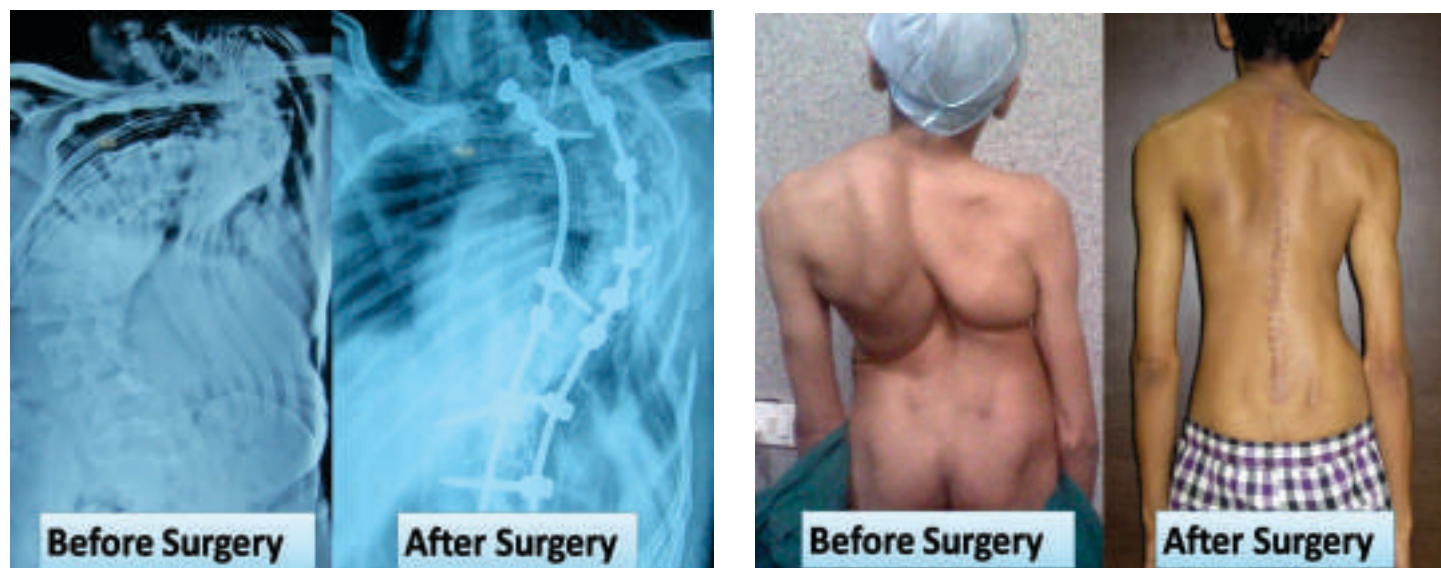


Patient was evaluated by our Pulmonology department and advised home oxygen for 1 week prior to surgery with medications to optimize his pulmonary condition.

Patient and relatives were clearly explained the risk involved in surgical correction of the deformity including that of paraplegia and risk to life due to poor pulmonary condition.

We prepared the patient for spinal deformity correction by posterior pedicle screw-rod instrumentation with support from the pulmonology and anaesthesia team. The surgery took about 7 and ½ hrs with a blood loss of approximately 1.8 liters. Intraoperative real time monitoring of the spinal cord function was done with NIM eclipse IONM machine (Medtronic. Inc.). The patient was kept in ICU for 24 hrs for monitoring and was able to walk after 72 hrs after surgery.

It was one of the most gratifying surgeries we have been able to perform successfully as a team. We were fortunate to have a very efficient anaesthesia team headed by Dr.Jacob Anand, who managed the case without any complications given the high risk involved. However, despite the successful outcome of the surgery we prefer to surgically tackle spinal deformities at a young age where the risk of the surgery and the morbidity is very minimal for the patient.



Jain Institute of Spine-care And Research

A unit of
Bhagwan Mahaveer Jain Hospital



JISAR NEWS

QUARTERLY NEWSLETTER AND SPINE-CARE UPDATE



Chronic back pain is one of the major disorders affecting the productive adult age group and contributing to huge loss of working hours and economic loss world over.

