Chapter 1

Introduction
It is an established fact that psychological factors play an important role in physical disorders. The term psychosomatic disorders refers to such psychophysiological disorders which are caused by emotional factors and involve a single organ system usually under the control of autonomic nervous system. It is also known that stress can also produce physiological damage (Mayer & Chesser, 1970).

In view of the increasing number of chronic low back pain and migraine patients in India, it seems that the situation may be much worst in the coming years.

Chronic low back pain is a specific type of physical pain that is felt in the area of lower part of the back and impairs not only bodily activities but also is assumed to impair proper behavioural functioning resulting into different types of behavioural disorders such as decreased mental health, feeling of different types of depression, decrease in self-efficacy and increase in anxiety and inducing various behavioural problems which make the life of CLBP patients burdensome and in many cases, specially when the CLBP takes the form of chronic pain. Thus the persons suffering from CLBP become the victim of somatic pain as well as the behavioural problems which
taken together make them very often dysfunctional in a number of ways. For example, it may interfere with effective functioning and adjustment. Another psychophysiological disorder is migraine.

There is a growing body of literature on the relationship between the psychological and organic factors of migraine. There are many research evidences of the association of certain psychological factors with onset of migraine. Clinical observers also have shifted their attention to moods and feeling states of migraine patients between, during and immediately after a migraine attack.

Migraine is a major psychosomatic disorder and review of studies indicate that stressful life events, anger, emotional stress and strain are directly associated with migraine attack. Migraine attack is the episodic attacks of headache which are often one sided and associated with other symptoms specifically nausea/or vomiting photophobia and occur at varying intervals. It has been observed that a particular kind of stress often elicits a specific psychophysiological reaction to the individuals exposed to it and it is particularly true for migraine (Wolf and Goddell, 1968).

Migraine is characterised by attacks which are separated by symptom-free intervals. In 10-15% of patients premonitory
symptoms (or prodromes) may precede the migraine attack by hours or by a day or two (Blau, 1980).

Migraine headache is the most common type of headache usually described as a severe throbbing pain that is located on the just one side of the head (i.e. either left or right side). Pain is usually located in the temple forehead, or beech of the head. Nausea or vomiting often accompanies the headache. Patients with migraine report warning signs that precede the headache by about 30 minutes. Common warning signs are seeing flashing lights or having blind sports in the visual field. The present study tapped CLBP and migraine as the independent variable's and group of dependent variables covered mental health, anxiety and behavioural efficacy. This areas has not attracted the attentions of researchers to the extent, it actually deserves. This study is a step forward in this regard.

Independent Variable

The proposed study taps chronic low back pain and migraine as the independent variable.

Chronic Low Back Pain

Chronic low back pain is a backache that commonly involves the lumber and sacral vertebral areas. It is a specific type of
physical pain, that is felt in the area of lower part of the back and
impairs not only bodily activities but also is assumed to impair
proper behavioural functions. This type of pain is often accompanied
by pain radiating throughout region supplied by the sciatic nerves. It
may vary from dull ache to sharp intermittent pain or constant agony.
It has been suggested that this condition may be due to faulty
postures adopted and sustained, increased muscular stress effort and
muscular tears insufficiently. It is a essentially due to the adoption of
faulty posture, the disorder can be considered psychologically
affected but it would not be considered psychosomatic.

Chronic low back pain is a common musculoskeletal
disorders affecting 80% of people at some point in their life. It
accounts for more sick leave and disability than any other medical
condition.

Persistent Low Back Pain

Most commonly it is assumed that pain which persists for
6 months progressively leads to the chronic state, defined by
preoccupation with pain, depression, anxiety and disability. There
was a 5% incidence of psychological dysfunction in the overall
group. Low back pain is ubiquitous complaint found throughout the
world.
Chronic low back pain has several different possible causes-

(1) **Mechanical**

Chronic strain on the muscles of the lower back may be caused by obesity, pregnancy, or job related stooping, bending or other stressful postures. Construction, jack hammering, sand blasting and other sources of chronic trauma and strain to the back or nerve pressure also contribute.

(2) **Malignancy**

Low back pain at night that is not relieved by lying down may be caused by a tumor in the *cauda equina* (the roots of the spinal nerves controlling sensation in and movement of the legs) or chronic constipation and sluggish or enlarged colon; benign tumors; bone fractures; intra-abdominal infection, or, bleeding secondary to coumadin therapy, tuberculosis of the spine (*Potts disease*), and sepsis of the vertebral discs all may be associated with pain to the lower back. Additional symptoms may include night sweats; being awakened at night by pain; weakness, numbness, muscle fatigue or poor coordination which progressively worsens burning on urination and malaise.
(3) **Ankylosing Spondylitis**

Ankylosing spondylitis is a form of arthritis that causes chronic pain in the back. The pain is made worse by sitting or lying down, and improves when the patient gets up. It is most commonly seen in males between the age of 16 and 35. Other symptoms include morning stiffness, a positive family history, and positive lab results for HLA-B27 antigen and an increased sedimentation rate of the blood. This condition may have food allergy related components, such as an allergy to wheat, worsened by drinking beer.

(4) **Herniated Spinal Disk**

Disk herniation is a disorder in which a spinal disk begins to bulge outward between the vertebral.

Herniated or ruptured disks are a common cause of chronic low back pain in adults. Pressure imposed on adjacent nerves results in pain that may worsen on movement, with coughing, sneezing or intrabdominal strain, and be accompanied by numbness of the skin in the area served by the nerve (dermatome). Deep tendon reflexes may be reduced, and the straight leg raising test may be positive.
(5) Psychogenic

Back pain that is out of proportion to a minor injury, or that is unusually prolonged, may be associated with a somatoform disorder or other emotional disturbance. Psychosocial factors such as loss of work, job dissatisfaction, legal problem, financial compensation issues are some of the 'non-organic' factors that may be associated or causative. Symptoms of low back pain in this configuration are usually diffuse, non-localized, and may include other stress related symptoms.

