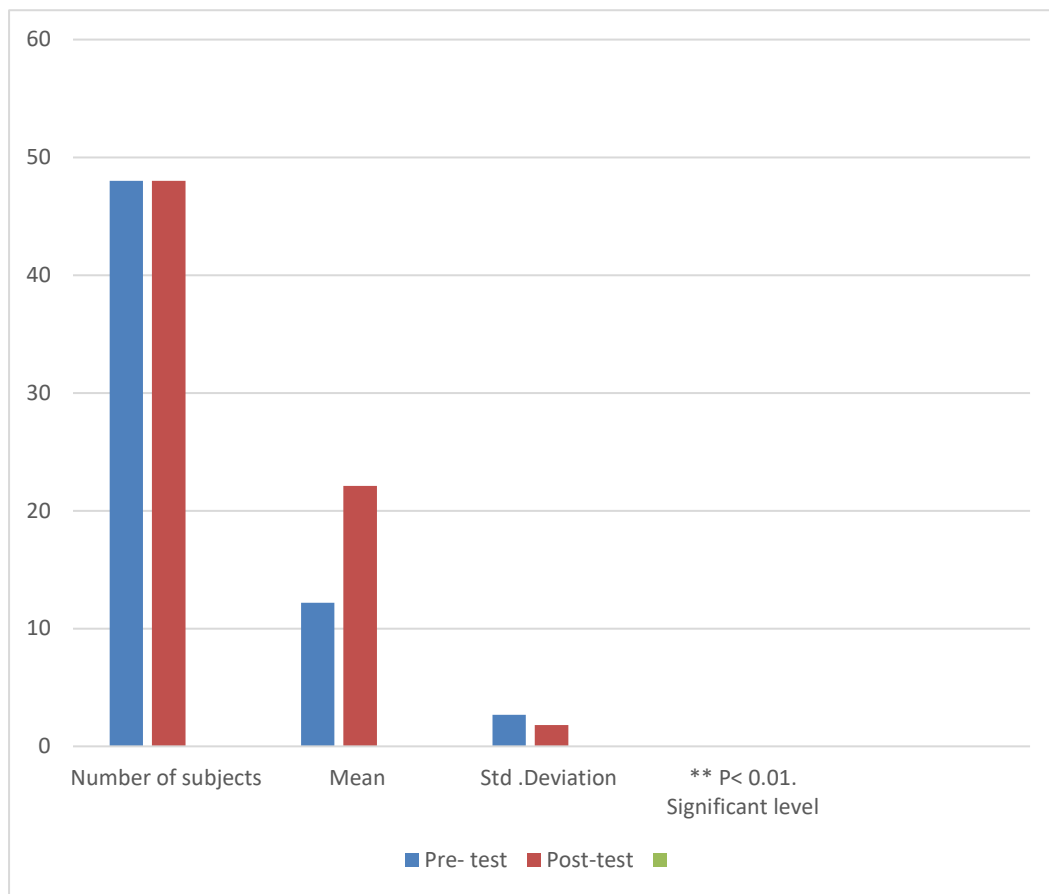
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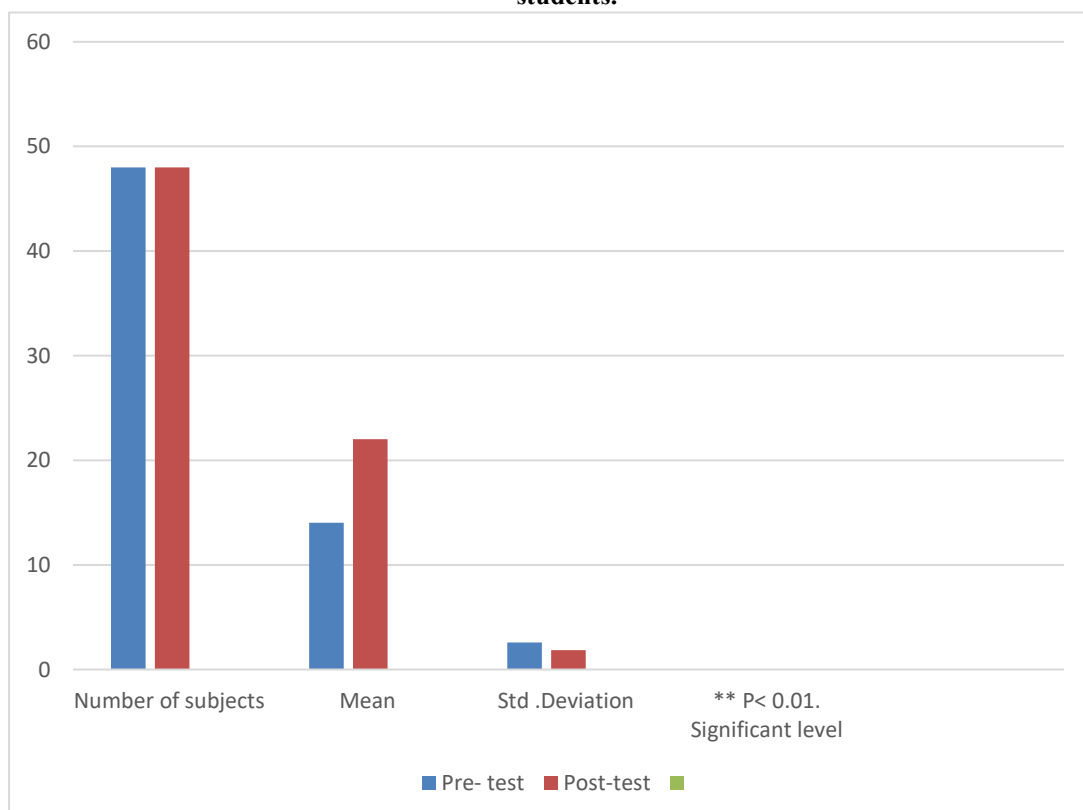
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LIST