Editorial

Minimum (optimum) standard of orthopedic care for all: An achievable target

The vision document is a description of what an organization/person would like to achieve or accomplish in the mid-term or long term future. It is intended to serve as a clear guide for choosing current and future courses of action. The genesis of newer development has its root in its vision document. We are in the 67th year after independence and 59th years of existence of Indian Orthopedic Association. It is time we should have a vision and health policy to provide a minimum (optimum) standard of orthopedic care to one and all in this country. Health policy is a sequence of discussions, plans and actions to achieve specific health care goals within a society. It includes defining the vision, outlining the priorities and expected role of different groups, building consensus and informing people. Every policy starts with a vision statement.

The world is geographically divided into many continents and countries, but socially into privileged (developed) and underprivileged (developing) class. There is a huge disparity between developed and developing nations. 83% of the world population live in developing countries with 93% of disease burden. This 83% world population accounts only for 11% of world health spending.[1] On the contrary, 17% of people who live in developed countries consume 89% of health spending with USA alone consuming 40% of health care expenditure. According to the WHO report of 2000 AD, 60% of world people live in poorest 61 countries who receive only 6% of world income, that is, <$2/day.[2] India comes in lower and lower middle-income countries and 32.7% population of India is living on <$1/day.[3]

India is a unique country and is a land of contrasts. We have 20% (250 million) rich people, and some of them are the richest of the riches. These 20% privileged have an access to the best of the treatment facilities consuming most of the resources while remaining 80% (1,000 million) are poor and the poorest of the poor. These have no access to even the basic health facilities. Thus, India represents true world scenario. India has 2.8% world land with 17.5% world population. About 72% population live in 6,38,000 villages while our health services are urban based, as a result, a significant rural population have no access to even the basic health services. Almost 28 million newborn are delivered every year, hence a significant number of them have congenital anomalies as per natural occurrence. The nutritional deficiency diseases and infections multiply as clustering of under nutrition and poor hygiene continues. Our 8% population is over 65 years of age hence likely to have over 96 million population with some or the other degenerative diseases.[4] India is in trauma epidemic with over expanding road traffic accidents, natural disasters producing a huge number of trauma patients. If one person dies as a result of trauma, another 20 suffer from serious injuries and 50 from minor injuries. According to 2005 India injury pyramid, there were 8,50,000 deaths with 1.7 crore serious injuries and 4.5 crore of simple injuries needing treatment.[5] For each person who dies from trauma, 3-8 more are permanently disabled.[6] Due to nonavailability of structured trauma services most of them are either not treated, ill-treated (by osteopaths) or develop some complications due to being neglected initially or are operated in suboptimal theatre conditions. Thus a new disease of neglected conditions require attention. Indian surgeons see the natural history of the disease due to continued biological process. These neglected and complicated cases in a big number require expert treatment in tertiary care hospitals.

Access this article online	
Quick Response Code:	Website: www.ijoonline.com
	DOI: 10.4103/0019-5413.144201

Barriers to the Delivery of Orthopedic Care

There are various reasons of not been able to deliver the minimum standard of orthopedic care to all (a) Inadequate health care facilities (b) difficulty in accessing the health care services due to geographical constraints (c) lack of trained service provider (d) education, training and research issues.

Inadequate health care facilities (infrastructure) - In India, the whole population is not assured of the availability of nearby hospital facilities. There is a lack of area specific hospitals and clinics. For disaster situations, there is no evacuation plan (line of action and command) available, hence whenever a tragedy occurs, the efforts to save lives and prevent disabilities are not coordinated, and hence golden hour is almost always missed. This all

produces a huge number of deaths in young age. Even if a hospital is located in Tehsil or Taluka it may not have round the clock availability of doctors or trained skilled paramedical staff. The equipments/drugs may be insufficient in quantity and quality. It is not uncommon to find that in operating rooms C arms is available but radioleucent tables are not available. The demand of facility and availability of the facility may be mismatched. Overall there is a tremendous unmet need of medical and surgical services. The clinical problems are not treated adequately at first instance. 10% of all deaths in developing countries and 20% among young adults can be prevented by simple surgical interventions.[6]

Indian has two types of health sector – (a) Public (b) private. The public sector has tremendous intellectual capacity, but it lacks state of the art infrastructure. They are working with heavy patient load in a suboptimal facilities, hence are unable to treat them well at first instance and prevent the sequalae. The continued biological process necessitates a huge population reaching hospitals. These public hospitals have poor documentation, record keeping and followup of the patient. They are unable to create research output from their wealth of experience while treating a huge number of patients in limited infrastructure. The private sector has state of the art technology. They have limited clinical work in volume. They usually are subspecialty experts. They hardly contribute to significant research out.