Epidemiology of low back pain

The chronic low back pain has taken a serious turn as numerous people in different countries are suffering from it. Over a lifetime 80% of people have lower back pain (Urguhart DM, Hoving JL, Van Tulder MW (2008), with 26% of United States adults reporting pain of at least one day in duration every three months (Deyo RA, Mirza SK, Martin BL (2006).

(i) Back pain second most common cause of disability in the US (leading cause among men) accounting for 16.5% of the total disabilities in ≥18 years in 1999.

(ii) Workers' compensation 1986-1996 - > year 8.8% of claims - 64.9%-84.7% of annual costs.
Chronic low back pain is a leading cause of physical limitation and disability. It has been estimated that over 60% of such patients have no diagnosable medical disease or injury instead, behavioural, emotional, intrapsychic and environmental factors have been recognized to be important pain prone patients are described as guilty and pessimistic. People who unconsciously believe they do not deserve success, pleasure or happiness and who thus feel that they must pay a price for is should be fall them (Kaplan & Sadock 1995). There are people who especially fear the experience of pain and frequently avoid stimuli that they think might trigger pain, including movement, social interactions and situations.

When disability is caused by a pain condition with little or no objective medical impairment, the assessment, gratification and scaling of the disability becomes a key problem in clinical work, in the court room and in research. Definition of the terms and concepts we apply in this context - Impairment, Disability and Handicap - is crucial but controversial. In fact, no single set of definitions has universal applicability, as these concepts cannot always be defined within the same frames of reference. Nevertheless is necessary to agree on some fairly simple definitions before looking at the individual low back pain patients. The definitions given below are
related mainly to the international classification suggested by WHO (1980).

Impairment: Any loss or Abnormality in Body Structure

The term refers to deviations from generally accepted standards of biomedical status, e.g. an amputation or decreased range of motion in a joint. This is the true working field for physicians, who are traditionally trained to judge physical and mental function of the organ-system level according to accepted medical standards.

Disability

Impaired performance as a human being is known as disability. The term refers to the integrated activities expected from the individual as 'a whole man' without consideration of environmental variables, such as his social geographical or cultural situation.

Handicap

The total disadvantage in the individual's particular environment and social situation is known as handicap.

The handicap usually results from impairment or disability but the state of being handicapped is relative to other people, the valuation is dependent on the environmental and cultural norms and
even normal physiological features may constitute a handicap e.g. skin, colour or age.

The definitions are not mutually exclusive and this adds to the complexity of classification and assessment. Impairments do not always cause disability in one patient but not in another. On the other hand, it is difficult to imagine a disability which is not caused by impairment. However, handicaps may be caused by an impairment which is not disabling, and also by normal physiological conditions.

Subjective disability is, of course, highly influenced by the possible occurrence of objective, physical impairments but is 'non-specific', CLBP patients. Physical impairments are scarce or absent. The experience of pain is the main cause of 'subjective' therefore, modified by a large number of well known variables, such as life conditions, education, the state of the labour market age, sex, culture, social conditions, psychological pattern etc. From the orthopedic point of view most of these variables are confounding.

Patient is shown presenting his problem to the doctor as 'subjective' disability. In the conventional clinic setting, the doctor performs examination in order to identify impairments for diagnosis and assessment of the 'objective' disability. His ambition is to cover
the 'subjective' square with his 'objective' square to explain the patient's perception of disability and hopefully do something about it. In some situations there is perfect matching of the two squares, a complete agreement between the patient and the doctor in assessment of the disability eg. in a case of traumatic fracture with severe cord damage. Appropriate treatment may still be a clinical problem, but there is no conflict between different concepts of disability. In nonspecific LBP patients it is usually impossible to achieve a complete matching of the squares do not even touch each other. The resulting reactions of disappointment, frustration and anger are a threat to the patient - doctor relationship in this situation.

Evidently this problem is multi-dimensional, and an improvement of the present unsatisfactory state of affairs requires a multidisciplinary approach, which is also the conclusion from many clinical studies.

Part of the discrepancy in the presentation of subjective symptoms and objective signs is often caused by deficiencies in the clinical examination. Enlarging the 'objective' squares by improving the clinical examination is one way to reduce discrepancy between 'subjective and objective' disability. All components of physical

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disease in the condition must be identified and assessed separately, as the indication for surgical intervention, is a treatable physical disorder. Unusual pain behaviour should not be punished by refusal of appropriate surgery, and the desperate claim that 'something must be done about the pain is not a proper indication for surgery'.

Pathology, radiology and clinics represent three different 'information systems' that do not fit together. The CLBP problem is multi-dimensional. Many pathological features have been studied and demonstrated in the lumber spine, but in the large number of 'non-specific' LBP patients the correlation between objective pathology and clinical symptoms is weak or absent. The same is true of the image-system: radiology; myeology, CT and recently MRI. It may be important to exclude malignancy or fractures, but in most CLBP patients the pictures add little or nothing the clinical diagnosis instead, x-ray pictures may be misleading. Although they often seem so convincing. It is easy to assume that an old-spondylolisthesis, indisputably demonstrated by x-ray at the age of 40, is also the true source of segmental pain, even if the condition has been completely quiet since childhood and has nothing to do with the patients pain problem.
The patient presents a different system of clinical symptoms and signs to the clinician and to the patient. The low back pain problem is predominantly a pain problem. In fact, functional impairment of the lumbar spine without pain is rarely perceived as disabling by the patient, who does not consider improving the mechanical function of the spine without relieving pain to be successful treatment.

When specific pathology has been ruled out, we faced a musculo-skeletal pain problem without much support from pathology, radiology, or laboratory techniques in diagnosis, or choice of treatment. In this common situation, the objective must be to identify the main mechanism(s) behind the patients experience of LBP and to determine the basic etiology of the complaints. This is the key to the choice of treatment. To do so, at a reasonable level of probability, is often time-consuming and may, indeed, require considerable clinical experience and a good understanding of anatomy, biomechanics, pathology, ergonomics and psychology.

