
ORIGINAL RESEARCH ARTICLE**Can India Pioneer Developments In Local Need Based Orthopedics,
With Indigenous Solutions? Pointers From A Tertiary Care Center
In A Village Called Shreekshetra Dervan.**

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Abstract:**Aim:**

India has amongst the largest populations of geriatric age groups in the world today. About 9 % of India i.e.126 million people fall in the Geriatric age group. With increasing lifespan this segment is projected to grow further to 175 million by 2025. India as a nation is also the largest contributor to a scientific & Holistic lifestyle since eons with Yoga and Ayurveda. However, in an era of evidence-based medicine, our creativity needs to translate into further development of biological, indigenous, function friendly, minimally invasive and economically viable solutions. Our aim was to find, whether India's inclusive approach to health can help us evolve newer treatment strategies which are minimally invasive and more in keeping with Asian/ Indian centric functions, cultural & financial health needs.

Materials and Methods:

The below mentioned Indigenous path was developed based on the spiritual principles of our center, which also contributes to the social advancement of the people in this part of India. It consists mainly of:

- A) Holistic Healthcare lifestyle derived from Ayurveda, Yoga & Sports medicine
- B) Innovations in maintaining natural state of health
- C) Clinical practice dictated by minimal intervention where needed, minimally invasive surgeries, use of biological solutions contributing to earlier recovery, shorter hospital stays and economically viable solutions.

The total number of operative patients for the Holistic Health and Surgery protocol was 738 patients in last 3 years. All of them followed the above criteria of treatment A, B, and C.

They were further asked 3 main questions

1. Were they satisfied with the relief of preoperative symptoms by non surgical or surgical methods ?
2. Were the patients satisfied with the cost of the procedure and value for money spent on surgery and treatment?
3. Would they recommend the same treatment to another member of their family ?

Results:

Based on a telephonic survey conducted by our secretarial staff, the results were as follows.

738 surgeries were performed by our team following our indigenous protocol of holistic health care for rehabilitation and health. These included methods of rehabilitation & lifestyle changes, use of our innovations in surgeries guided by minimally invasive principles & use of biological solutions. The goal of surgery was not only relief of symptoms but also total or near total functional resumption of activities after surgery.

In answer to the first question: Were the patients satisfied with the relief from symptoms by surgery or nonsurgical methods, an overwhelming percentage of 89.7% patients answered in the affirmative.

In answer to the second question of whether the patients found the costs to be affordable, 93.5 % said that they found they found the expense “value for money in terms of the change it had made to their quality of life”. However, 34 % also added that the expense was paid for by a close relative and they would have preferred it to be paid by the socialized healthcare system run by Government or Semi-government agencies.

To the question of whether they would recommend the same treatment methodology to others, an overwhelming 98.1 % answered in the affirmative.

Keywords: Holistic, evidence based, Orthopedics, Surgery, Dervan, Research, Developments, local needs

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Introduction:

Despite the rich lineage of our medical tradition, India is now counted amongst countries who spend the least amount on HealthCare for its citizens. A vast majority of our medical personnel blindly follow the medical guidelines laid down for a different population in a different area of the globe with different lifestyles. Healthcare industry seems to be dictating what is best for the patients rather than the physicians and direct healthcare providers. The experiential has lost its way in the maze of numbers and complex graphs. In an attempt to provide better, affordable care for our population, we came up with some innovative practices and methods which we felt would be more suitable for their living standards, lifestyle demands and social situations.

Materials and Methods:

A review of our standard operating protocols for patients was taken over the last 3 years, of patients suffering from lower extremity joint pain and spinal pathologies. Our publications were grouped under the following headings :

1. Disease prevention & positive health: 4 papers^{1,2,3,4}
2. New Diagnostic tools: 2 papers^{5,6}
3. Minimally Invasive Surgical treatments: 6 papers^{7,8,9,10,11,12,13}
4. Biological & Regenerative solutions: 3 papers^{11,13}
5. Recovery & Rehabilitation: 2 papers^{9,14}

The total number of operative patients for the Holistic Health and Surgery protocol was 738 patients in last 3 years. All of them followed the above criteria of treatment A, B, and C. They were further asked 3 main questions

1. Were they satisfied with the relief of symptoms by treatment provided?

2. Did they feel the costs were affordable & treatment provided value for money?

3. Would they recommend the same treatment to another member of their family?

Result:

Based on a telephonic survey conducted by our secretarial staff, the results were as under
738 surgeries were performed by our team following our indigenous protocol of Holistic health care for rehabilitation and health. These included use of our innovations in surgeries guided by minimally invasive principles, use of biological solutions, Goals of surgery dictated by Functional resumption of lifestyle post surgery.

