Patanjali Yoga Sutras is a body of scriptural work in classical Yoga philosophy and practice in Sanskrit. The work is in the form of brief aphorisms and are 196 in number divided into four chapters. The work is a very ancient one and has its basis in the Vedic tradition of ancient Indian culture. It is considered as a manual for appropriate and healthy living. At the physical level, it is seen as a fitness and health enhancing practice. At the mental level, it can be considered as a health and character building tool which can lead to self-actualization. At the social level, the practice can enhance relationships and become the instrument of peace and harmony in society. Finally, at the spiritual level, it is seen as a means to emancipation, true freedom, self-realization and becoming one with the absolute consciousness or God.

Yoga was a tradition limited to the East and particularly ancient India. The practices flourished in religious communities of Hinduism, Buddhism and Jainism in South and South East Asia. Following Western colonization Yoga became known to the Europeans and slowly spread to the West. Now, Yoga is becoming increasingly popular in modern times all over the world. We can say that there is a renaissance in Yoga. More and more people who have practiced Yoga have experienced the benefits of Yoga on health and harmony in their lives. Yoga is now being accepted and practised as a secular activity by all people irrespective of religion, race or creed.

The popularity of Yoga rose in the West during the 1920s up till the 1970s when several Indian Yoga Gurus started visiting Europe and USA. Many celebrities in the West started practicing Yoga which further increased the popularity and demand for Yoga. The downside of this trend has been the commercialization of the original ancient knowledge and mushrooming of several different versions and Yoga-based businesses. Unfortunately this has brought with it
contamination, corruption and greed leading to distortions, perversions, claims and conflicts in the system. There is now a movement to refine, restore, standardize, preserve, promote and revitalize this ancient traditional heritage of India.

Yoga has been used as therapy in the management of medical conditions. The common notion is that Yoga is a fitness technique. It is used as an exercise regime to improve flexibility, muscle tone and strength. Earlier focus used to be on the bodily physical or asana component of Yoga. Later the set of breathing techniques called pranayama was also included. The scope of Yoga was extended from a mere work-out regime to therapeutic intervention in chronic non-communicable disease conditions like cardiac diseases, respiratory diseases, and lifestyle diseases like obesity, diabetes and hypertension besides musculoskeletal and neurological disorders.

Most recently, with advances in neuropsychology and advent of Mind-Body Medicine, the therapeutic application of Yoga has extended into the prevention and management of several medical conditions including cancer and mental disorders. Yoga has now been integrated into the modern medical system as a legitimate therapeutic modality. Departments of Integrative Medicine have been established in many prestigious medical teaching university hospitals in USA and other Western countries which incorporate Yoga Therapy.

Over the last decade we have seen great advancement in medicine especially in the field of neuroscience research. Neuroscience being the interdisciplinary field investigating the nervous system including the brain and the mind have provided unique insights into the working of this very complicated but most important of the human systems. Several human activities and behaviours seen as functions of higher neuropsychological processes hitherto elusive are being unravelled through technological advances in neuroscience. Mind-Body Medicine is the new subfield of neuroscience studying psychophysiological processes of Yoga and other related techniques.
Higher brain functions have been studied using advanced neurophysiological and imaging technology. Advanced computer augmented Electroencephalography (EEG), Positron Emission Tomography (PET), Single Photon Emission Computed Tomography (SPECT), functional Magnetic Resonance Imaging (fMRI), and neurofeedback devices are some of the advanced instruments now being routinely used to study subjects engaging in various Yoga-based and Yoga-derived practices.

Meditation is one important yogic technique that is widely studied as a Mind-Body Medicine technique. This is referred to as dhyana in Patanjali Yoga Sutras. Dhyana was translated as Chan in Chinese and Zen in Japanese when the tradition spread to these cultures through the spread of Buddhism. Meditation is also called upasana in Sanskrit. The meditation technique called vipassana or vipasyana that is derived from the Buddhist tradition is termed Mindfulness and is widely accepted, adopted and studied by Western science and medicine. Several current therapy techniques have incorporated mindfulness and are called Mindfulness-Based interventions or therapies.

There is now a shift in the research paradigm in medicine from studying disease processes to studying health enhancing activities and phenomena. In this context there is now a considerable body of evidence for the positive effects of Yoga and allied practices. The present study is an attempt to interpret the aphorisms of the Patanjali Yoga Sutras with the new and growing knowledge of modern medical neuroscience. This should enhance the confidence in and regard for the ideas postulated in this ancient and great scriptural work and allow a wider acceptance and motivate further exploration of Yoga Shastra as a scientific discipline.

The tradition of Yoga in the Indian context is an intellectual scholarly philosophical as well as spiritual and practical Vedic tradition. It is seen as a sincere practice and progress towards self-realization. It is therefore considered as a wisdom tradition. Wisdom is seen as a highly positive human quality and the highest level of human achievement. A wise person is venerated in society in almost all cultures of the world. Wise decision making is what everyone
hopes to do in life in order to progress and be happy. Wisdom is now increasingly subject to scientific study and is being seen as a positive, desirable and achievable character trait that can have an impact on mental and physical health and well-being. Yoga, in this context, can be considered as a wisdom practice with the potential of being the tool to enhance and develop the wisdom faculty and therefore its enhancing effect on health and well-being.

