

# YOGA TREATMENT1

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A critical review to evaluate the effectiveness of Yoga (physical & breathing exercise, meditation and relaxation) to reduce chronic lower back pain, restore healthy back function and improve mobility

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## **Chapter 1: Introduction**

### ***1.1 Background***

Chronic low back pain is one of the most commonly reported chronic pain condition worldwide (Picavet et al., 1996). According to several studies, the lifetime prevalence of chronic back pain ranges between 49% and 80 % (Maniadakis & Gray, 2000; Andersson, 1999). Although chronic back pain is not a life-threatening condition, it affects many aspects of patients' lives, leading to disability, functional limitations and decreased quality of life (Chok et al., 1999). It is estimated that low back pain (LBP) affects as many as one third of UK adult population and accounts for 20 % of the UK's total health expenditure (Croft et al, 2010). Thus, Chronic back pain is not only a medical problem but it also put a huge burden on the society through its direct as well as indirect cost, including lost work productivity and medical care (Watson et al., 2008; Ravenek et al., 2010). The current treatment options include exercise and manipulative treatments, commonly delivered by osteopaths, chiropractors or physiotherapists. These are however more expensive and not widely available through NHS (Cox et al, 2010) with very limited and disputable effectiveness as they have shown various and rather modest success leading to the low satisfaction rate of the patients (UK BEAM trial Team, 2004). As none of the current treatments were proven to be effective, it is essential to find a more suitable and cost-effective therapy with better satisfaction rate and long-time effects.

Yoga is an ancient discipline from India (probably -5000 BC) (Garfinkel & Schumacher, 2000). The first book that has systematized this practice is the classic treatise on Yoga Sutra (or

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aphorisms) of Patanjali, dating from -200 BC. Yoga originated in ancient Indian philosophy and is believed to preserve and restore health through combination of physical postures (asanas), breathing exercises (Pranayama), meditation and relaxation techniques (Garfinkel & Schumacher, 2000). Yoga exercises are considered to have a holistic effect and bring body and mind into balance as in accordance with the actual meaning of the Sanskrit word Yoga, which means “to join, to unite” (Garfinkel & Schumacher, 2000). The mental focus combined with physical exercise favor Yoga for back pain in comparison with other intervention such as stretching or self-care book (Sherman, 2011). Additionally, it is hypothesised that the effects of Yoga might be long-lasting and more cost-effective as participants in Yoga group are usually encouraged to continue with Yoga practice at home between the individual classes and once the classes are completed and can be delivered in-group sessions unlike manipulative treatments.

Although current research suggests the efficacy of Yoga in chronic back pain management, its mechanism remains unclear. There are several hypotheses explaining the efficacy of Yoga including combination of relaxation and stretches leading to improved flexibility and oxidation of the tissues, release of endorphins as well as modulation of sympathetic nervous system activity which results in soothing of nerves and relief to chronic back pain (Posadzki et al, 2011). The psychological aspect plays also an important role, as Yoga can have positive impact on mood and improve mental focus enhancing body mind affinity (Posadzki et al, 2011), which in turn can have a positive impact on the perception of pain (Posadzki et al, 2011).

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### *1.2 Statement of the Problem*

Yoga is considered as a very promising intervention for patients with chronic back pain (Jacobs et al., 2004). This paper presents yoga as a technique to control body and mind which helps to provide physical health and a very effective treatment for chronic back pain

### *1.3 Justification of Research*

The concept of chronicity is a complex phenomenon, it is difficult to define. In general, a chronic illness is an acute pain that is slow to heal in a normal period of time or injury associated with poor health. These cause a persistent or intermittent pain that lasts for months or years. As discussed earlier, chronic back pain is one of the most commonly found chronic diseases. In most people, back pain is cyclical discomfort that occurs more frequently with age. At this stage, some preventive measures and a system of balanced lifestyle are the best guarantee of a healthy back. The physical condition deteriorates, bringing with it a host of social and psychological problems: stop some leisure temporary or permanent job loss, relationship difficulties, psychological abuse can even lead to depression.