Substantial improvement in the evaluation, care, and treatment of 'non-specific' LBP patients is a very realistic possibility but progress in this complex field depends on a systematic and structured approach to the problem. A meticulous recording of the
medical history, a systematic and detailed analysis of the pain condition and a full physical examination are required. There is no easy short-cut to the solution of this problem, but it is quite possible to recognize and simplify the clinical routines, which unnecessarily consume so much time and energy.

**Migraine**

Migraine is a neurological syndrome characterized by altered bodily perceptions, severe headache and nausea. The word migraine was borrowed from old French 'migraine'. The French term derived from a vulgar pronunciation of the Late Latin word 'hemicrania', itself based on Greek hemikrania, from Greek roots for 'half' and 'skull'.

The typical migraine headache is unilateral and pulsating, lasting from 4 to 72 hours, symptoms include nausea, vomiting, photophobia (increased sensitivity to sound) Gallagher RM, Cutrer FM (2002).

Approximately one-third of people who suffer migraine headache perceive an aura - unusual visual, olfactory, or other sensory experience that are a sign that the migraine will soon occur. Migraine is believed to be caused by extreme changes in the flow to blood of the head. Prior to a headache, blood vessels inside the brain constrict, during a headache the vessels outside the skull dilate.
Jones and Harrop (1980) defined migraine as headache associated with visual gastrointestinal disturbances.

The International Headache Society (IHS) (2004) defines the intensity of pain with a verbal, four-point scale:

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Annotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No pain</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Mild pain</td>
<td>does not interfere with usual activities.</td>
</tr>
<tr>
<td>2</td>
<td>Moderate pain</td>
<td>inhibits, but does not wholly prevent usual activities.</td>
</tr>
<tr>
<td>3</td>
<td>Severe pain</td>
<td>prevents all activities.</td>
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**Early Concepts of Migraine**

The earlier concepts of migraine or headache in general were probably supernatural beliefs that their causes were evil spirits trapped within the head. Exorcism of the spirits seems to have been achieved by a surgical procedure in which cranial bone was removed, thus releasing the evil spirits and restoring the victim to normality.

The scholars of ancient Egypt are thought to have been the first to record the symptoms of migraine headache, around 1200 B.C. believing the God could cure these ailments; the Egyptians followed the ancient prescriptions of the papyrus. A clay crocodile
Holding... grain... in its mouth was firmly bound to the head of the patient using a strip of lines, which bore the names of the goods. This treatment may have relieved migraine headache by compressing the distended blood vessels responsible for the pain.

Hippocrates hypothesized in 400 B.C. that both the gastrointestinal and the neurological symptoms of migraine resulted from vapors rising from the liver to the head. Hippocrates described the visual symptoms of migraine, nothing a shining light, usually in one eye, followed by violent pain beginning in the temples and spreading across the entire head and neck. In an attempt to drain away the noxious vapors treatment involved blood letting and local applications of herbal tinctures.

By 90 AD, Aratacus of Cappaelocia had fully described the intermittent and unilateral nature of migraine headache, the blackness in front of the eyes, and the nausea and general malaise associated with migraine.

In the 17th century Thomas Willis, who founded the term 'neurology', realized that a number of factors including heredity, seasonal variation, weather and diet, could influence both the incidence and severity of migraine symptoms.
In 1664, Willis published his speculation that migraine was caused by congestion and dilation of blood vessels within the head. His work was well respected and his theories became supported by the observations and hypotheses of many great physicians. By 1873, Latham proposed that migraine is caused by a defective blood supply to one side of the head, the foundations of a vascular theory of migraine pathogenesis were firmly laid. The vascular theory of migraine, which held migraine headache was due to vasodilatations, was the subject of intense investigation over the following century.

However, during the 19th century a new breed of migraine philosophers emerged. From the early 1800s, a group of 'natural scholars' began to concentrate on the visual symptoms of migraine and to publish accounts of their own experiences of aura. Three years later, Edward Living, probably impelled by the rising interest in epilepsy, published his own theory that migraine was the result of nerve storms arising in the optic thalamus of the brain. He may not have realized it at the time but his hypotheses soon led to a spectacular division of thinking that sent scholars in appearing directions of migraine research.
By the 20th century, there was vigorous controversy among supporters of vascular or neurogenic theories of migraine pathogenesis. This occurred primarily because there was nothing but conjecture to support either theory. It was not until Harold Wolff, in the late 1930s, took the study of migraine into an experimental phase and a firm basis for scientific investigation was established.

Harold Wolff demonstrated that the drug ergotamine, which has been used since the late 1960s, constricted blood vessels. He also showed that the decrease in headache severity after drug administration was accompanied by a decrease in amplitude of pulsation of the superficial temporal artery. Subsequently, he established that the visual aura of migraine could be abolished by inhalation of any one nitrite, a cerebral vasodilator and proof of a vascular origin for migraine seemed within reach.

Research into vascular aspects of migraine intensified during the 1960s, and the introduction of novel imaging techniques in the late 1960s and early 1970s greatly increased the understanding of changes occurring in the cranial vasculature during migraine. Using these modern imaging techniques, researchers, attempted to establish a primary role for the vascular theory of migraine.
1981, a research group in Copenhagen set about measuring regional cerebral blood flow in many areas of the cerebral hemisphere during migraine attacks. They found that during attacks a wave of diminished blood flow begin in the occipital lobe of the brain and spread forward across the hemisphere at a rate of 2.3mm per minute. However, this obligaemia transgressed the vascular boundaries of the major cerebral arteries and it therefore seemed unlikely that vasospasm was its causes. It was then recollected that in the 1940s Lashley had calculated that his own migraine aura crossed his occipital cortex at a velocity of 2.3mm per minute.