To provide optimum health care, the infrastructure should match with the patient input. The whole population should get attention at first instance and be effectively treated.

The geographic constraints - These are the natural barrier to effective orthopedic care. The geographic constraints are of different type. At some places the population is living in a nontransportable area (hills) or road transport is not available. Even if the roads are transportable but the transportation is usually arranged by family who are generally unable to arrange it. This produces lots of young deaths following road traffic accidents.

Lack of trained health providers

India has a significant shortage of trained health providers. Although the number of medical colleges and postgraduate seats have increased many fold in last 30 years, but we continue to have poor doctor and patient ratio. Generally, the facilities is not supported by paramedical and technical assistance, hence it is difficult to use the facility optimally. India has a tremendous shortage of doctors as well as plaster technicians, dresser, nurses, O.T. technicians. The facilities not supported by trained health care workers are utilized suboptimally.

Education and training issues

The modern medicine is followed globally. The orthopedic practice used to be guided by the West that has served us well till last century because the disease dissimilarity was nonexistent. In last 60-100 years the gap between developed and developing nations have widened and there is a huge dissimilarity in disease profile, hence the Western research and guidance do not help in treating the clinical problems of India. According to one study only 37% of general surgical procedure required in hospitals in Pakistan were taught in western training programme.[7] Besides the problem of western oriented curriculum, even the training in India is deficient. It is at the moment trainer based. We have no mechanism to ensure uniform delivery of core education to one and all. It is not competency based where the attainment of core competence is not assured. The surgeon may be qualified but not efficient to provide optimum care in an available infrastructure. Thus at the moment orthopedic services and training are at a cross road in developing countries.[8]

Solutions

The solution to current problems in providing a minimum standard of care is change in our approach. We require a holistic approach where efforts are put into all deficiencies simultaneously. The opening of one clinic/medical college/AIIMS like institutions may give kudos to administrators, but certainly will not provide a minimum standard of care. There has to be a change in attitude of everyone, that is, clinicians, Associations, NGOs and Government. We have to realise that correctly treating a patient at first instance is easier, cheaper and cost effective. The neglected complicated disease require more cost, skills, tertiary care facilities and will result in severe disability. The components of a holistic approach are

- Identifying the disease burden (national and regional): Unless the disease burden is known no comprehensive planning for general care centers and subspecialty centers can be done. The best mechanism is continuous screening/survey of the whole population, which is very costly. However, if the patient data of all clinics/hospitals (private or public) is collected in a geographical area and are documented we shall be able to define disease burden in a geographic area which will certainly be less than actual but still will give some figures to work on. The ensuring availability of sound record keeping mechanism in every hospital (Government or private) will provide a sound data of disease burden. The registry managed by associations on specific disease will be a step in this direction
- Curriculum and training model: The curriculum needs a relook to provide focused training to treat prevalent

clinical problems in available resources. The training has to be competency bases where it is to be ensured that all trainees attain desired core competence at the end of training. The teaching and learning are integral components of sound patient care; hence teaching should be considered important component of duties of doctors. The surgeons practicing in peripheral centers (primary health centers) providing essential services have to be well versed with closed treatment by manipulation/traction, care of open fractures, external fixation techniques, skin cover and rational treatment of fractures. The rational treatment is defined as developing an art of choosing the right option among many options to treat one clinical situation in available infrastructure. That in true sense is "Evidence based orthopedics" (EBO). Any complex surgical procedure performed in suboptimal operating theatre condition is likely to produce more complications. Hence, it is imperative that our trainee is competent to implement EBO.