Different components of Yoga have been studied extensively in recent times using the Western scientific research parameters and study designs. Randomized Controlled Trials (RCTs), the gold standard in quantitative interventional research, have been conducted and a body of evidence is slowly building validating Yoga techniques as medical interventions. Separate research journals dedicated exclusively to Yoga research with high impact factor have been established. In India, we have also seen the establishment of Yoga Universities like for example, the Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA) University, Bengaluru and the University of Patanjali, Haridwar.

The present research is a small effort towards contributing to the new renaissance of Yoga as a noble art and science of wisdom. The Patanjali Yoga Sutras is the classical Yoga text of antiquity. The aphorismatic format of the text renders it enigmatic and difficult to comprehend at times. This has prompted several intellectuals and philosophers to offer their interpretations and commentaries. Hence a varied assortment of literary works exist from the ancient past to modern times authored by personalities from different fields and traditions who have offered their scholarly points of view.

In the present study qualitative research methodology has been adopted. The work involves the study and interpretation of meaning in context and with valid evidence. Therefore hermeneutics has been used as the qualitative method of choice. Hermeneutics is derived from philosophy of natural science. It has ancient historical origins most widely in the German philosophical traditions. We see the use of hermeneutics-like interpretative works in ancient Indian commentaries on various Sutra literature as well. Sanskrit being the language
of the Patanjali Yoga Sutras, authoritative translations and dictionaries have been extensively consulted along with discussions with people in and practicing the tradition and importantly as a personal lived experience of the tradition by the researcher.

The review of literature has attempted to present the research evidence covering the existing ancient works and translations, the context, background, justification of the present study, choice of research method, advances in medicine and neuroscience research in the context of Yoga and associated field, the logic and pragmatics of the research. The body of literature have been categorized and dealt with under the following headings:

1. Patanjali Yoga Sutras: English Translations and Interpretations
2. Modern Science and Ancient Traditional Science of India
3. Yoga and Medical Science Research
4. Yoga and Medical Neuroscience Research
5. Neuroscience of Meditation and its Medical Application
6. Neuroscience of Mindfulness and Mindfulness-Based Therapies
7. Mind Body Medicine
8. Neuroscience of Compassion and Positive Attitudes in Health
9. Wisdom as a Concept in Neuroscience and Medicine
10. Qualitative Research in Science
11. Qualitative Research in Medical Science
12. Hermeneutics as Qualitative Research Method
13. Hermeneutics in Medical Science Research
14. Medical Neuroscience as an instrument of Hermeneutics
15. Neuroscience of Wisdom in the Hermeneutics of Yoga
16. Neuroscience, Medicine and Spirituality

The methodology of research adopted is the qualitative research technique of hermeneutics. Hermeneutics is the method of interpretation of meaning. As a field of study, it is descriptive and incorporates the lived experience of the subjects and the researcher. As the work of Patanjali Yoga Sutras is a scriptural work in Sanskrit in the form of brief aphorisms, the hermeneutic method is an
appropriate one to study the work. The evidence available in current medical and applied neuroscience research has been used as the instrument of interpretation. Yoga itself can be considered as a way of life and hence is a lived experience.

A small qualitative analysis of the generated data which is in the form of the translated and interpreted work of the Yoga Sutras of Patanjali, has been performed and presented.

A clinical intervention program based on the ashtanga yoga of Patanjali Yoga Sutras developed by the researcher in clinical practice has been presented. This program has been developed as a mind-body medicine intervention for reducing distress and suffering due to pain and other conditions. The program has been named as PRAYOGA, a Preventive Remedial Yoga Program, which is used as an acronym for ‘Proactive Ashtanga Yoga’ and ‘Progressive Reconditioning Algorithm to Yield Optimum Gain in Action’. The program curriculum is described.

Further, a small clinical quantitative open study in a clinical population of patients experiencing distress due to chronic pain conditions has been presented where the PRAYOGA program was used as an intervention.

Limitations are discussed, recommendations are enumerated and conclusion and future scope for research are presented at the end.

Different people who live the tradition of yoga may have different experiences. The general consensus and agreement of all who have experienced even a little of the Yogic life, is a positive one. The Yoga Sutra treatise itself describes benefits of the practice, the appropriate methods and also the cautions and care necessary.

The body of the Yoga Sutras of Patanjali contain further elaborations and metaphysical, psychological and philosophical postulations, analysis and
discussions which are explored through hermeneutics with medical neuroscience as the basis or as the interpretative instrument.

It is possible that there may be other interpretations or explanations of the Yoga Sutras or perhaps our physical sciences are yet to evolve or develop to explain or discuss those concepts. This probably would be the task of future research works. But overall, the Patanjali Yoga Sutras is a work of great scholarship and foresight that is as relevant for health and wellbeing in today’s science-based modern living as it was when it was first conceptualized by our ancient and noble rishis that were collated and presented by Maharishi Patanjali.