Based on this cerebral blood flow research, it seemed that while blood flow may diminish at the onset of an attack, a neurological mechanism seemed to initiate the process. Opinion then swayed away from the view that migraine was a vascular disorder and towards the view that a central dysfunction was the primary cause of migraine and the resultant vascular changes were a secondary response only.

Today, after more that a decade of conflicting opinions, most researches now believed that migraine involves a complex interaction between the central nervous system and cerebral blood
vessels. So that, neurological and vascular theories may be reconciled.

Although, the precise causes and mechanisms of migraine are not yet fully defined evidence points specifically to the relationship between coronial blood vessels, which become dilated and inflamed during migraine and their surrounding sensory nerves. However, as more scientific methods to study and control headache have become available, the organic nature of the disorder has become fully established.

Studies using balloon catheters have shown that distention of certain cranial blood vessels cause pain around the orbital and pro to temporal regions. These regions are enervated by fibbers that arise in the trigeminal ganglion at the base of the brain, and the interaction between the distended blood vessels and these nerve fibbers appears to held the key to pain associated with migraine.

In the diagnosis of migraine it is required that the patient experience at least 5 attacks, each 4 to 72 hours in duration and characterized by at least two of the following four features: (i) unilateral pain, (ii) pulsative quality, (iii) moderate or severe intensity, and (iv) aggravated by routing physical activity. In addition each episode must have included either nausea and/or
vomiting during the headache phase, or photophobia and/or phonophobia. Furthermore, all possible causes of secondary headache must be ruled out.

The IHS diagnostic criteria for migraine included a minimum of two attacks, such having at least three of the following features: (1) one and more fully reversible aura symptoms, (2) aura develops over a period more than 4 minutes, or two or more aura symptoms occur in succession, (3) no aura symptoms persists more than 60 minutes, and (4) headache begins less than an hour after the aura.

Disturbances of Neurological Function in Migraine

Temporary disturbances of central (more rarely peripheral) nervous system function occur in many migraine attacks. These neurological disturbances may be manifest prior to the headache, or while headache is present.

Alternation in mood and higher-level neurological function may proceed the onset of 24 hours, and at time every longer. Such changes are usually relatively mild, but appear to be be not infrequent. The direction of mood changes is probably more often towards depression than onwards suphoria, and there may be corresponding alterations in behaviour.
In some cases of migraine, a discrete disturbance of cerebral function precedes the onset of headache, usually by a matter of less than one hour, but sometimes by many hours. The neurological defect usually affects vision. Rarely, vision of only one eye is involved, suggesting that the disturbance has arisen at the level of the retina or optic nerve, very much more often the pattern of visual affection is highly suggestive of occipital cortical dysfunction. The disturbance may comprise hallucinatory phenomena, which are generally of a relatively simple geometrical pattern and occupy part or all of the fields of vision of both eyes in a disturbance compatible with the established effects of visual cortical dysfunction. The pattern of disturbance usually changes as time passes, during the aura phase, and may involve 'seeing' flashes of light, collared mobile balls, 'migraine', 'glow-warms, see rated patterns of brightness, exploding concentric zigzags and so on. Instead of the positive hallucinations, or sometimes accompanying them, there may be impairment of vision in segments of the visual field central or paracentral scotomas, peripheral field constriction, hemianopias. The onset of the visual disturbance is usually fairly abrupt its pattern commonly changes as the minutes pass its resolution generally coincides with the onset of the headache. Sometimes there is a brief symptomatic gap between
the two but rather more often the visual disturbance continues into the early headache phase.

Occurring much less commonly than disturbance of vision, though sometimes developing concurrently with it, unilateral somatic sensory alterations may precede the headache of migraine. Then they spread to involve the cheek, upper and lower lips (sometimes bilateral), tongue and roof of the mouth. Less often, the leg and trunk are included in the sensory disturbance. When the sensory disturbance appears to arise from dysfunction of the dominant cerebral hemisphere dysphasia speech disturbance sometimes occurs also. The dysphasia is almost always expressive: disturbance of receptive speech function is quite rare in migraine. Some patients with hemi sensory symptoms also complain weakness, usually of the arm. These sensory and motor symptoms rarely last more than half an hour, and usually fade as the headache develops.

Manifestation of the brain stem (and sometimes related cranial nerve) disturbance may occur before, and during, migraine headache. Rarely a period of some minutes, or longer of unequivocal rotational vertigo may usher in the headache of migraine, while during attacks a temporary (or lasting) paralysis of cranial nerve
function may develop, e.g., paresis of occulomotor or facial nerve function.

In the vast majority of instances the neurological disturbances, which occur before or during the headache phase of migraine are short lived, and fully reversible exceptionally the defects persist.

Symptoms of Migraine

Migraine headache is traditionally described as a violent throbbing pain in one temple, and not infrequent takes this form. It is impossible, however, to specify a constant site or intensity. There are many symptoms related with migraine headache.

(1) Sites

The sites of migraine headache are notably temporal, supraorbital, frontal, periental, post auricular and occipital. The migraine headache sites in upper and lower teeth, at the base of the nose, in the neck and the tip of the shoulder.

(2) Onset

One side is generally attacked by preference, and in some cases left or right side involvement throughout life and also bilateral headache.
(3) Intensity

The finding shows almost vascular headaches are aggravated by active or passive head movement, or by the transmitted impulse of coughing, sneezing or vomiting. The pain is therefore minimized by rest, or by splitting of the heads in one position. It may also be modified by counter pressure; many migraine sufferers will press the affected temple into their pillows or hold the affected side with their hand.

(4) Duration

In extremely acute attacks the pain may lost only a matter of minutes. In migraine the duration is rarely less than three hours, it commonly of eight to twenty four hours and sometime it may lost several days. Tissue changes may become manifest in extended attacks.