Research has shown that the practice of yoga adapted to the specific situation of persons with chronic low back pain could be a valuable complement to conventional treatments. The number of potential benefits: improved flexibility and balance and decrease the symptoms associated with depression. Yoga provides health and treatment for many diseases and works simultaneously for several diseases. No medicine can claim that. Given that the American medical system is ruined, there is a strong drug addiction, alcoholism, stress related illnesses, depression, more and more students drop studies and an aging population, yoga sounds an effective intervention for diseases like chronic back pain. This study, therefore, opens room for more research regarding the effective role of yoga for the treatment of chronic back pain. This

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will not only occur through increased knowledge about this subject, but also, through the development of new research areas by addressing research gaps that may emanate from this research. People are bound to benefit significantly from the research which will determine whether the use of yoga is an effective intervention strategy for chronic back pain or whether there should be other alternatives to be considered.

### ***1.4 Aim of the Study***

The aim of this critical review is to investigate whether there is sufficient evidence to support the efficacy of Yoga in treating chronic lower back pain in order to assist patients and health care practitioners with informed decision making. This will be achieved by analysing the selected research paper using a specially designed framework adapted from SIGN (2011) and discussing key themes and their implications.

### ***1.5 Objectives of the Study***

- To discuss the risk of chronic back pain
- To discuss the effectiveness and efficacy of Yoga as the treatment of Chronic back pain

### ***1.6 Research Questions***

- Does chronic back pain poses as severe danger for health?
- What is yoga and what is its role in providing a healthy life?
- Is it a good strategy to use Yoga for the treatment of Chronic back pain?

## **Chapter 2: Literature Review**

IASP (International Association for the Study of Pain) defines pain as "an unpleasant sensory and emotional experience associated with injury tissue present or potential, or described in terms of such damage" (Clarke & Iphofen, 2005; p.490). Pain is described as chronic when it persists for more than three to six months. It is pain that affects quality of life of the patient. The definition given to us by IASP highlights the fact that we can distinguish two types of pain: The dominant organic component to pain. The pain is caused by a true organic lesion, objectified as the dominant psychological component to pain, or psycho pain – somatic which is the translation of the suffering of the individual.

Chronic pain can be an expression of depression, anxiety or personal problems. On the other hand, this definition reminds us that pain, whatever its origin, is the psychological aspects (Godfrey, 2005). This induces it is an experience unique to each, and influenced by a number of factors. These factors can be broken down through the components of pain. Chronic pain can cause suffering, loss of self-control and a diminished quality of life (Godfrey, 2005). Chronic Pain and exhaustion diminishes the vital energy, threatens the physical and psychological well being and may even harm personal relationships and influence the concept of the existence of the person who supports it (Jeffrey, 2006). The consequences of chronic pain are multiple and their impacts on the patient are obvious: They can be physical (decreased functional capacity and

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resistance, poor sleep), psychological (anxiety, gloom, distress, loss of autonomy) and social (reduction activities Relational) etc (Jeffrey, 2006).The person has an extremely unpleasant feeling, even unbearable, which can cause reflex movement withdrawal or a change of body position. Chronic pain is considered a warning signal that allows the patients to know that there is a threat to the physical integrity (Jeffrey, 2006).

The origins of Yoga in India lost in the mists of time, more than 5000 years ago (Iyengar, 1976). In 5000 years, a lot of charlatans and crooks have put everything and anything behind the Yoga label. Yoga keeps the big machine that is our body in working and allows us to put an end to all the worries of everyday health. At the highest level, yoga can even cure serious diseases. Yoga practice also has a direct effect on the mind: some postures have a calming effect.

Overall, a yoga class consists of postural practice followed by a relaxation session.

Postures can be divided into five groups:

- Standing postures: they form the basis of any practice. They are very strong physically. They allow the body to open, build muscles and soften, thus preparing them for more advanced postures;
- The reverse: This category contains all the postures where the pelvis is higher than the head. This includes the effort and the posture of the head (a variant of pear). They are the heart of any practice. They allow the body to de-stress;
- The back bending: this category includes bridges and their variations. Their practice strengthens the spine and brings a positive mindset;
- Twists: these postures are those where printing a rotation to the spine. They relieve lower back and create a true `` spin" of the digestive system;



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- Forward bends: it applies to all positions where the bust on the legs is stretched. They provide a large indoor relaxation.

