Diabetes-Related Foot Care Interventions for Preventing Diabetic Foot Ulceration: A Systematic Review of the Literature

David Oni, MSN, BSN
College of Nursing, Washington State University, Spokane, WA, USA

Session Title:
Diabetic Care
Slot:
G 02: Monday, 30 October 2017: 1:15 PM-2:30 PM
Scheduled Time:
1:55 PM

Keywords:
Clinical interventions and prevention, Diabetes foot care and Nursing implications

References:


Abstract Summary:
Promoting self-foot care practices, and preventing diabetic foot ulceration in diabetes still remains challenging in the United States. There is an urgent need for a well-designed randomized control trials to provide robust evidence on clinical and educational interventions to prevent diabetic foot ulcers and high incidence of amputations in the U.S

Learning Activity:

<table>
<thead>
<tr>
<th>LEARNING OBJECTIVES</th>
<th>EXPANDED CONTENT OUTLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The purpose of this systematic literature review was to assess the effectiveness of foot care intervention on improving foot care practices and preventing foot ulcers in patients with diabetes mellitus,</td>
<td>Inform nurses with in-depth and evidence based information that can help nurses understand how to better advice and provide foot care recommendations for patients with foot-ulcers.</td>
</tr>
<tr>
<td>Support the development and delivery of clinical and educational interventions that diabetes educator nurses provide to diabetes patients</td>
<td>Support the development and delivery of clinical and educational interventions that nurses routinely provide their patients</td>
</tr>
<tr>
<td>To establish gaps in nursing research on preventing diabetes foot ulcers and promoting</td>
<td>Add significant value to the science of nursing practice in clinical settings.</td>
</tr>
</tbody>
</table>
foot care practices, and further inform the future studies

Support nurses roles of advocating for health policy for diabetes patients with significant foot problems

Findings from this study provided nurses with additional information and insights on how to advocate for patients with diabetic foot ulcers and develop policies to support foot care practices among patients with foot ulcers in the United States

Abstract Text:

David Oni, Ph.D. Student, MSN, BSN, RN, College of Nursing, Washington State University

Diabetes-related Foot Care Interventions for Preventing Diabetic Foot Ulceration. A systematic review of Literature.

**Purposes**: The purpose of this systematic literature review was to assess the effectiveness of foot care intervention on improving foot care practices and preventing foot ulcers in patients with diabetes mellitus, to establish gaps in research and further inform the future studies.

**Background**: Foot care practices prevent foot complications and reduces incidence of DFUs and re-ulceration in patients with diabetes. Moreover, foot care practices are strongly recommended as part of preventive strategies for diabetes foot complications. However, preventing diabetic foot ulceration, and re-ulceration, in diabetes patients remains very challenging because limited interventions have been successful. There is no robust evidence to support the effectiveness of foot care interventions in preventing DFUs and re-ulcerations in diabetes patients with and without foot ulcers. Reviewing current interventional studies on foot care practices is imperative to establish gaps in literature and inform future research studies. The overall quality of studies on interventions to prevent a foot ulcer in at-risk patients with diabetes should further improve, so that stronger recommendations can be provided for future clinical practice.

**Searching Methods**: PubMed, CINAHL, Psych-info, and Cochrane reviews databases were searched. Only randomized controlled trials and systematic reviews studies on foot care practices interventions in diabetes patients with or without foot ulcers were included. Findings were reported according to the “Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA).

**Selection Criteria**: Prospective randomized controlled trials (RCTs) and systematic reviews that evaluated foot care interventions for preventing foot ulcers in people with diabetes mellitus.

**Data collection and analysis**: The author undertook data extraction and assessment of risk of bias. Primary outcomes were self-foot care practices, foot ulceration, or ulcer recurrence, and amputation.

**Results**: Of the 10 systematic reviews and 2 RCTs included, the effect of interventions on primary outcomes were reported in all studies. Several studies showed significant improvement in patients’ diabetic foot care practices following foot care practices interventions. However, interventions have only a short-term effect on foot care practices and little benefit in preventing diabetic foot ulcers. Only one RCT study showed significant reductions in the incidence of diabetic foot ulcers and amputation. Most studies were precluded with methodological flaws raging from heterogeneous samples, under-powered samples, failure to address methods of randomizations, concealment, blinding and failure to reports characteristics of control and intervention groups.
Implication: Promoting self-foot care practices, and preventing diabetic foot ulceration in diabetes still remains very challenging because few interventions have been successful. There is no robust evidence to support the effectiveness of current interventions in preventing DFUs and re-ulcerations in diabetes patients with or without foot ulcers. There is a paucity of high-quality evidence, and an urgent need for a well-designed randomized control trials to provide robust evidence on clinical and educational interventions to prevent DFUs, re-ulcerations, amputations and promote long-term foot care practices in patients with diabetes mellitus. Finding from this study inform nurses with in-depth and evidence based information that can help nurses understand how to better advice and provide foot care recommendations for patients with foot-ulcers. Moreover, it provided nurses with additional information and insights on how to advocate for patients with diabetic foot ulcers and develop policies to support foot care practices among patients with foot ulcers in the United States.