(5) Nausea

The term "nausea" is used and has always been used in both literal and figurative senses, as denoting not only a specific sensation, but a state of mind and patterns of behaviour, a turning away from food from everything, and a turning inwards even if there is no nausea, a vast majority of migraine patients will be averse to eating during the attack. Knowing that the act of eating, the sight the smell
or even the every through of food may bring on overwhelming nausea.

(6) Facial Appearance

Glowing and shining of the face, sometimes face becomes pale, thin drawn and haggard, eyes appears small, sunken and ringed, and sometimes the swelling on the face. The face becomes flushed in the first few minutes of an attack.

(7) Ocular Symptoms

It is also possible to detect changes in the appearance of the eyes during or before an attack of migraine headache, even though the patient himself may not volunteer any visual or ocular symptoms. Particularly severe attacks the eyes may become grossly blood shot, the eyes may appear lusterless and sunken. In the severe attack, itching and burning in the affected eyes, a painful sensitivity to light and blurring of vision.

(8) Nasal Symptoms

At the time of migraine attack the nasal symptoms also play important role. Some migraine patients feels stuffiness at the time migraine headaches and someone diagnose sinus. Some are feel fold or other viral infection.
(9) Abdominal Symptoms

There are about fifty percent of the migraine patients suffering with abdominal patient at the time of migraine attacks. The pain usually felt in the upper abdomen and sometimes, radiating to the back. There are some of the important problems of abdomen like gastro, diarrhea, constipation there are gastrointestinal tract problem at the time of attack.

(10) Lethargy and Drowsiness

Many migraine patient feel weak during an attack. Sometimes the attacker feels drowsiness. Almost all the patients of migraine feel sleep at the time of migraine attack.

Lot of patients of migraine is suffering with dizziness. Vertigo, faintness at the time of migraine attacks. There is also change in papillary size. In the earliest stages of an attack or if pain is very intense, the pupils may be enlarged, later in attack or if nausea, lathery collapse, small pupils will be seen.

Factors Predisposing to Migraine

There are many predisposing factors which are related to migraine:
(1) Inheritance

Roughly 50% of sufferers from migraine give a history of near relatives (parent or siblings) who suffer, or have suffered from recurrent headache which appear to be migrainous in nature. Migraine is strongly hereditary in more than half the cases where inheritance can be traced, and it is usually direct, i.e. other members of the family (very often a parent) suffer from one headache.

(2) The Migraine Personality

It is widely believed that certain personality attributes are associated with the tendency of migraine. Such attributes might be inherited. Therefore, this association might explain the undoubted familial tendency to migraine referred to above.

The popular image of the migraine is that of the intelligent, sensitive, artistic person of perfectionist temperament, striving to cope with the demands of life. Yet every clinician must have encountered numerous patients with almost diametrically opposite personality attributes but whose lives are devastated by recurrent migraine. Whether or not the so-called 'migrainous personality' is a genuine phenomenon, it seems clear that such personality characteristics are associated with the occurrence of migraine.
Factors Precipitating Migraine attacks

Given the tendency to migraine, a number of circumstances seem capable of inducing migraine attacks in predisposed individuals. These include following:

(1) Stresses and emotion

Migraine attacks become more frequent in many migraineous individuals at time of stress, and of heightened emotion. Sometimes there is a clear and direct relation between particular emotion and individual headaches. Attacks may occur at the peak of the emotion or stress or while the levels of emotion are still rising. Sometimes attacks occur at the stress, or emotion, is resolving, or immediately after it has resolved.

(2) Female Sex Hormones

In women, migraine occurs premenstrual or at the time of the menses. When oral contraceptives had a higher estrogen contents, use of these preparations was often followed by the development of recurrent migraine after 2 to 3 months. With reduction in the estrogen content of oral contraceptive tablets this mode of presentation of migraine has become much less frequent. Estrogen therapy in post-menopausal women is apt to be associated with an increased frequency of migraine.
(3) Food

There is widespread notion that particular food can provoke attacks of migraine. When the evidence in individual patient is examined critically, the relation between food intake and the occurrence of migraine often appears more a matter of coincidence that of causality. However there are unquestionably individuals in women intake of particular foodstuffs is consistently associated with the development of migraine. The more common culprit foods include chocolate, dairy foods, seafood's, citrus fruits and certain meats.

(4) Alcohol

Migraine sufferers often reported that alcohol intake appears to induce their attacks. Sometimes alcohol in general appears culpable. More often specific forms of alcohol, notably red wines are blamed.

(5) Glare

Some migraine sufferers recognize that exposure to glare, or bright light, seems to produce their attacks. Sunlight appears to activate migraine in 30% of their group of 263 migraineurs.
(6) Fatigue

Physical fatigue, and also lack of sleep, seems to provoke migraine in some sufferers. Curiously, sleeping beyond the individual's usual waking time also appears capable of provoking attacks in a minority of migraine sufferers.

(7) Exertion

Particularly in youth, sustained and severe physical exertion appears able to induce attacks of migraine.

(8) Trauma

After a brief interval, minor head injuries insufficient to disturb consciousness may cause migraine in young person. In so-called footballers, migraine classic migraine may develop within a few minutes of quite minor blows on the head sustained while playing football.

The Dependent Variables

This group of variables will include psychological well-being assumed to be the consequences of chronic low back pain and migraine. The psychological well-being will include mental health, anxiety and self-efficacy.

Psychological well-being deals with people's feeling about everyday experiences in life activities. Such feelings may range from
negative mental states or psychological strains, such as anxiety, depression, frustration, emotional exhaustion, unhappiness, dissatisfaction to a state which has been identified as positive mental health (Jahoda 1958; Warr, 1978). Psychological well-being refers to the overall satisfaction and happiness. The concept, psychological well-being is the subjective report of one's mental state of being healthy, satisfied or prosperous (Merriam-Webster online, 2007; Perrins, King & Collings, 1998).

**Dependent Variables**

This study covered mental health, anxiety and behavioural efficacy as the dependent variables. The normal subjects and two patient groups were compared on the above scales.