For centuries, the transmission of yoga, its postures and their effect was mainly oral, from teacher to student. The principle of teaching was simple: the teacher knew what was good for the student and he distilled his teaching. For its part, the student never questioned the teaching of his master. A direct consequence of this teaching is that the effects of postures have hardly been studied in scientific and systematic manner. When the teacher says that posture is very good for blood circulation, strengthens the heart and makes a good recovery after exercise, it is because an Indian master told him so. Nobody asked questions, and no testing is considered.

Today there are many styles of yoga. Some are intended for precision, others to the dynamic, few apply restoration and some pure and simple exercise to relieve stress. There is yoga for pregnant women, for children, athletes, etc. Either style of yoga that currently proposed are valid if your main goal remains the transformation of the person, their physical and mental health and, ultimately, the awakening of their potential. A good education begins with yoga breathing. The goal is to recover the natural breathing carefully and incorporate into everyday life. Moreover, we must keep in mind that yoga shows how to include patterns and mental together to different exercises, movements and postures of revitalization "states.

Research has revealed that Yoga relieves and soothes ailments teaches manage pain, improve breathing, eliminates the signs of stress and creates flexibility in both body and mind (Gura, 2002). It also increases the energy and vitality, increases resistance, improves circulation of the blood and cardiovascular conditions. Also highlights the ability Raised yoga to create greater attention, awareness of self and the world and, ultimately, inner peace. People with spinal

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scoliosis must learn to compensate and stabilize posture and full body. A herniated disc which have come to be treated with care to teach them to stretch and find the ideal position decompression. Moreover, to Contracture people have to propose loosening postures that relax the affected areas.

Beyond the hype, the practice of Yoga seems increasingly settle in Western countries. In the United States, Barnes et al (2004) finds that in 12 months, 5.1% of Americans started doing yoga (against 3.8% in 1998 [Saper et al., 2004]). Yoga and meditation topped alternative therapies (Wolsko et al., 2004). Yoga is a highly relaxing, anti-stress (Gura, 2002) and meditative (Kabat-Zinn, 1982). Yoga is mostly used to improve overall health or adjunctive technique to specific problems (Saper et al., 2004; Wolsko et al., 2004) . There are also insomniacs looking for a little rest [Wolsko et al., 2004], preparations for childbirth through yoga. Generally, yoga increases the quality of life (Lee et al., 2004). In particular, it is used for accompaniment for serious diseases such as cancer (Rosenbaum et al., 2004). Another field of application is the fight against pain, especially, Yoga is proposed as a technique to relieve back pain (Jacobs et al., 2004).

Beyond the treatment and management of pain, there are several lines of research. Unfortunately, they are not much cited by the review. Meditation increases alpha waves during meditation and theta waves after meditation (Arambula et al., 2001). Yoga increases the "vital capacity" (Birkel&Edgren, 2000), Hormone production and the impact on the morale of running and yoga are comparable (Jane et al., 1995). Meditation induces a change in the levels of dopamine which causes a change in state of consciousness (Kjaer et al., 2002). Yoga delays (and is even regress in some cases) the "coronary atherosclerosis" (Manchanda, 2000). To increase the "aerobic capacity and Perceived exertion," yoga is more effective than conventional

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exercises(Ray et al., 2001). Similarly yoga also increases the "joie de vivre", decreases excitability, aggression and complaints about the body (Schell et al., 1994).