OF FIGURES

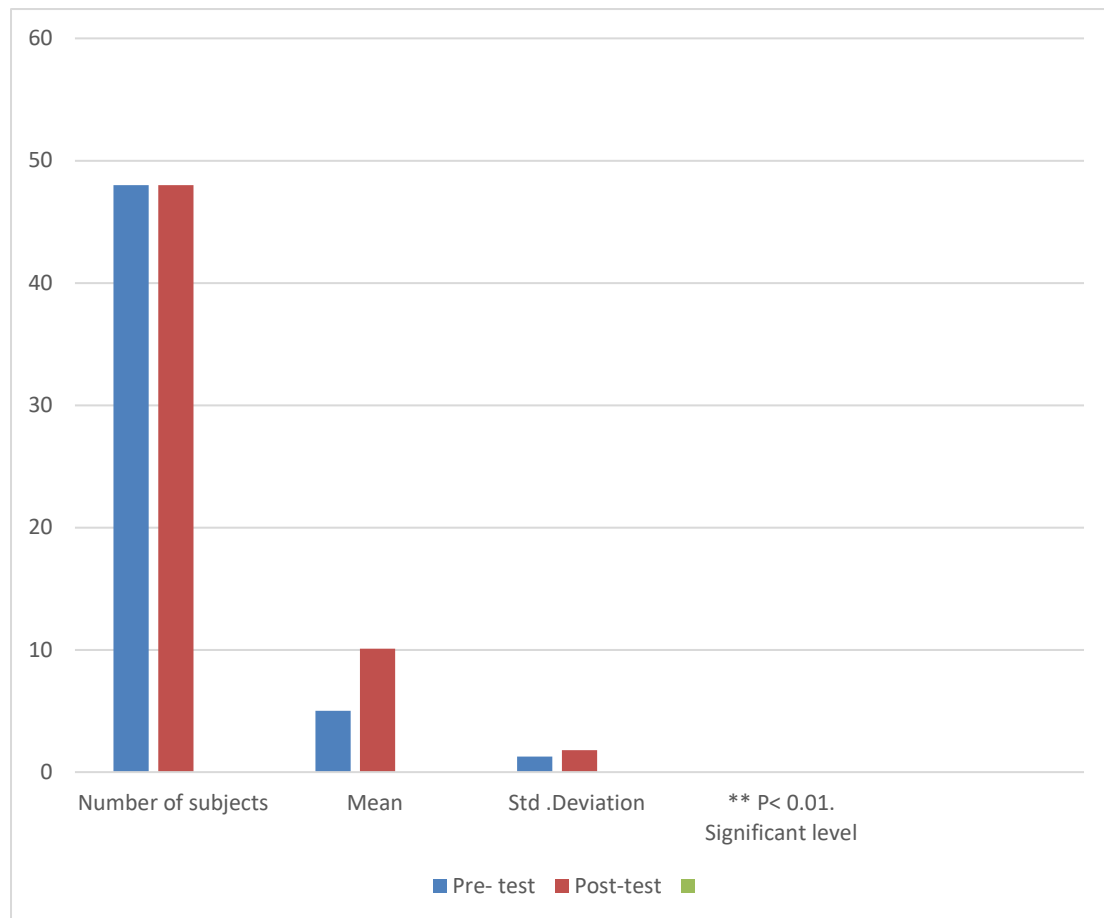
I-Results on mean difference between Pre-test and Post –test on Physical health among engineering students.