- A WHO study on primary care report suggested that the prevalence of chronic pain across 15 different countries combined was 21.5%¹. (Gureje et al 1998)
- There was a fourfold increase in developing psychiatric problems in patients with persistent pain. Persons with persistent pain are more likely to experience anxiety and depressive disorder (ICD-10 criteria) as compared to those without.
- Rates of major depressive disorder (MDD) range from 34% to 57% in Chronic Back pain Patients compared with rates of 5% to 26% in the general population^{2,3}
- Work based disability was also observed in 31% of those with persistent pain. 77% of patients met lifetime diagnostic criteria and 59% demonstrated current symptoms for at least one psychiatric diagnosis. The most common of these were major depression, substance abuse, and anxiety disorders. In addition, 51% met criteria for at least one personality disorder⁴. (Polatin et al 1993)
- Evidence shows that patients with LBP suffer from alterations in nervous system encoding or processing of sensory information, rather than from ongoing injury or dysfunction in any structure in the lumbar spine^{5,6}.
- Research on the effectiveness of psychological therapies in LBP shows substantial support for these therapies^{7,8}

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Despite the evidence, it is in many ways paradoxical that vast majority of doctors working in the pain field are anaesthetists, while neurologists, orthopaedic surgeons or psychiatrists are rarely considered essential in pain clinics. The value of psychological assistance is now being more widely recognized in the management of chronic back pain with growing body of evidence. The International Association for the Study of Pain (IASP - Founded in 1973) is the leading professional forum for practice and education in the field of pain. The IASP recommends that all first-class pain clinics should have professional psychiatrists as part of their staff.

We at the Jain Institute of Spine-care And Research (JISAR) recognize the requirement of holistic care for patients suffering from chronic back pain. In accordance, we now have a professional psychiatrist as an integral part of the department for screening and management of psychosomatic aspect of chronic back pain, both in operative as well as non-operative patients. In addition we are pleased to inform you that a professional Yoga teacher has also joined our department for providing specific yoga therapy integrated with modern care for all spinal disorders.

OUR EXPERIENCE

In our experience at JISAR department, over a three month period, 73 patients were referred for psychiatric screening of which 56% were females and the remaining 44% males. As shown in fig.1 neurotic disorders was the most common followed by affective disorders. Barring a handful of patients out of 73, majority responded to a bio-psycho-social model of interventions. A few went on to have specific therapies like cognitive behavioural therapy (CBT), mindfulness, motivational enhancement therapy, etc.

Persistent pain is associated with marked reductions in several indicators of well being particularly psychological illness. In JISAR we assess all patients for psychological illness as a routine with screening tests. If and when the screening test identifies significant scoring for depression or anxiety symptoms, they receive specific psychiatric input to address the same.

