

Distributing Footwear to Prevent Diabetic Foot Ulcers in Uttar Pradesh, India: A Follow-up Survey



PROJECT SUMMARY:

In association with the Catholic Health Association of India in November 2016 I visited two member institutions in Uttar Pradesh, India, examined patients for diabetic neuropathy, and provided shoes to 112 patients. I also provided education to patients about foot care.

In February 2017 patients received their shoes. In December 2017, I returned to these two member institutions and surveyed patients about their experience with these shoes and their current symptoms of diabetic neuropathy.

OBJECTIVES:

- To gather data about patient's positive and negative experiences wearing the diabetic footwear provided to them.

BACKGROUND:

Diabetes affects more than 190 million people worldwide and 32 million people in India. People with diabetes can lose sensation in their feet which can lead to a vicious cycle of injury, ulcers, and serious foot infections which may lead to significant morbidity (amputation) and mortality. Complications related to foot problems are common among people with diabetes and especially in developing countries.

Appropriate footwear can reduce abnormal pressures, reduce the formation of callus and ulcers, and protect the foot from external trauma.¹ Microcellular rubber, polyurethane foam, and molded insoles all show benefit in reducing ulceration when compared to patients' own footwear with leather board insoles.¹

METHODS:

- Surveyed patients who received the diabetic protective footwear.
- Analyzed survey results.

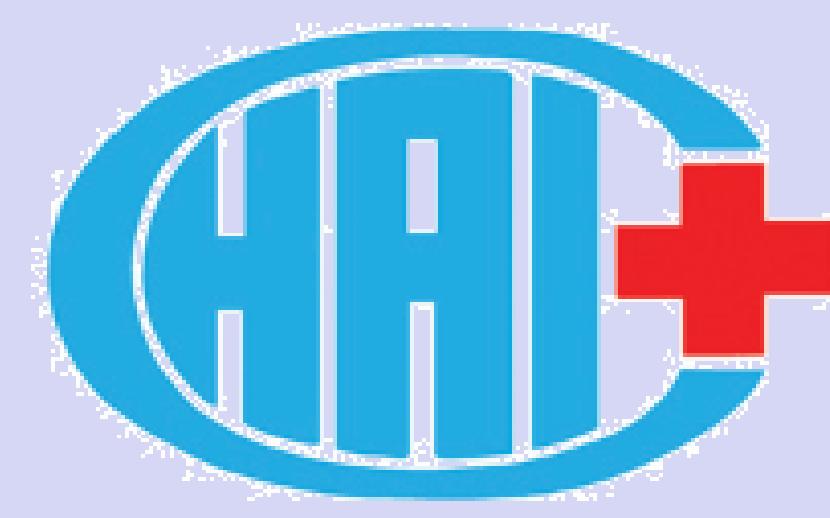
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Community Organizations: World Diabetes Foundation and Catholic Health Association of India

Faculty Mentors: David Adler, MD and Andrew Aline, MD



WORLD DIABETES FOUNDATION



RESULTS:

- 65 out of 112 patients completed follow-up surveys. 3 patients had died in the interim.
- 78% of patients reported still wearing the shoes, 77% said they wore them on a daily basis.
- 97% of patients felt the shoes were comfortable and 92% of patients preferred the diabetic footwear to their other shoes.
- 23% of patients reported problems with the shoes including the fabric tearing, the sole breaking, size issues, the shoes not being waterproof, and feet getting sweaty while wearing them during the summer.
- 37% reported improving foot wounds such as corns, ulcers, and skin fissures. However 5% reported new foot wounds.
- 26% of patients had improvement in neuropathy symptoms, 29% reported improvement in lower extremity pain symptoms.

OBSERVATIONS/ CONCLUSIONS:

- Many patients continue to wear the diabetic footwear provided to them, and many wear them on a daily basis.
- 26% of patients reported improvement in neuropathy and 37% have improvement in foot wounds.
- However 18% of patients are no longer wearing the shoes due to their durability, and 5% developed new foot wounds.
- Overall patients gave positive feedback, found the shoes comfortable, and some even found improvement in neuropathy symptoms.

FUTURE DIRECTIONS:

- Provide new, improved shoes to patients whose shoes have torn or broken.
- Expand the project to reach patients in other locations in India, such as CHAI's 4 other member institutions in Uttar Pradesh.
- Replicate the project in other countries.
- Perform research to provide evidence that distributing diabetic footwear to patients prevents the development of diabetic foot ulceration.

REFERENCES:

1. Vijay Viswanathan et al. Effectiveness of Different Types of Footwear Insoles for the Diabetic Neuropathic Foot: A follow-up study Diabetes Care February 2004 27:2 474-477; <http://care.diabetesjournals.org/content/27/2/474>