After undertaking a systematic search of the Cochrane database, the relevant research articles referring to Yoga and back pain have been selected and a total of four full-scale RCTs (Sherman et al., 2011; Tekur et al., 2008; Tilbrook et al., 2011; Williams et al., 2009) and three pilot RCTs (Saper et al., 2009; Williams et al., 2005; Cox et al., 2010) has been identified. All of the trials were reported as having mixed but positive results. For example, Williams et al. (2009) reported significant improvements with regards to the pain reduction and functional disability after 4 and 8 months of Iyengar Yoga therapy, Tilbrook et al. (2011) reported improved back function at 12, 24 and 48 weeks in comparison with the conventional treatment group and Sherman et al. (2011) reported better results in yoga group compared with self-care group at 12 and 26 weeks but with no significant differences between yoga and stretching groups. Although all of the above research papers have shown statistically significant results suggesting that Yoga can be very useful and effective in chronic back pain, the positive results should be considered very carefully as there is high probability of bias pertaining to low quality of some of the studies due to poor study design, small sample size and short-term follow-up (Cox et al, 2010; Posadzki et al, 2011).

According to Garfinkel et al (1998), after eight weeks of yoga, found a reduction in pain ( $p < 0.8\%$ ) and an increase in grip strength ( $p < 3.9\%$ ). One weakness of the study (also serious) is the control group, consisting seriously, has subsequently been somewhat neglected (by their own admission). O'Connor et al (2003) also confirms the effectiveness of yoga for the CTS. Saper et al (2004) compared the effectiveness of surgery and a rehabilitation program intensive. They recruited 349 patients in British schools specializing in orthopedics and rehabilitation. Suffering

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for over a year, all were candidates for operation, dubbed fusion, which involves welding two joints and thus make them painless. Half of the participants were operated, while the other half followed a program of intensive rehabilitation which emphasized on yoga. For the latter group, the assumption was based on muscle strengthening exercises, stabilization of the spine, cardiovascular endurance, stretching and taking a cognitive-behavioral management.

After two years, all patients saw improvement in their situation. Apart from a slightly less disability in patients operated, no difference was observed in the perception of pain, speed and endurance during a walk test ... In addition, face additional risks surgery, doctors believe that the differences between the two groups are marginal. Patients candidates for fusion can expect an improvement in their health compared with rehabilitation.

This study confirms the very limited role of surgery dealing with chronic back pain, apart from very special cases. The main indication is due to compression of a nerve or the spinal cord of arthritic growths. These problems can cause a narrowing of the spinal canal in the elderly who then suffer from weakness in the legs when walking. The indication for surgery in the face of scoliosis lumbar scalable in the elderly, with spondylolysis or a herniated disc sciatica are moving towards a more questionable. In these cases, the results of rehabilitation are generally as good. This study also conducted an economic analysis of the two types of management absorptions. The total care during the two years of follow up is nearly two times higher in the group of "operated" in patients who have undergone rehabilitation. However, the study also concluded that there is no miracle solution: yoga is a long term investment.

Galantino et al (2004) recruited 22 people aged 30 to 65 years, with chronic low back pain. The concept of chronic pain is usually defined as a persistent state more than three to six months (or beyond the "normal" healing period). The participants were divided equally and randomly into two groups, a

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control group. The other group followed a program of hatha yoga adapted: an hour a day, twice a week for six weeks. Changes in health status were measured with various specialized equipment and questionnaire. The study wanted to evaluate the effect of yoga on several aspects, both physiological and psychological, such as balance, flexibility, depression and disability. The researchers noted significant improvements in the first three aspects. Limited progress has also been noticed in disability. These findings are not "significant" as the authors note in the study must be interpreted as indicators of avenues to explore in larger and better controlled further research.

Back pain is a common occurrence. In fact, just about everyone at some point in their lives, suffer from low back pain. Back injuries are the leading cause of disability in the United States in less than 45 years and represent the problem of the most expensive health in 30-50 years. Back pain is increasingly considered by professionals of alternative medicine as a disease of "modern life", related to stress and unexpressed emotions expressing an inner unrest, an inner state that disharmony. This is why some conventional treatments have proven effective. More and more people are turning to alternative medicine. Comprehensive approaches, such as yoga, which include physical, psychological and social dimensions, are now perceived in general as the way to go when it comes to treating chronic pain. Actually the body is the visible soul, the soul is the invisible body. The body and soul are divided nowhere, they are part of each other, they are part of a whole. Yoga helps people to achieve precisely this unity necessary for a balanced health.