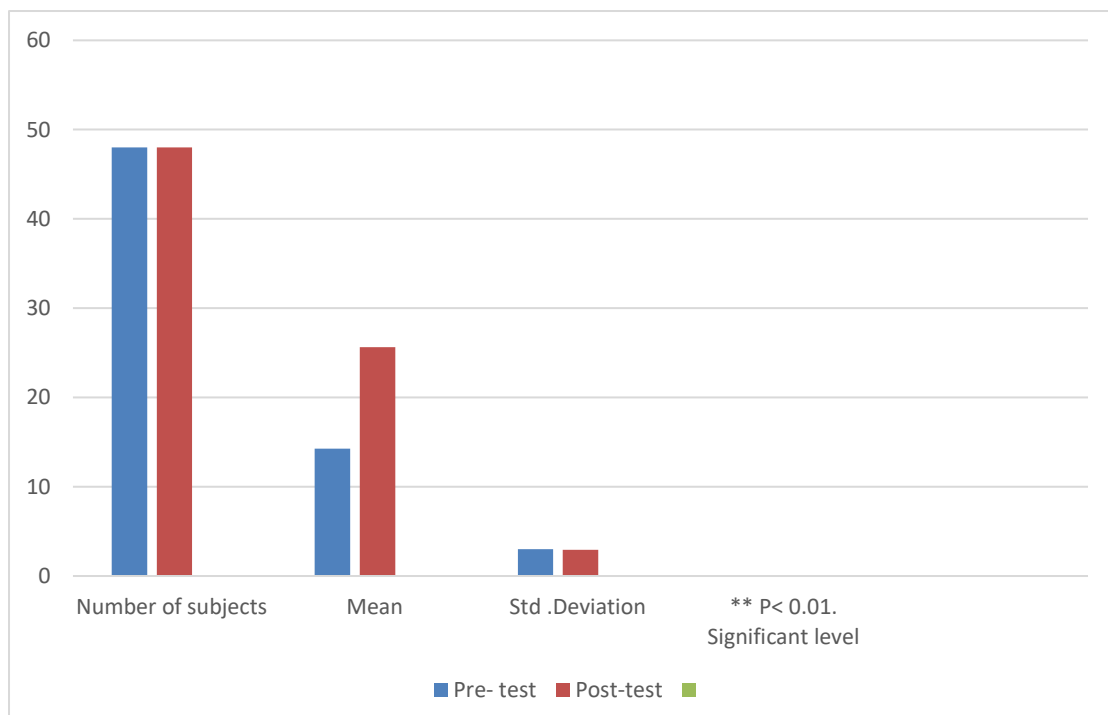
II-Results on mean difference between Pre-test and Post –test on Psychological health among engineering students.