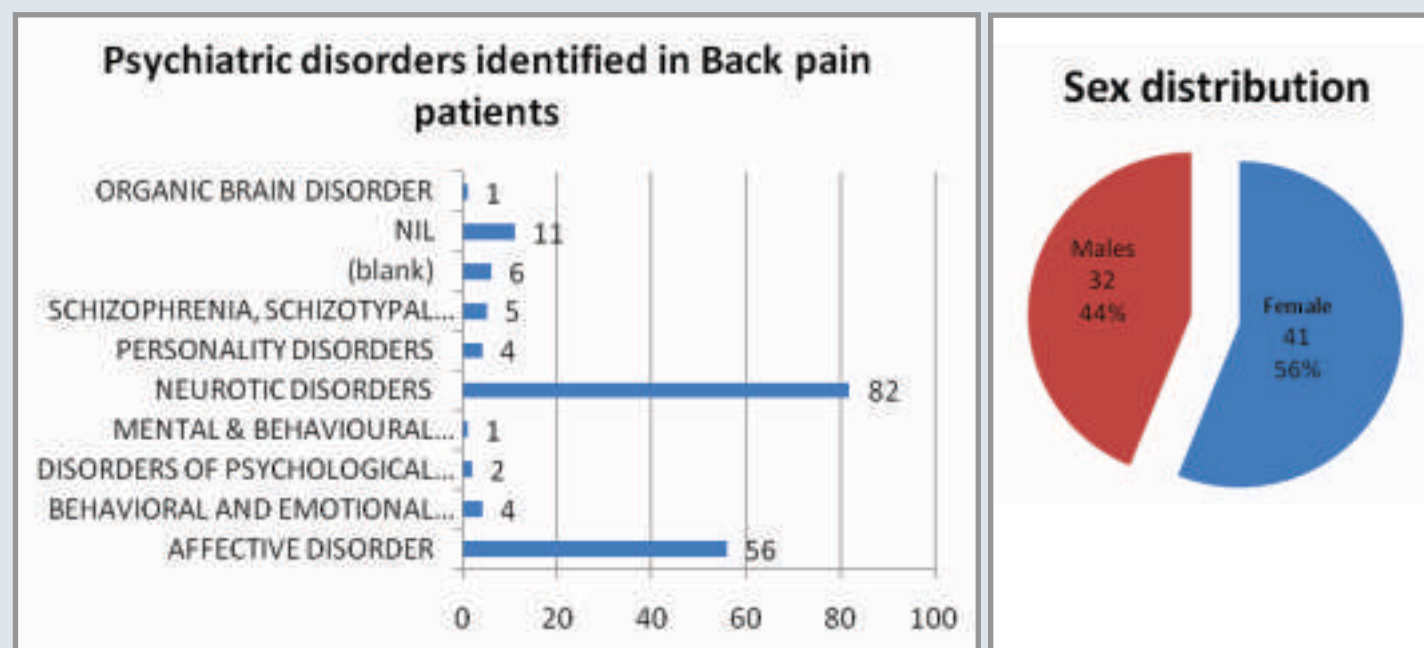


Fig 1: Patients with chronic back pain having psychosomatic disorders at our centre.

How do we help?

At JISAR spine and mind centre we treat the individual as a whole. It is immaterial whether the pain came first or the distress. We treat them both together simultaneously. When patients are referred to our clinics, they are screened as above for any psychiatric illness.

Once screened, they are then offered a detailed psychiatric assessment. During this assessment we explore the extent of impact of pain and the psychological distress along with the psycho-social impact it has on the individual and their family. Following this assessment the patient and their carers are given opportunities to address any other areas which may be pertinent to the patient/carer's.

Management is customized to individual patient needs. When discussing treatment options, we take the bio-psycho-social approach. This means that we not only focus on the medication side but also on psychological aspects along with alternative therapies like physiotherapy, Yoga, etc.

Case examples:

1. **Case 1:** He came with back pain lasting more than 6 months which was constant and non-radiating. The pain was described as dull aching pain in the Lumbar region which was aggravated by house hold work and relieved with analgesics. She did complain of increasing analgesics use over a period of time and as a result developing gastritis related problems.

On examination apart from tenderness in the lumbar region, there were no limitations in the range of movements. She was managing most of her activities of daily living albeit with some difficulty due to pain. Radiologically, there was mild disc herniation without any neurological deficits.

She was offered sessions for pain management which were mainly along the lines of increasing the pain threshold and suggesting behavior modifications. She was also started on analgesics with antidepressants for which she responded well in a months' time. She did not need surgery as she went home being able to tolerate and function more effectively with pain.

2. **Case 2:** He was a 34 yr male with longstanding lesions of spondylolisthesis with minimal effect on his ADL's but had chronic pain. Although he managed to have a job and earn a living, he said he was getting to a point that he may not be able to hold on to his job for long.

Following an initial assessment, the patient was insisting on having surgery to correct his pain and there by improve his quality of living. Fortunately for the patient there were no signs of any neurological deficits on examination nor were there any new lesions radiologically that needed surgical correction.