**Mental Health**

Mental health may be defined as the ability of the individual to cope with the situations of life effectively. Good mental health indicates emotional well-being and freedom from anxiety (Carson et.al. 2000).

Ryff and Keys (1995; Keyes & Lopez, 2002) combine many principles of pleasure to define complete mental health. Specifically, they view optimal functioning as the combination of emotional well-being and psychological well-being (combining...
self-acceptance, purpose in life, positive relations with others). Taking the symptoms of mental illness into consideration, they define "complete mental health" as the combination of "high levels of symptoms of psychological well-being, as well as the absence of recent mental illness" (Keyes & Lopez, 2002). This view of mental health combines all facets of well-being into a model that is both dimensional and categorical. This complete state model (Keyes & Lopez see figure) suggests that combined mental health and mental illness symptoms may be ever-changing, resulting in fluctuations in states of overall well-being ranging from complete mental illness to complete mental health.

**Psychological Well-being Symptoms**

![Diagram showing dimensions of complete mental health](image-url)

A Model of Complete Mental Health
Keyes and Lopez (2002)
The World Health Organization (1964) defines health as a state of "complete physical, mental and social well-being" and not merely the absence of disease or infirmity. This definition recognizes a state, which is neither optimum health (complete well-being) or actual or overt illness or disability.

Rogers (1960) in his Health Status Scale, refers to this state as "suboptimum health", Rogers (1960) also point out that 'health' is a dynamic concept and health states are in a constant process of change, and that no particular state can be maintained indefinitely. The changes, which occur in a state of suboptimum health, broadly defined, are probably what most researchers are concerned with when examining the quality of working life.

"Psychological Well-being" is a term, which covers a range of interrelated affective, cognitive and behavioural processes. Low psychological well-being is illustrated in anxiety, depression, low moral, lack of self confidence, low sense of personal autonomy, inability to cope with the problems of living and dissatisfaction with oneself and the social and physical environment. Low psychological well-being is not identical with ill health, since its features may occur in people who are not ill. However, when the features are relatively extreme, generalized and extended in time, then low psychological
well-being may be reflected in psychological ill-health. High psychological well-being is partly a matter of the absence of symptoms of low well-being, just as health, in general is in limited sense the absence of illness. However, it extends beyond that into more proactive forms, through successful striving for growth and self actualization (Jahoda, 1958; Marlow, 1970).

The psychologists and psychiatrists have vaguely defined the concepts of mental health. Mental health and good adjustment are almost synonymous these days. Each term refers to a valued way of living. A person who has made a good adjustment or one who is called mentally healthy demonstrates patterns of behaviour or personal characteristics which are valued or considered desirable.

Mental health is more often conceptualized as a personal quality, which transcends the setting of which person is a part, although of course, it will be affected by what goes on in these settings.

Mental health is somewhat more static in connotation just as a person's mental health is thought to be somewhat independent of the environment, it is also less variable in time. Mental health is considered a relatively enduring personal quality. The concept of mental health is sometimes reserved to designate very desirable
personal characteristics. These may be qualities, which only few people show in any degree. Sometimes the qualities are stated as goals towards which each of us or the society as a whole should work. Used in this way, mental health is more than just good adjustment. It is superior adjustment.

It is very difficult to determine the cut point of mental illness and mental health. As Jonesco (1960) says, "You seem very sure of yourself. Who can say, where the normal stops and the abnormal begins / ....." However, many researchers have made attempts to define mental health and to some extent they have drawn satisfactory conclusions. Since the second half of twentieth century mental health and mental illness have been characterized sharply desperate and it was suggested that the absence of illness may constitute a necessary but not satisfactory definition of mental health. As a consequence, mental health has been considered in its more positive connotation, not as the absence of mental illness. Conard (1952) differentiated the positive health from negative health. She says, "Positive health consists of ways of living that one beyond the frontiers of mere social existence implied by negative health this category (positive health) applied when there is evidence that the
According to Rumke (1955), "The understanding of the disturbances of the sick man hardly contributes to the understanding of the normal man" (p. 47). Therefore, mere absence of mental illness is not a proper definition of mental health. Positive connotation of mental health must be kept in mind to understand the human personality.

Evaluating the healthy personality Schultz (1977) has concluded that there is no single prescription for or description of psychological health on which all psychologists or personality theorists would agree. Perhaps the only point on which most of the psychologists agree is that psychologically healthy persons are in conscious control of their lives. In one form or another psychologists also agree that psychologically healthy persons know who and what they are.

According to Maslow and Mittelman (1951) normal psychological health includes following criteria:

(i) Adequate feeling of security
(ii) Adequate self-evaluation
(iii) Adequate spontaneity and emotionality
(iv) Efficient contact with reality
(v) Adequate bodily desires and the ability to gratify them
(vi) Adequate self knowledge
(vii) Integration and consistency of personality
(viii) Adequate life goals
(ix) Ability to satisfy the requirement of the group
(x) Adequate emancipation from the group or culture.

Jahoda (1958) has indicated six aspects of positive mental health.

1. Attitudes of an individual toward his own self.
2. Growth, development or self actualization
3. Integration
4. Autonomy
5. Perception of reality: a relative freedom from need distortion, and the existence of empathy

Frankel (1965) suggests that three factors, namely, spirituality, freedom and responsibility are indispensable for healthy human existence.

In fact sound mental health is best understood as a point of view. This point of view includes:
1. Self-respect and respect for others
2. Understanding and tolerance of one's limitations and the limitations of others.
3. Understanding of the fact that all behaviour is caused.
4. Understanding the drive for self-actualization.

Anxiety

Anxiety has become a general problem of the present age. It is worked by apprehension, tension and sense of insecurity etc. It may be caused by a number of factors. It may be of many types (Sarason & Sarason, 2002).

Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional and behavioural components (Seligman & Rosenhan, D.L. 2001). These components combine to create an unpleasant feeling that is typically associated with uneasiness, fear or worry.

