

Reflections on a visit to India: Diabetic foot care in the developing world



Susan Braid



Louise Stuart MBE

In 2008, podiatrists from the University of Salford and from the North Manchester PCT visited Sri Ramachandra Hospital, a large university and teaching hospital in Chennai, India. The group's mandate was to carry out a scoping exercise, on behalf of Scholl (SSL International, London, UK), for the establishment of a generalist foot clinic that it is hoped will bring podiatry knowledge and skills into the south Indian region.

The team investigated the types of foot problems that were commonly encountered in India, visiting hospital and outpatient clinics in wound care, dermatology, orthopaedics and diabetology. A number of relatively minor foot problems were encountered, yet the majority were the result of the complications of diabetes, most notably diabetic neuropathy, and these will be the focus of this editorial.

Diabetic foot care in India

Workforce

Podiatry as a profession is non-existent in India; no institutions offer a university-level podiatry qualification, and management of foot problems is undertaken mainly by physicians, regardless of their specialty. No dedicated space is available for the treatment of foot problems at the Sri Ramachandra Hospital, or for the coordination of care across related disciplines (i.e. the multidisciplinary foot care team).

Management

The group found that the use of UK guidance (NICE, 2004) to identify people "at risk" of diabetic foot complications had severe limitations when applied to the Indian population. As there is no integrated community care, people present to hospitals with diabetic foot complications already in the acute stages. Consequently, the group observed high rates of amputation and surgical intervention, with all debridement being undertaken in theatre. Following such interventions, people were kept in hospital longer than medically necessary because no appropriate community-based care was available. The impact that this "fire fighting" approach to management has on resources is significant, precluding the possibility of risk management or early intervention.

Infection management and wound care

The management of infection witnessed by the group was problematic and, tellingly, meticillin-resistant *Staphylococcus aureus* infection rates were reported by clinic staff to be between 70% and 90%. In outpatient clinics visited by the group, there was variation in the level of infection control; in some areas, instruments were disinfected by cold sterilisation or boiling sterilisers. The wearing of gloves and masks did not appear to be commonplace. Infection control was further impeded by limited access to appropriate antibiotic agents,

Susan Braid is a Podiatrist and Head of the School of Health Care Professions, University of Salford, Salford; Louise Stuart MBE is a Consultant Podiatrist, NHS Manchester, Manchester Community Health.

which was dependent on a person's ability to pay for the therapy. Access to appropriate wound care products was also extremely limited.

Cultural and economic factors

Cultural and economic realities in the Indian context put the vulnerable diabetic foot at further risk. It is considered disrespectful to enter a physician's consulting room wearing footwear and the group observed people leaving their footwear outside the clinical area and walking bare foot into treatment rooms with an open ulcer.

Flip-flop sandals are the usual footwear in India, making pressure relief outside of total contact casts near impossible. The flip-flop sandals themselves contribute to foot problems due to friction with the

strap (further exacerbated by the toe ring traditionally worn by married Hindu women), particularly in those with diabetic neuropathy, frequently leading to ulceration (*Figure 1*).

Economic deprivation makes purchasing shoes and sandals beyond the means of some people with diabetes in India, who must then walk bare foot outdoors in temperatures of 41°C or above. This lack of footwear, in conjunction with the environmental conditions, greatly increases the risk of trauma, and subsequent ulceration, in the neuropathic diabetic foot.

Addressing the diabetic foot problem in the developing world

The Diabetic Foot Journal featured an editorial (Bakker, 2009) on the burden placed on the healthcare systems of developing nations by the increasing prevalence of diabetic foot disease. In the same issue, Tulley et al (2009) presented the International Working Group on the Diabetic Foot's plan for the training of diabetic foot assistants in the developing world where podiatry services are not yet established.

Our experiences in India, reported here, highlight the need for the introduction of accredited diabetic foot care assistants. With appropriate training, diabetic foot care assistants could provide screening, wound care, pressure relief and debridement for people with diabetic foot disease before their complications become acute. Such programmes could be a way of breaking the cycle of "fire fighting" management of diabetic foot problems in the developing world. This would enable a shift of resources toward the prevention, early detection and education that is so desperately needed. ■



Figure 1. Examples of the diabetic foot problems encountered during a visit to the Sri Ramachandra Hospital in Chennai, India. (a) Example of diabetic ulceration caused by the friction from the strap of a flip-flop sandal. (b) Ulceration on an already deformed diabetic foot, with acute infection.

Bakker K (2009) Diabetic foot care assistants for the developing world. *The Diabetic Foot Journal* 12: 10–12

NICE (2004) *Type 2 Diabetes: Prevention and Management of Foot Problems*. NICE, London

Tulley S, Foster A, van Putten M et al (2009) Diabetic foot care training in developing countries: Addressing the skills shortage. *The Diabetic Foot Journal* 12: 14–22