### ***2.1 Search Strategy***

A systematic search of the major biomedical databases, including *The Cochrane Library*, PubMed and Medline was performed as suggested by White & Schmidt (2005). The table 1 summarises the search terms, keywords and their combination as used during the search process.

<b>Keyword</b>
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1. Yoga
2. Back pain
3. Chronic pain
1 AND 2 AND 3

Table 1: Search Strategy

In order to increase the sensitivity of the search, the advanced searches were applied using additional terms. Boolean operators were used to combine key words into a search expression and Medical Subject Heading (MeSH) was used to create a more complex search.

<b>Keyword</b>
Yoga [MeSH]
Back pain [MeSH]
Chronic pain [MeSH]
1 AND 2 AND 3

Table 2: Search strategy for PubMed and *The Cochrane Library*

Once the relevant research papers have been identified after reviewing the abstracts from all the search results, their references were manually examined and the citation chain (was

followed as suggested by Greenhalgh (2010) to ensure no other eligible studies were missed out. Additionally, the search for grey unpublished literature has been performed through the search engine Google with use of identical keywords (Aveyard, 2010). The duplicate papers and those, which did not meet the inclusion criteria, have been excluded. Most of the relevant studies compared Yoga treatment against the usual care control group and involved the subjects with chronic lower back pain only. Two papers, which have been identified through systematic search described a trial protocol for RCT's and were therefore excluded. Other two studies from the same author shared a lot of similarities as the first one compared Yoga with self-care book and exercise while the other compared Yoga with stretching and self-care book. The one, which was published, more recently was thus included. Furthermore, one trial studying the effects of Yogic sound resonance relaxation technique for patients with common neck pain was similarly excluded due to its irrelevance.

### ***2.2 Criteria for considering trials***

#### ***2.2.1 Trial design and Inclusion***

Full scale and pilot randomized controlled trials (RCT's) that examined Yoga treatment as an intervention for chronic lower back pain have been included.

#### ***2.2.2 Exclusion criteria***

As RCT's are uncontested "gold standard" for comparison of the effectiveness of different interventions, most of the emphasis were given to them; however, for explanation purposes some reviews, discussions or lay literature were also used (Aveyard, 2010; Fielding *et al.*, 2008). Additionally, studies where Yoga therapy was combined with other forms of treatments within the same treatment group were also excluded due to their complexity, as it

would be very difficult to evaluate the effectiveness of Yoga therapy itself (Craig *et al.*, 2008).

Studies that were not published nor translated to English were excluded.

### 2.3 Summary

Inclusion criteria	Exclusion criteria
English language Research studies only	Research studies not published or translated to English
Research studies that monitor and measure pain, function and mobility as primary outcome measures	Research studies, which do not measure or monitor pain, function and mobility as primary outcome measures
Research studies where only Yoga Therapy was administered to the participants within the same group	Research study where Yoga therapy was combine with other forms of treatments within the same group
Primary studies examining Yoga treatment as an intervention for chronic lower back pain	Research studies, which were not published
Randomized controlled trials and pilot studies	Studies on subjects with other types of pain
Studies, which included men or women with chronic lower back pain	

Table 4: Inclusion and exclusion criteria



## **Chapter 3: Methodology**

In this section we will be looking at the ways through the help of which the different steps involved in the research can be streamlined and can be put effectively into practice. At the same time it also helps in understanding and applying of different methodological principles which help the researcher to conduct the research of this particular study and use the steps that are necessary for it. With the help of all these salient features and steps and their subsequent implementation substantial credibility is added to the research on the whole.

It is important to mention here that the nature of methodology applied and used is dependent upon the kind of research that is conducted. The nature of methodological principles applied varies in terms from usage whether it is quantitative or qualitative and changes in methodology are incorporated accordingly (Bryman, 2008).