Anxiety is, of course, a part of everyday life and what it means to be human. Indeed, existential thinkers view it as a given of existence. The experience of anxiety lies on a continuum from a normal, adaptive response in the service of survival to a more severe form which can lend to the disruption of a person's life. The fearful reaction which is a part of anxiety has functional value in
evolutionary terms as it drives us to avoid potentially dangerous situation.

Physical effects of anxiety may include fatigue, nausea, shortness of breath and headaches. Physically, the body prepares the organism to deal with a threat. Blood pressure and heart rate are increased, sweating is increases, blood flow to the major muscle groups is increased, and immune and digestive system functions are inhibited. External signs of anxiety may include pale skin, sweating, trembling and pupillary dilation.

Anxiety does not only consist of physical effects, there are many emotional ones as well. They include "feeling of apprehension, trouble concentrating, feeling tense or jumpy, anticipating the worst, irritability, restlessness, watching for signs or danger, and, feeling like your mind's gone blank (Smith, Melinda 2008) as well as "nightmares/bad dreams, obsessions about sensations, deja vu, a trapped in your mind feeling, and feeling like everything is scary."

The term 'anxiety' is used in quite different ways, at times to refer to a relatively enduring characteristic of a person which remains constant across situations, as well as to refer to a situationally specific characteristics. These are respectively called trait anxiety and state anxiety (Spielberger et.al., 1970). Such variations in the use
of the term can be traced in DSM-IV, where generalised anxiety disorder (GAD), for example, appears to refer to an enduring trait of a person, while post-traumatic stress disorder (PTSD) refers to a classification where the anxiety is experienced in response to a particular situation. The notion of trait anxiety has, however, not received unanimous acceptance. Mischel (1973), for instance, argued that in order to understand any type of behavioural response it is essential to consider the complex interaction between the person and the environment. Notwithstanding such considerations, in clinical practice we do come across individuals who appear typically to respond to many, if not most, situations in an anxious manner and whom we might generally describe as being 'worriers'.

**Anxiety Disorders**

Anxiety disorders tend to be chronic and persistent with a considerable proportion of people continuing to experience significant degrees of anxiety even following treatment. The research findings from outcome studies for each of the anxiety disorders.

Anxiety disorders compose a significant subset of the psychological disorders seen in groups with chronic pain. DSM-IV presents multiple categories of anxiety based disorder, some of which occur frequently in chronic pain populations. Individuals with
generalized anxiety, and worrying behaviour that the person cannot control and that have been present for more than 6 months. Anxiety symptoms, concentration problems and multiple signs of autonomic hyperactivity such as sweating, tachycardia, nausea and dizziness.

While the core experience in all the disorders we shall review is that of anxiety, its source varies and this is reflected in the variety of anxiety disorders.

**Agoraphobia**

Agoraphobia refers to 'anxiety about, or avoidance of places or situations from which escape might be difficult or in which help may not be available in the event of having a panic attack or panic-like symptoms' (DSM-IV).

Agoraphobia is commonly preceded by a high degree of general stress and it is this which may provoke the first experience of panic. Subsequent avoidance of a situation appears to be an attempt to avoid the experience of panic, a phenomenon referred to as the 'fear of fear'.

**Panic Disorder**

Typically, a panic attack begins with the sudden onset of intense fear and is accompanied by the following somatic and psychological symptoms: palpitations or accelerated heart rate;
sweating, trembling or shaking; sensations of shortness of breath; feeling of choking; feeling dizzy or faint; flushes or chills; fear of dying and fear of going crazy or of doing something uncontrolled. The fear of losing control (somatically, psychically, behaviourally or socially) is a central experience in panic.

**Specific Phobia**

This refers to the persistent and irrational fear of a specific object or situation. The individual typically attempts to avoid the object or situation and this may lead to considerable restrictions in day-to-day life.

**Social Phobia**

Feeling of discomfort in social situations (social anxiety) are quite 'normal' (Arkowitz et.al. 1978). Social anxiety, as reflecting a concern about social encounters is reported by upto 40 percent of the general population.

**Obsessive-compulsive disorder**

OCD is characterized by recurrent obsessions (persistent ideas, thoughts and impulses or images that are experienced as intrusive and inappropriate and that lead to marked anxiety) and/or compulsions (repetitive behaviours, the goal of which is to prevent or reduce anxiety) that are severe enough to be time consuming
(that is, they take up more than one hour per day) or that cause marked distress or significant impairment in functioning (DSM-IV).

**Generalised Anxiety Disorder**

GAD refers to an unrealistic or excessive fear and anxious concern about two or more aspects of life (for example, worries about health) occurring more days than not for a period of at least six months (DSM-IV). The person finds it difficult to push their worries to one side. In one study, the most frequently reported focus of anxiety was related to family issues, followed by excessive or unrealistic concerns about finances, work and illness (Sanderson and Barlow, 1991 quoted in Edelmam, 1992).

**Neurotic and Normal Anxiety**

Anxiety takes many forms and stems from different sources. Many people are anxious about health-related issues and this tends to be presented as the problem. Further questioning reveals that such people are not suffering from an anxiety disorder as such. Rather the anxiety they report is an understandable, even unsurprising, response to a life crisis which has challenged their belief in an orderly, stable world which they had perhaps believed themselves to be able up until that point to predict and control. Anxiety states are usually related to stressful life events which act as
triggers. In many cases the anxiety represents the somatic manifestation of emotional and existential concerns. For some people the connection between their somatic experience of anxiety and emotional problems will not be obvious, and part of the task of assessment and of subsequent therapeutic work will be to make these links explicit, so that the underlying concerns can be addressed.

This is often the case where clients present with anxiety related to physical health concerns and where they may hold the belief that there is truly something physically wrong with them. People who somatise are those who give expression to their emotional distress through bodily manifestations which may lead to seeking medical help. Most people who somatise also experience symptoms of anxiety and depression, but do not complain about these symptoms unless directly asked about them.

