



CHALLENGES FOR THE FIELD OF ORTHOTICS IN INDIA

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Introduction1

Orthotics (Greek: ἰσθῆιὺδ, *ortho*, “to straighten” or “align”) is a specialty within the medical field concerned with the design, manufacture and application of orthoses. An *orthosis* (plural: *orthoses*) is an orthopedic device that supports or corrects the function of a limb or the torso. There are currently many various types of orthoses, and the range of devices available to the prescriber continues to increase with the advent of new materials such as carbon fiber, as well as advances in manufacturing techniques (Brehm et al, 2007, Hachisuka et al, 2006). Upper-limb (extremity) Orthoses includes shoulder Orthoses, Arm Orthoses, Functional arm Orthoses, Elbow Orthoses, Forearm-wrist orthoses, Forearm-wrist-thumb orthoses, Forearm-wrist-hand orthoses, Hand Orthoses. Lower limb orthotics includes foot orthotics, Ankle-foot orthosis (AFO), Knee-ankle-foot orthosis (KAFOs), Knee orthosis (KO), Spinal Orthoses and so on. So nevertheless orthosis is an important field in rehabilitation for a person especially with physical Disability. The person may have to use the appliances for his entire life and so this is an area in the paramedical field that cannot be ignored. Another important thing to remember is that in India an orthotist is the only licensed professional officially to prescribe various appliances for various disabilities like the crutch, wheelchair, walker, splints, etc.

Growth of Orthotics in India is rapidly increasing but still there are many issues and challenges that are to be faced by the professionals in this field. Patients also in this process have to readjust to their life in many aspects that they took for granted earlier like using their limbs after a traumatic injury, occupation, daily life activities and so on. The major challenges in this stream are many in different aspects of the field of orthotics like in clinical skills, research, education and other miscellaneous issues.

1) Clinical Skills

Under this aspect there are various sub issues that need to be addressed like:

Psychological Issues in Orthotics

Apart from physical adjustment, psychological adjustment also needs to be addressed in Orthotics. An awareness of the importance of psychosocial issues in Orthotics is essential as rehabilitation after injury is fundamentally dependent on the



patient's psychological adjustment to the injury. The practitioners' sensitivity to psychosocial issues has clear practical implications both for successful fitting of the appliance and rehabilitation. So, professionals should be at least aware of the psychological issues that may influence the rehabilitation of their patient. (Desmond & MacLachlan, 2002). Psychological adjustment if not addressed has been related to many problems like maladaptive coping behaviors (eg, drug/alcohol consumption), greater disability, poorer social functioning, and loss of functional independence (Garafalo, 2000). Patients undergoing amputation as a result of traumatic injury, especially in motor vehicle accidents, burns, may also experience posttraumatic stress disorder (PTSD) (Desmond & MacLachlan, 2002). Amputation also has an effect on the disruption of body image of the person (Desmond & MacLachlan, 2002). Awareness of these psychological issues in orthoses can help the Orthotic professionals to make appropriate referrals to the Clinical Psychologists apart from enhancing the overall well-being of the patient.

Alignment Issues in Orthotics

The accuracy level of alignment while fitting the aid appliances is another important issue to be addressed in clinical skills.

Equipment and Material issues in Orthotics

Hi-tech equipments in the field of Orthotics in India is much less. Also the materials used to design the products of Orthotics is a disadvantage as there is a lack of light weight material for the same. There is a shortage of technology & trained professional due to which the moulding of proper orthotic appliances is less done properly. So the fitment of the orthotic appliances is also affected due to this. These problems do have an influence on the clinical skills and thereby the treatment of the patient.

Cosmetic issues in Orthotics

Under this sub section an emphasis needs to be made about all the work for orthosis being done manually especially for children due to limitation of sophisticated machinery, tools being available. Nevertheless, this does have an effect on the cosmetic look of the appliances also. Ghoseiri & Bahramian (2011) in their study revealed that for device satisfaction, the highest satisfaction was for well fitting of device and the lowest satisfaction was for the appearance of the device. This study does emphasize what is being expressed.

2) Research

Research needs to be prioritized within the profession of Orthotics so that it



helps the Orthotic professionals in incorporating research findings into their daily practice. Evidence-based practice is essential for this reason. Evidence-based practice also helps in improving patient outcomes. Clinicians value research as a means of improving clinical practice but the literature does indicate that there are many primary factors affecting evidence-based practice like time constraints, workload and system demands, limited relevant evidence from research, and gaps in skills and knowledge (Andrysek et al, 2011). Despite these difficulties if orthotists become more active in generating research it can immensely contribute to the growth of the field of Orthotics (Ramstrand & Brodtkorb, 2008).

3) Education

Introduction of a psychology paper for a graduate and postgraduate training course in orthotics would be very helpful. This would help to integrate theory and practice in the curriculum. In the present scene there is only phantom limb and a few theories of psychology included which not sufficient. An understanding of various psychological disorders like depression, anxiety, etc can enhance the rehabilitation process of the patient. The only place where this has been implemented is Southern Africa presently (Grobler et al, 2006). India should also make efforts in this direction.

4) MISCELLANEOUS ISSUES

The number of Orthotic professionals in India are very few compared to the demand for them. As a result there is the issue of Orthotic professionals being overburdened with the number of patients to be seen. This can thereby affect the quality of the services given to the patients.

There are other issues like lack of awareness among the medical and paramedical professionals of all fields. Awareness is more in certain fields like Orthopedics of course, neurology, burns and plastic surgery than other medical fields. In urban areas the awareness is much more than rural areas though. Orthotics field is growing at a fast rate in urban areas but not so in rural areas. Initiatives need to be taken by both the Government and the professionals to increase awareness of the field of Orthotics much more in urban areas and even more in rural areas. Use of Orthotics for Cosmetic purposes is more widely known and can be used to increase awareness of this field and other possibilities of treatment in this profession.

Apart from lack of awareness socio-economic issues can also affect who can procure these services especially in rural areas.

CONCLUSION

Just as every profession has its challenges of better technology, techniques and methods to enhance the well-being of the patient, the field of orthotics also has its share of challenges. The field though is growing in India, leaves a lot more to be desired in



clinical skills, research and the education curriculum. Changes in every field are necessary according to the changing times, demands and circumstances. If this is not continually looked into the field can cease to exist sometime or the other in the future. Initiatives need to be taken by the concerned professionals to show the importance of this field in the various medical fields.

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