### ***3.1 Research Philosophy***

The term 'research philosophy' is used as a collective term that denotes to all different research methodologies and belief systems that can be used and implemented when conducting the research and resolving different questions that comprise the integral part of research. Different dimensions of research that are actually applied when conducting and fulfilling the different stages of research include axiology, epistemology and ontology (Malhotra& Burks, 2007). During the course of the different stages of research methodological principles related to

the fundamentals of research will be complied and under the light of these research features different stages of methodology will be conducted.

### ***3.2 Research Approach***

Strict guidelines should be followed when conducting a critical review to ensure that the process is transparent, unbiased and reproducible, maximizing thus its quality and validity (Aveyard, 2010). The methods to carry out the critical review in order to assess the effectiveness of Yoga as a therapeutic intervention for chronic lower back pain were based on protocols described by Greenhalgh (2010), the Centre for Reviews and Dissemination (CRD)(2008) and Butronetal. (2005). The search strategy, described in the following section, helped to identify the relevant studies, which were evaluated against the inclusion and exclusion criteria, summarised in Table 3.

Framework adapted from Scottish Intercollegiate Guidelines Network (SIGN) website was used to extract the important data from the studies and allowed to perform the assessment of their quality (internal validity, risk of bias) and accurate appraisal of the validity and generalizability of their findings. This helped to identify areas for improvement in the current research regarding Yoga for lower back pain

The theory towards this approach will be the one that is applied to all different kind of researches. The researcher will focus upon the ways and procedures that are applied in research to study the behavioral responses and along with all other different phenomenon that continually confront and conform to the theoretical model that has been crafted for the conduction of the research. Validity in any research must be of constant concern to the research since it plays an important role in establishing credibility of a research but also in the reproduction of results that

form the basis of research. However, in this context it is also important to understand and apply the research approach which is applied (Cooper & Schindler, 2003).

The nature of approach that will be applied for this research is in the form of deductive approach. Deductive approach is based on general statements and the logical conclusion derived on the basis of these statements (Eisehartdt, 2008). On the other hand, Inductive approach is the assessment applied based on the individual instances of life that respondents had experienced in the different phases of their life.

Strategy employed for the conduction of research is mainly influenced and dependent on the type of research which is being conducted, whether it is qualitative or quantitative. The principles and features that comprise the research nature of each type differ considerably. In qualitative research the strategy employed is mainly in the form of extracting information and response obtained from the feedback and opinions provided to people regarding an issue.

### ***3.3 Data Extraction and Synthesis***

The adopted framework for this study addresses:

- General information (Author, title, year of publication, journal title)
- Internal validity (Randomization, concealment method, blinding, outcomes measured)
- Overall assessment of the study (Bias, the effect of study intervention, applicability to the targeted patient group)
- Description of the study (Funding, inclusion/exclusion criteria, characteristic of the patients population, intervention and comparison group, the length of the study)

This particular research will be based on the secondary research methodology where the results have been deduced from secondary sources and other studies. In this research method,

data is collected through secondary sources. The researcher can form a result by reading and immersing into the collected data. Journals, periodicals, newspaper articles, magazines etc. are all of the primary sources that are used in the preparation of this report. This study utilizes deductive reasoning which requires that data collection and analytic processes be conducted in light with additional data. The analysis therefore occurs as an open step in conceptually interpreting the data set as a whole by using analytic strategies.

### ***3.4 Advantages of Secondary Research***

Although there are many advantages of secondary research analysis but the most significant of them is ease of use. In previous times, researcher had to explore libraries and heaps of data for finding relative literature but now the Internet has made the life of researcher much easier. The researcher is now able to access the relevant data with much ease and convenience. This method of research analysis is much more economical as compared to the primary research. The researcher, with the help of secondary research method, can get access to the required data at no or very little cost. Thus, for student's level research it is the most preferable method because it is not possible for students to perform expensive research.

Secondary research analysis method also helps the researcher to clarify the research question. Secondary research is always used to clarify the focus of the research. Secondary research is less time consuming. Secondary research can be completed in just two to three weeks because there is lot of data available on almost every topic.

### ***3.5 Limitations***

As far as the limitations of secondary research method are concerned, the most important limitation is the quality of research. As the primary research is usually self-governed it is

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important that it should be analyzed properly before using in secondary research. It is a matter of serious concern that the researcher must evaluate the validity and reliability of information used as a secondary research.