- Training of health care workers: To fulfill the unmet need of medical and surgical treatment we have to train a large number of health care workers such as nurses (males and females), paramedics, O.T. and radiology technicians. At present, India is facing an acute shortage of health care workers. The equal emphasis on training of health care workers will not only improve patient care but will also create an employment opportunity to millions of people
- Cultivate temper to conduct need based research. The clinical problems such as neglected trauma, late presentation of various clinical cases require innovative/out of box solutions. We have to generate evidence for treating clinical conditions unique to our land, hence the research for us is a necessity.[9] We need to cultivate an attitude for research and passion for learning among our trainees so that a cadre of the clinician scientist is strengthened, and research output is increased.[10]
- Maximum utilization of available instructions: In a resource crunch environment it is illogical to let any hospital work submaximally. As a general assessment, all operating facilities in government set up work 70% to its capacity. According to a rough estimate in a hospital with 20 operating table working 70% of its capacity will waste operating time worth 5,000 operations/year, that is, 5,000 operations can be performed without spending a single penny. In a metro city such as Delhi, if we have 20 such hospitals than 100000 operations can be performed without spending a single penny. We need to do a time audit of all such structures to make them working at least 90-100% of its potential.[11] The addition of accountability, value of time and cost of wastage (water, electricity, hospital bed, time of surgeon, anesthetist) will force them to work efficiently
- Networking of health facilities in the state and country: When we search Google map we find a map for roads, temples, rivers. We do not have health infrastructure map available for each state or nation. The respective governments have invested huge money to create infrastructure which are them working parallel and suboptimally. It is suggested that gradation of facilities of the available infrastructure should be done. The primary health care (PHC) should provide essential services under one district center (secondary care centers). These district centers should be strengthened to provide round the clock fracture care services. The patient must get essential services mandatorily. Few such district centers should be placed under one tertiary care centre. The tertiary care centers could be medical colleges located in the state. These all centers should be linked by telemedicine so that even at PHC a treatment guide can be offered for complex problems or patient may be moved to respective higher center without wasting time. The linking of these centers do not require huge money just will and planning. India is an IT hub and this linking requires a little planning by IT community.
- Developing protocols: The disaster management protocols, line of command should be well defined and widely circulated. The patient management protocols for single injury or polytrauma should be available for effective patient care to all levels of centers. These all types of protocols should be developed and widely circulated.

This all will allow the patients with orthopedic problems to be treated adequately when they report for the first time. The effort should be to get it right at first instance. The occurrence of neglected disease or averting a complication will reduce the disease burden substantially. This will also reduce the disability-adjusted life year as well as indirect financial burden.

The Indian Orthopaedic Association can play a role of partner to the Government and regulatory bodies (Medical Council of India) in defining the gap in disease burden in a geographic area and available infrastructure, gap in the available expertise and need of expertise, gap in education needs and required competency of trainee. We can develop evidence based cost effective treatment protocol possible in our health care spending and infrastructure. The world over orthopedic associations participate in orthopedic care decisions while we hardly play any role in such matters in India. Summarily, if all agencies work simultaneously to ensure that orthopedic ailments are treated optimally at first instance the disability could be minimized significantly.

Let us join hands to help the suffering humanity.

Anil K Jain

Department of Orthopaedics, University College of Medical Sciences and Guru Teg Bahadur Hospital, Dilshad Garden, New Delhi, India

Address for correspondence: Dr. Anil K Jain, Professor and Head, Department of Orthopaedics, University College of Medical Sciences and Guru Teg Bahadur Hospital, Dilshad Garden, New Delhi - 110 095, India.
E-mail: dranilkjain@gmail.com

References

1. Population reference Bureau : World population data sheet 2013 http://www.prb.org/Publications/Datasheets/2013/2013-world-population-data-sheet.aspx. [Last accessed on 2014 Nov 01].
2. Spiegel DA. Bibliography of orthopaedic problems in developing countries. In: Spiegel DA. Seattle, WA, USA: Published by Global-HELP Organisation; 2004. p. 5.
3. Wikipedia. Below pover line (India). http://en.wikipedia.org/wiki/Below_Poverty_Line_(India) [Last accessed on 2014 Nov 03].
4. Wikipedia. Demographics of India. http://en.wikipedia.org/wiki/Demographics_of_India. [Last accessed on 2014 Nov 03].
5. Gururaj G. Injuries in India: A National Perspective. In: Burden of disease in India. National Commission on Macroeconomics and Health. Ministry of Health and Family Welfare. Government of India 2005. p. 325-347.
6. Beveridge M, Howard A. The burden of orthopaedic disease in developing countries. J Bone Joint Surg 2004;86-A:1819-22.
7. Blanchard RJ, Blanchard ME, Toussignant P, Ahmed M, Smythe CM. The epidemiology and spectrum of surgical care in district hospitals of Pakistan. Am J Public Health 1987;77:1439-45.
8. Jain AK. Orthopedic services and training at a crossroads in developing countries. Indian J Orthop 2007;41:177-9.
9. Jain AK. Research in orthopedics: A necessity. Indian J Orthop 2009;43:315-7.
10. Jain AK. Cultivate… research an attitude and learning a passion. Indian J Orthop 2014;48:125-6.
11. Jain AK, Kumar S. Bone and Joint day - India. Indian J Orthop 2013;47:435-6.

How to cite this article: Jain AK. Minimum (optimum) standard of orthopedic care for all: An achievable target. Indian J Orthop 2014;48:541-4.