Following a psychiatric assessment, he clearly appeared depressed and preoccupied with pain. This to a large extent was making him more anxious to the extent that the anticipatory pain was more of a problem than the real pain he experienced. He had started to show features of insomnia along with lethargy and poor interest and concentration.

He was started on a newer antidepressant and advised physiotherapy along with mindfulness exercises which he started on. His family was encouraged to support him overcome his pain and eventually he appeared brighter and

much more positive about his back pain. His family continues to be more positive in their approach in supporting to this extent as he continues to have a job and make a living.

3. **Case 3:** He was a 54yr male with traumatic disc herniation for which he had corrective surgery involving stabilizing resulting in good recovery in motor and sensory function in his lower limbs. Post



Fig 2: Post-operative X-rays of Transforaminal Lumbar Interbody Fusion L4-L5.

surgery for about a year he reported of pain in the operated site which was painful to the extent that he had to change jobs as a chef to starting a business. Despite several trials of analgesics he reported of not having complete relief from pain.

He had a few sessions of CBT with mindfulness¹² (Kabat Zinn) where he was able to focus on issues other than pain more effectively. After 4 sessions into therapy, he was able to control pain and several other aspects of his life more effectively. He was also able to be more assertive with his wife who he was avoiding to broach certain topics.

He continues to receive treatment and remains free from very strong painkillers and also lead a better quality of life. He clearly remains an advocate for this treatment to others with chronic pain conditions.

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JISAR Yoga Therapy

Yoga is a comprehensive and holistic set of mind-body practices including physical postures (asanas), breathing practices and pranayama, relaxation strategies, meditation/ mindfulness practices and applied psychology/ philosophy.

- Recent studies have shown that yoga is highly effective in the management of acute and chronic stress both psychologically and physiologically. Practice of yoga harmonizes the physiological system and initiates a “relaxation response” in the neuro-endocrinal system and as the neural discharge pattern gets modulated, hyper arousal of the nervous system and the static load on postural muscle comes down.

- Asanas help in optimizing the tissue functioning. In contrast to exercises asanas are isometric and EMG studies have shown lower activity during practice of yoga compared to exercises which can be further lowered by bringing in awareness and emphasis on relaxation. (1)

The effect of yoga in the management of chronic back pain has been studied as:

- A 12-week yoga program to adults with chronic or recurrent low back pain led to greater improvements in back-function than did usual care. (2)
- In CLBP, a negative correlation exists between stress and quality of life. Yoga increases quality of life and spinal flexibility better than physical therapy exercises.(3)
- Seven days of a residential intensive yoga-based lifestyle program reduced pain-related disability and improved spinal flexibility in patients with CLBP better than a physical exercise regimen. (4)

The causes for spinal diseases are multi-factorial. Highly successful management of multi-factorial disease depends on multi-focus treatment approach.

JISAR is first centre which has been integrating the best of the advanced surgical interventions, mindfulness care through pain clinic along with the proven ancient science of yoga.