In some cases, if the topic is too unique, researcher may find it difficult to find proper material on the topic. In such cases the researcher has to rely on secondary data which is according to his need.

Sometimes it is difficult for the researcher to find the complete research free of cost because some researcher only provide the portions of their research for free and ask payment for the complete study.

It also happens frequently that researcher can find his relevant information in a research which is too old. Research for rapidly changing industries and topics require that the research must be up to date.

As the advantages of using secondary research is much more than its disadvantages, it is suggested that this study will use the method of secondary research after managing and reducing the disadvantages related to it.

## **Chapter 4: Results and Discussion**

The Study conducted by Cox et al (2010) did not find concrete results of the effectiveness and efficacy of using Yoga treatment for chronic lower back pain because both the groups have shown significant decrease in disability and chronic lower back pain respectively. However, this study had some limitations but it paved the way for future researches in this specific area of research.

The study conducted by Saper et al (2009) in which they have compared the treatment of hatha yoga with usual care for chronic lower back pain, although did not show very significant changes, but seems moderately feasible. The study found that hatha yoga sounds more effective than usual care in reducing chronic lower back pain on short term basis.

Sherman et al (2005) finds significant results and the study proves that yoga is an effective treatment for chronic lower back pain. Actually yoga is not just exercise but it also a kind of meditation which stresses more focus on mind than on body and thus directly affects the brain as well as the body. However, this study does not focus on the contribution and share of physical movement and mental focus of yoga in reducing the chronic lower back pain. As a whole yoga helps in reducing mental tensions as well as the physical movements increases the flexibility and strength of muscles which couples together made yoga an effective tool for treatment of chronic lower back pain.

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The research study by Sherman et al (2011) finds that stretching either through yoga or through some other exercise helps in relieving chronic lower back pain. This study uses a large sample with two comparison groups which strictly follow the instructions. The researchers concluded that yoga proves to be an effective treatment of chronic lower back pain due to its physical activities and not due to the mental exercises and meditation. Both yoga and other exercises use stretching but yoga's exercises are relatively safe. However, whatever be the reason, the study concluded that yoga is an effective treatment for chronic lower back pain. However, the limitations of the study are that the sample was chosen from single site and all of the participants are well educated and functional.

The study conducted by Tekur et al (2008) has shown that people by using yoga has experienced 49% reduction in disability and remarkable increase in the flexibility of their muscle. This study produced very significant results and clearly shown that people using yoga for only seven days experienced great improvement in their spinal flexibility and reduction in disability.

The study conducted by Tilbrook et al (2011) concluded that people after doing yoga for 12 weeks found extra ordinary improvement in their chronic lower back pain; however the research found that there was no significant change in chronic lower back pain in 12 months program.

### ***4.1 Discussion***

Health and well-being of a person depends on several factors. Our health is largely determined by our lifestyle, that is to say, by the choices we make about how we live. This is what we eat, what we learn and how to do it, where and when we agree recreation. Each person

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is unique and means that everyone will take to develop, define and establish a health program reflect this uniqueness. We may need to explore various strategies and activities before developing a program that really suits the person.

The benefit of yoga for back pain treatment is difficult to overestimate. Back injuries are often delicate, chronic issues that are resistant to many physical demands therapeutic solutions. In fact, many people with back pain than traditional Western exercise can actually increase pain levels and aggravate their condition. This is a cruel irony. Exercises many of us know can actually worsen the conditions of return. However, doctors will instruct people with back problems to participate in some type of physical activity to strengthen the area and reduce pain in general.

Fortunately, there is an alternative and its use is increasing. Yoga can be used to reduce back pain. Those who have learned and used yoga as part of their overall Pain Management and disposal strategy report that the technique is a great way to make the transition to a life much less painful. These soothing and meditative exercises have some very strong advantages over the type of exercise for many of us perceive as "normal". One of the benefits of yoga to treat back pain is low impact nature. While many Western exercises jarring and require potentially harmful rapid movement, yoga focuses on developing flexibility and stretch the body. Although yoga is to promote greater strength, does so in a very different way to exercise alternatives. Imagine having the ability to strengthen the back without the risk of further injury or increased pain as a result of their training. That's what yoga offers its practitioners.