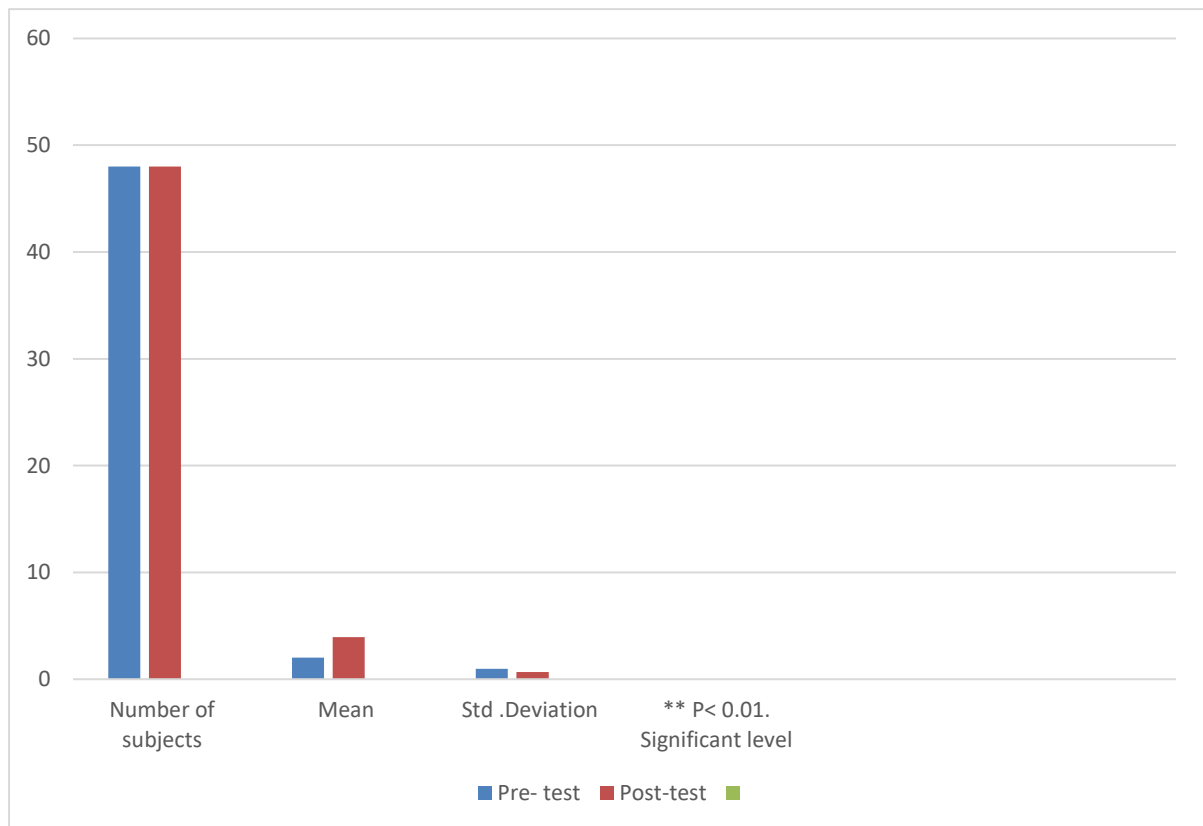
III. Results on mean difference between Pre-test and Post –test on Social relationship among engineering students.



IV-Results on mean difference between Pre-test and Post –test on Environmental health among engineering students.



V-Results on mean difference between Pre-test and Post –test on Overall quality of life among engineering students.



VI-Results on mean difference between Pre-test and Post –test on Overall general health among engineering students.