The field of psychosomatic medicine has its own categories and although now-a-days it is fashionable to regard all physical disorders as potentially psychosomatic, that is in part stress related, many still distinguish between those disorders in which there is true physical pathology that are partly induced by stress and those disorders in which the physical symptom is functional and not
resulting in anatomical disturbances (for example, tension headaches,

fatigue syndrome etc.). In these disorders, stress plays a far more
significance role, if not a primary role in causation these are properly
referred to as the 'somatisation disorders' (DSM-IV). Whereas with
somatisation disorders, anxiety may play a direct role in the
production of the physical symptoms, the role of these two effects in
the more truly psychosomatic conditions is much less clear and the
neurobiological mechanisms are still not worked out and are
probably various.

Self-efficacy

Self-efficacy is a positive aspect of behaviour. It helps the
individual in various walks of life to adjust and make appropriate
responses.

Clinical observations suggest that patients having persistent
pain differ in terms of their confidence that they can cope with and
manage pain. One way to conceptualize these variations in
confidence is in terms of self-efficacy theory. According to this
theory, self-efficacy is the belief that one has the ability to engage in
a course of action sufficient to attain a desired outcome. One can
have self-efficacy for a variety of outcomes, for example, self-efficacy
for the ability to control pain or self-efficacy for the ability to maintain physical activity despite persistent pain.

A growing body of research attests to the importance of self-efficacy in understanding pain, patients' emotional adjustment to persistent pain, and treatment outcome. Patients who report high level of self-efficacy, report lower levels of clinical pain and psychological distress. A study conducted in the lab also found that individuals having high self-efficacy for control of their arthritis pain rated laboratory thermal pain stimuli as much less unpleasant and had higher pain thresholds and pain tolerance. Migraine patients who scored high on a measure of self-efficacy showed fewer pain-related behaviours during an observation session in which they engaged in a variety of activities of daily living. Patients who report increases in self-efficacy over the course of educational and psychosocial treatment programs have been found to have much better short and long term outcomes (Lorig et.al., 1989; Keefa et.al., 1996).

It is important to emphasize that effective coping depends on individuals' assessment of their competence. It is not enough to possess the relevant skills. Individuals must believe that they have the skills and that they are capable of applying them as needed. This
 Individuals' beliefs in their own effectiveness determine whether they try to cope with or avoid a situation that is viewed as beyond their abilities. Efficacy expectation can also determine how much effort individuals will invest and how long they will persist in the face of aversive experiences. Lack of perceived self-efficacy leading to faulty appraisal of coping abilities can produce anxiety and behavioural dysfunction. Perceived self-efficacy is seen as influencing how individuals will behave, think and react emotionally in a challenging or stressful situation.

Recent research has even shown that perceived self-efficacy could affect the body's endogenous opiate and immune systems (Bandura et al. 1987, 1988; Wiedenfeld et al., 1990). It is important to note that perceived self-efficacy is a changeable commodity.

Bandura (1977) has referred to four major sources by which self-efficacy can be influenced. They are performance, experiences, vicarious experiences, verbal or social persuasion and emotional or psychological arousal. One of the most potent influences on self-efficacy is the mastery experience acquired through
actual performance. In the pain area self-efficacy has been shown to be a basic concept both in laboratory and clinical studies. Subjects who possess higher self-efficacy are willing to tolerate higher levels of pain (cf; Lin & Ward, 1996; Weisenberg et.al, 1996; Kashikar-Zuck et.al., 1997; Keefe et.al., 1997). Manipulation of self-efficacy also appears to be causally related to the outcome (Vallis & Bucher 1986, Litt 1988).

In the laboratory, Dalce et.al. (1986a) found that self-efficacy expectancies were the best predictors of cold pressure pain tolerance. They also found that setting of quotas contributed to increased pain tolerance, perhaps via the raising of self-efficacy expectations. In their clinical application and study Dolce et.al. (1986b) utilized a quota system for exercise with chronic pain patients.

After three baseline sessions, exercises were introduced on an increasing quota basis. Patients demonstrated an increase in self-efficacy for the physical activity. The authors conceptualize the approach as a desensitization of the avoidance behaviour associated with the faulty belief that activity is associated with harm and pain increase. Self-efficacy was increased at the same time as worry and concern over activity decreased.
The success of cognitive strategies depends to a great extent on motivational factors (Weisenberg 1984, 1989, 1994, Turk & Rudy 1990, 1991). Self-efficacy as used in pain control often refers to willingness or behavioural intention, rather than a judgment of ability (Kirsch 1995). Self-efficacy has been found to play a key motivational role in a person's life (Karoly & Ruehlman 1996, Karoly & Lecci 1997). For example, Holroyd et al. (1984) told a group of patients that they had achieved high control over tension by relaxation of frontalias muscles in order to induce a high sense of self-efficacy that they could abort or reduce headache intensity. The actual amount of physiological change was found to be unrelated to headache activity.

Perceived self-efficacy was the determining factor. Several studies with chronic pain patients have since reported that a key predictor of patients' success at the conclusion of treatment was perceived self-efficacy (Council et al. 1988; Kores et al. 1990; Jensen et al. 1991b; O'Leary & Brown, 1995).

Objectives

After clarifying the concepts covered in the present study, now the objectives of it may be mentioned in brief.

(i) To assess the mental health of CLBP and Migraine patients.
To assess the level of anxiety in above patients groups.

To assess the behavioural efficacy of above types of patients.

To compare the CLBP patients with normal subjects on the scales of mental health, anxiety and behavioural efficacy.

To compare CLBP and Migraine patients on mental health scale.

To compare CLBP and migraine patients of anxiety scale.

To compare the CLBP and migraine patients on the behavioural efficacy scale.

To compare the male and female patients on the above scales.

To compare the rural and urban patients on the above scales.

Besides some, other objectives are also to be realized.