Case 1

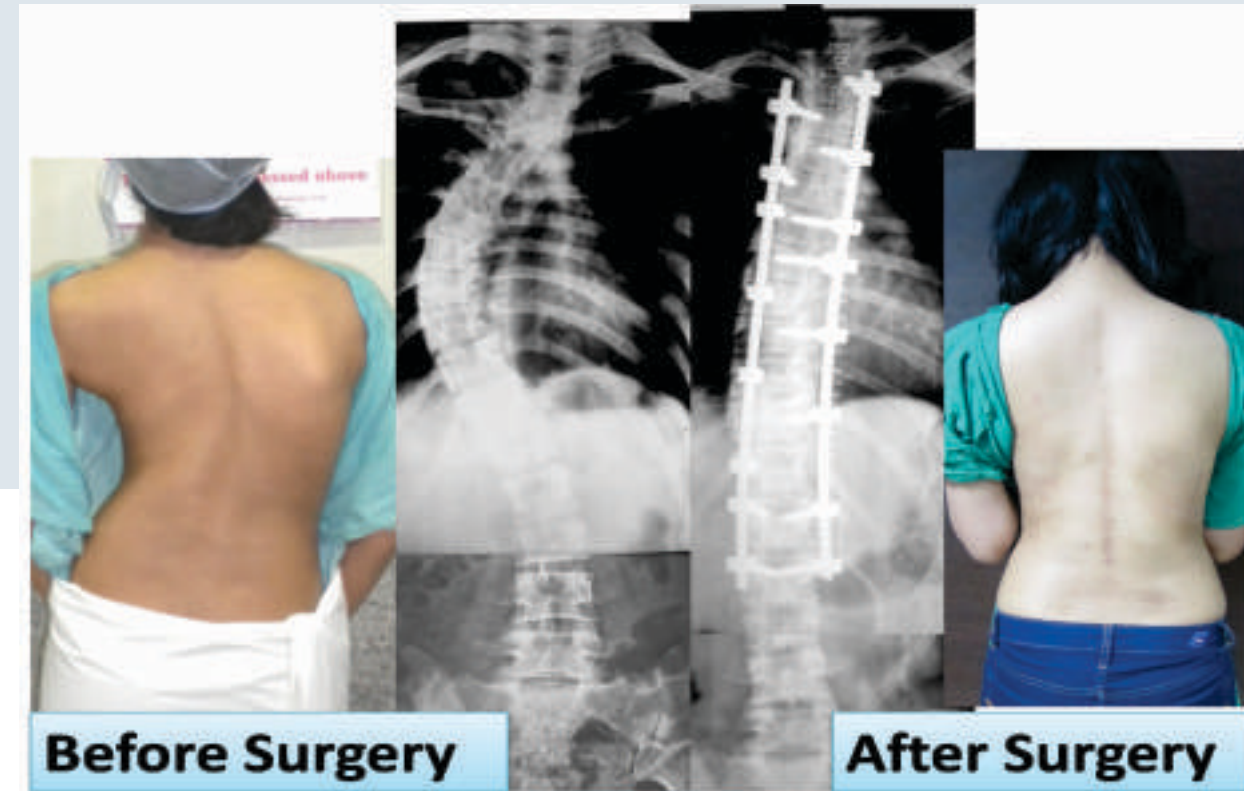
A 25 year old girl with congenital scoliosis who underwent correction surgery in May 2011. The scores on SRS-30 (Scoliosis Research Society Questionnaire) improved to 137 post surgery from a score of 87 before surgery, with an improvement of 57.47%. She was included in a 10 days yoga therapy course and after 6 weeks of regular yoga she reported improvement in her lower limb muscle strength, tiredness and reduced agitations and mental anxiety.

	Before Yoga	After Yoga
Oswestry Low Back Pain Questionnaire	21	16
Rolland Morris Pain and disability Questionnaire	5	0

Case 2:

A 50 year old man with a history of chronic neck pain and low back pain since 8 years with normal radiological studies and no neurological deficits on examination underwent Yoga therapy sessions for 10 days. The patient improved on the pain scores and was able to sit for longer time without difficulty and also reported improvement in his quality of sleep.

	Before Yoga	After Yoga
Oswestry Low Back Pain Questionnaire	36	15
Rolland Morris Pain and disability Questionnaire	12	1
Pain Analog Scale	Sitting	10
	Standing	5



Case 1: Preoperative and postoperative clinical photos and radiographs.

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- Effect of short-term intensive yoga program on pain, functional disability and spinal flexibility in chronic low back pain: a randomized control study. Tekur P, Singhphow C, Nagendra HR, Raghuram N.

Case of the Issue:

He was a 31 year old male with progressively increasing dorsolumbar Kyphoscoliosis since 20 years. Patient was managed conservatively and was advised that he should not undergo any spine surgery till full growth of the spine is achieved (18-20years). However, after 20 years of age the curve had become rigid and very severe with decrease in his pulmonary function. He came to us with about 160 degree kyphoscoliosis and pulmonary compromise with dyspnoea on minimal walking. Patient was refused surgery at premier institutes in the country as the risk of paraplegia and postoperative pulmonary compromise and risk for life was very high.