In answer to the first question: Were the patients satisfied with the relief from preoperative symptoms of surgery, an overwhelming percentage of 89.7% patients answered in the affirmative.

In answer to the second question of whether the patients found the costs to be affordable, 93.5 % said that they found they found the expense “value for money in terms of the change it had made to their quality of life “.However, 34 % also added that the expense was paid for by a close relative and they would have preferred it to be paid by the socialized healthcare system run by Government or Semi-government agencies.

To the question of whether they would recommend the same treatment methodology to others, an overwhelming 98.1 % answered in the affirmative.

Discussion:

India has a rich history of producing pioneers in the field of medicine and surgery. India in modern times has fallen short of providing adequate healthcare for all its citizens. The widespread desire amongst its medical fraternity to adopt modern Western principles of healthcare fails to address the unique needs of the population of India. Although in urban areas there is adoption of Western lifestyles by a fairly large proportion of the population, the rural and semi-urban areas of the country present a totally different picture. The variations in the lifestyles of the population in different parts of the country behoves the need for developing or modifying established treatment protocols for various health conditions.

The very ethos that defined life in India has been replaced by lassitude and inertia of consciousness. Naturally we lost the element of self pride in our culture & tradition and started imitating all things foreign. That, translated in health terms meant a “dependent on substance” and “emergency based” medical system. What was forgotten was the very element that defined the older Indian definition of

health as 'State of Being'. This also led to a loss of creative thinking & proactive thought to find our own solutions, to our own unique health problems.

Let us mention a few examples of this subtle loss providing Indigenous solutions...

India has been the creative storehouse of strategies for holistic living since ages. Yoga & Ayurveda have benefited human population tremendously and still continue to do so. Our approach at Dervan has been to use the fundamentals of yoga for holistic living & implement them in patient care for rehabilitation & in our innovations.¹⁻¹⁴ A simple act of how we sit has the capacity to influence how well and how long we live. As reported by Britto et al in the European Journal of preventive cardiology 2012. It seems that each part of our intricate culture, right from how & what we sit, eat, drink, stand contributed to and was born from an intricate philosophy of living efficiently & holistically. Sitting cross legged has its multiple positive contributions to a healthy lifestyle and therefore all our therapies/ surgeries were aimed towards the same.¹ It not only makes one live better and more functionally, but longer too! In comparison the western popular surgeries emphasized more dependence on aids, medicines and decreased patient self sufficiency. A total knee replacement and the multi implant laden spine surgeries are another case in the point. After these surgeries, the patient is forbidden to sit on the floor, use aids like the Indian toilet etc. A simple solution we have followed is nature friendly surgery of the knee i.e only changing the diseased part of the knee, most often just half of it^{1,2,8,9,10} or doing endoscopic spine surgery without implants or with minimal use of implants^{10,11,12,13} Both these surgery can be done simultaneously and result in ability to sit cross legged on floor or use the Indian toilet etc. One fails to understand, why a more functional and health friendly option is not tried. Of course the industry has its role to play in formulations of mindset, but plainly accepting set ideas formulated by subsets with a motive, will not result in new, efficient & holistic solutions. We not only compromise on health but economy & time as well.

The collective hypnosis of anything foreign being better than time tested ethnic way of life overflowed into systems of exercise and rehabilitation also. Hence gyms and fad diets replaced older forms of exercise like Suryanamaskar & Ayurvedic homemade food. The fads for diet & exercise change every day in a world that thrives on the excitement of novelty. However the passing fancies have been unable to replace timeless wisdom of health offered by our nation. We thus implemented our protocols which included Pranayam, Yoga and the ancient concept of India called Merudanda. (SATHI protocol) Essentially, our seer envisaged that each individual life was as large as mount MERU (a tall peak in Himalayas) and that the staff or the support on which this stood was the

MERUDANDA or the Human Spine. Obviously the healthier the Spine, the healthier the world of the individual and more fulfilling the life.