Another benefit of using yoga for back pain seems to work so well is the focus of art in bringing the mind, body and spirit together. Yoga is not focused on one area at the expense of



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others, there is no attempt to divorce the mental condition of one due to physical pain, or vice versa. Instead, the approach is completely integrated and many participants believe that exercise is well rounded nature is the most important benefit of yoga to treat back pain. Yoga treats the body and also nourishes the soul and mind. Yoga can be the best way for you to combat the pain.

Both regular yoga classes as stretching exercises relieve pain and improve mobility in people with chronic problems in the lower back. The above researches have depicted that those who practiced both types of activity reported more improvement in symptoms after three months than patients who received only a book with tips on how to prevent and control pain. The finding that yoga and stretching have virtually identical effects implies that it is probably stretching in yoga-and practice components linked to relaxation or breathing-which helped to improve symptoms associated with pain and functionality. The 60 percent of people who did yoga group reported improvements in the level of pain, compared to 46 percent in the cohort who did stretching exercises and only 16 percent of those who only received the book. Three months after the end of classes, symptom improvements were similar in people who had done stretching or yoga, and were better in the group without exercise.

Yoga also calms the heart rate and reduces anxiety. Those who did yoga reported slightly less pain compared to the usual care group, but the difference was of "statistical significance. 80% of people in the UK suffer from back pain at some point in their lives, with few effective treatments. Such results show that benefits yoga can provide both short and long term for those who suffer from chronic back pain or recurrent, without any serious side effects.

Poor posture, injuries or carrying excessive weight are some of the causes that can trigger it. Anyway, back pain is a common problem "lacking highly effective treatment options. Yoga is

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much more effective than medicine and any other type of exercises. Yoga can be a good treatment for back pain. They studied for twelve weeks to two groups of patients. Both received health care but only one of them practiced yoga. The researchers were able to confirm that the yoga practitioners needed fewer days off work than patients in the control group.

Yoga therapy program includes several sessions organized in a gradual and flexible program. Some basic ingredients such as commitment and perseverance are put. The results will be more evident if a regular practice moves. The program includes the practice of breathing, relaxation and guided meditation, specific postures tailored to each individual as well as imbalance limits. Thus in short it can be said that the yoga provides treatment of many diseases and mental problems. It is a great way of relieving chronic lower back pain and anxiety in patients'. The results showed that yoga can be an effective method to reduce pain and anxiety in patients because

- it increases flexibility and improves the functioning of the nervous system;
- Strengthens muscles and improves brain function;
- Improves balance by activating the left prefrontal cortex;
- Strengthens the immune system and changes the level of neurotransmitters;
- Improves posture and decreases the level of stress hormone;
- Improves mastery of the functions of the body and psychological balance

## **Conclusion**

All the above discussion and research has shown that yoga plays an effective role of treating chronic lower back pain. All the studies which were analyzed in this study unanimously claimed that yoga is an effective tool of reducing chronic lower back pain.

The practice of yoga treats chronic lower back pain by oxygenation and the local vasculature. Yoga reduces blood pressure, control cholesterol, and improves obesity and hyperglycemia. Too much stress sometime cause chronic lower back pain, Yoga allows, however, to prevent these disorders. Through physical postures, breathing and meditation, the yogi gets immediate psychological effects, such as strengthening and flexibility of the muscles and reduction of stress and pain.

The word yoga means "union" in Sanskrit, which is the union between body and mind. Its origin is so remote that it cannot give a precise date. It says that to improve our knowledge of 'self', we must work eight different areas. The body and mind are linked. By acting on one, one acts on the other and vice versa. The Yoga therapy is an alternative medicine and all the scientific studies analyzed attempt to demonstrate the significant action of yoga to improve symptoms and treat certain diseases and concluded that yoga is an effective tool of reducing chronic lower back pain.

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