Some innovations during my journey through podiatry

Author:
Lakshmi K Shankhdhar

Lakshmi K Shankhdhar had an article published in the first volume of Wounds International in February 2010 (Shankhdhar S, Shankhdhar U, Shankhdhar L, Shankhdhar K (2010) Innovative approaches for improving diabetic foot care in India. Wounds International *1(2): https://bit.ly/2klstoh (accessed 17.09.2019)*

Lakshmi K Shankdhar *is Chief Diabetologist and Medical Director-LK Diabetes Centre and Director, Department of Diabetology, Divine Heart and Multispecialty Centre, Lucknow, Uttar Pradesh, India*

For most of the practicing physicians in India, entering practice medicine either occurs when they do not secure a government job or when they retire from the service. I might be an exception to this rule since I resigned from my class I central government job in North-Eastern Railways after just 3 months, at 27 years of age, to start my practice. Incidentally, I also had a clinical attachment with a renal physician from the NHS in the UK in Omesby Hospital, New Guyana, before I decided to start my practicing career.

Serving as a practicing diabetologist for over 40 years, I faced many challenges in delivering clinical care to patients in a developing country like India. Besides an ill-equipped health infrastructure in general and podiatry in particular, an ignorant, negligent, less-literate and less well-off patient community forced me to devise some affordable gadgets and concepts to render effective clinical care.

Samadhan Foot Stand

The foremost thing that I required in day-to-day practice was a podiatric chair. I saw the classical podiatric chair for the first time in 2003 in King's Hospital, London, where my son was undertaking an observership with Professor Mike Edmonds. I learned that the chair cost something in the region of US$2,000, which was unquestionably beyond both my expectations and affordability. So I researched and developed an improvised gadget, which I named the 'Samadhan Foot Stand'. The word *Samadhan* is a Hindi word, meaning solution. Since it was a solution for a podiatric chair, it was thus named.

The gadget, which I developed, cost barely US$10. It was very small, so it could be kept conveniently in a corner of the consultation room. It was made of wood, was multipurpose and was very useful (Shankhdhar et al, 2016a).

The Samadhan Foot Stand comprised of four parts: 1) the base; the solid heavy wooden base supports the weight of the foot and leg. 2) the column; the flat, broad wooden column establishes a connection between the leg rest and base. 3) the leg rest; a cut in the column on the top of the chair with padding to accommodate the patient's ankle. 4) the plastic pocket; this is placed on the column, to accommodate necessary equipment, e.g. Semmes Weinstein monofilament, Wartenberg wheel, tuning fork, hammer, thermo tip, measuring tape, calliper for 2-point discrimination and cotton wool. It could also accommodate an Audio Doppler, so that the Ankle Brachial Index could be calculated easily. The same stand is helpful to undertake other tests, such as biothesiometry and clinical examination of the foot. Nail care-related instruments could also be placed in the same pocket, e.g. calipers and files. The same pocket can also accommodate dressing-related material, scalpel, forceps and a pair of scissors during management of a foot ulcer.

Samadhan system of offloading

The next problem I faced was offloading of plantar ulcers during their management. Most offloading devices, e.g. custom shoes, half shoes and convenient pneumatic walkers, were neither easily available to my patient community, nor were they affordable. Most patients could not afford even a total contact cast, despite these being available. So our team at the LK Diabetes Centre developed the Samadhan System of Offloading, which was very economical, costing barely US$1, was reasonably effective and could be applied and removed easily by anyone, requiring no specially trained technicians. It was available both in removable and irremovable versions. The offloading system later received an Indian patent.

The Samadhan System of Offloading has the following components: a 'Samadhan Unit' (a foam cylinder), a retainer (a piece of elastocrepe bandage) and fasteners (metallic

hooks provided with the elastocreppe bandage or safety pins)(Shankhdhar et al, 2015; 2016b)

Foot-related education

An altogether different problem was to organise foot-related education. As far as group education was concerned, I miserably failed. I did arrange a conference room, DVD player and colour TV, but could not force patients to turn up at the scheduled time and, hence, my effort seemed a waste. So I focused on individual education more through one-to-one talk, short PowerPoint presentations in my cabin, hand bills and books. For that I authored several handbills and mini magazines, besides a book for patients on foot care in Hindi. Our team prepared even a cartoon film on foot care, which has proved a success. WINT

References

Shankhdhar LK, Shankhdhar K, Shankhdhar U, Shankhdhar S (2015) Offloading a diabetic foot ulcer In the developing world. *Podiatry Today* 28(10): 18–24

Shankhdhar LK, Shankhdhar K, Shankhdhar U, Shankhdhar S (2016a) Innovation in podiatry: the Samadhan Foot Stand. *Clin Res Foot Ankle* 4: 217

Shankhdhar LK, Shankhdhar K, Shankhdhar U, Shankhdhar S (2016b) Instant offloading of a diabetic foot ulcer. *Clin Res Foot Ankle* 4: 207