We simply added the asana called VITHALA ASANA copying the stance of the Revered Godhead from Maharashtra, LORD VITHALA, who embodies the perfect frontal & sagittal balance in the upright pose. The premise was imitation of the posture of this esteemed godhead would enable any human being to become Godly or without imperfections. What better aim and result can a simple exercise have? Many similar asanas have been newly added to this SATHI protocol which is used for pre & postoperative rehabilitation of every patient. The results are very encouraging.^{1,3,4,14}

In addition to being members of the first scientific study on SURYANAMASKAR in 2007, the members are also part of the group trying to innovate the age old & very celebrated SURYANAMASKAR to a more expansile & holistic SAMARTHNAMASKAR. This includes lateral rotations and specific modern lifestyle reversing poses. Results so far have been encouraging and the study is in progress in a younger age group¹⁴

The introduction of the 'Dervanposturitebrace' which is the first simple, posture friendly and affordable brace for maintenance of the entire kinetic chain of the spine has proved another boon for correction of poor postural habits & a reminder for the body to regain its intrinsic ability of health which comes with proper posture.

Another benefit of yoga applied to our work has been the 'Dervan rehabilitation protocol' which combined the reverse walking benefits with the Vithala asana pose.¹⁴ A 60 % reduction to recovery time was found in all patients of knee arthroplasty !

As is said "TRUTH HAS NO AGENDA" and thus our non industry oriented, non populist oriented, foundational holistic protocols have given our patients much cause to celebrate.

Our other innovations have included the realm of Diagnostics where we formulated two simple tests for diagnosis of knee arthritis & concomitant knee & spine maladies which were hitherto missed.

The DERVAN RIM SIGN has brought in to focus the special or different form of Arthritis which exists in Indians, probably due to increased knee bending and health friendly floor activities. Patients in India were often wrongly labelled as normal by clinicians who looked for the typical bone on bone arthritis which is common by only Caucasian habits.⁵The sign can be seen on a simple knee X ray and does not need any sophisticated diagnostics.

Another finding was the commonly coexistent spine & knee pathology knee arthritis & disc prolapse at lumbar level, both of which led to pain in the leg.⁶ However in most cases, only the more evident

cause was treated and the other ignored. After description of the DERVAN DERMATOME SYNDROME, we have proposed that the spine, knee & hip pain be evaluated as a unit and not considered separate clinical entities. This has ensured that the modern day specialization trend does not lead to separation of patient into different parts, thereby missing the whole picture.

3. Our other area of interest has included Minimally invasive, Nature & function friendly surgeries which allow quick recovery and minimal hospitalization. Benefits are enormous when performance, longevity & financial savings are considered together. This skill set, its development and fostering of this attitude is probably the way forward for a large and populous country like India which spends barely 4% of its GDP on health. Our publications have described the same for the most common surgeries of Orthopedics i.e Knee & Spine.^{8,9,10,11,12,13}

A major innovation has been the use of a biological derivative that is available from the patient's own blood, a matter of minutes at cost lessor than the cost of a mineral water bottle! THE DERVAN PLUG^{11,12,13} and its uses in Orthopedic surgery, Knee Arthroplasty and soft tissue surgeries, Spine surgeries etc, has the potential to revolutionize the approach to expensive healing alternatives & provide newer ways of looking at the Body itself rather than expensive industry backed products. The cost of a 5cm by 1 cm semisolid plug, which takes only 10 ml of blood to prepare, needs 15 minutes and is packed with a host of growth factors derived from Platelets. Further studies are on to use the Dervan plug for regeneration of human nucleus pulposes etc in the Cell culture lab on our premises. The Dervan plug has the capacity to revolutionize healthcare in both urban & rural areas with an attitude of locally available, indigenously developed and low cost alternatives that give a host of benefits.

Much work is on & much more needs to and will be done, adhering to the principles of natural wisdom & lasting human fulfilment from a remote place called ShreeKshetraDervan.

Conclusion: Indigenous approach of 1. Holistic approach to health 2. Innovations based on sound time tested natural principles 3. Minimally invasive surgeries which preserve and enhance the power of nature seem to be the way forward for a large and multidimensional country like India. As our Saints have said "rural centers of science & research will show the way forward in the future." It is perhaps not just a coincidence that the first four alphabets of the word 'Indigenous' are similar to India.

Holistic India centric Innovation for Indians seems like the way forward.

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