



## A Statistical Review of Surgical Treatment for Diabetic Foot Ulcer

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### Editorial

Diabetic foot ulcers (DFU) are a prevalent problem among diabetics, especially the elderly. It has a high recurrence rate and is linked to limb amputation, mortality, and significant healthcare expenses. The management of patients with DFU is a difficult and time-consuming undertaking. Previous research has shown that the foundation of a good therapeutic effect for DFU includes surgical approaches such as cleaning, dressing, off-loading, biofilm management, vascular status evaluation, and operations, in addition to blood glucose/HgA1c level control and anti-infection. Surgical management is one of them, and it is crucial for controlling and healing. The analysis and quantification of article content and parameters in certain topic areas to reflect relevant information and trends is known as bibliometrics [1]. These are provided in a graphic and complete manner to assist researchers and clinicians in comprehending the academic basis and frontier, research focus and hot subjects, trends, active authors, institutions and journals, relevant associations, cooperation, and so on.

This knowledge will undoubtedly aid them in their research, work, and studies. Plastic and reconstructive surgery, orthopaedics, diabetes management, nursing, and neurology have all begun to use bibliometric analysis in their clinical practise. By extracting published data from the Web of Science (WoS) Core Collection, we conducted a bibliometric study on surgical management for DFU in order to provide researchers and clinicians with vital information and advice in this field. This is the first bibliometric analysis that we are aware of that focuses on surgical management of DFU [2]. We ran a search of the terms AND a subject search of the WoS Core Collection database, retrieved for papers published from 2000 to 2019, with data from 2020 excluded. The author information, institution, nation, journal, keyword, category, grant, citation, and other information were all acquired from the WoS records. All of these pieces of information were subjected to bibliometric analysis using CiteSpace.

It uses data statistics, cword, and co-citation analysis to create charts and network maps. Similarity, cooperation, and association were demonstrated by significant word co-occurrence and/or references co-cited. Nodes, lines, rings, clusters, labels, and colour were used to create network visualisation maps. The size of each node symbolises the total number of citations or record counts, and each node represents a unit such as a journal, author, or publication. The number of citations increases as the node grows in size. In most cases, a line connects two nodes and shows their collaboration and association. The rings wrap around the node, forming the node's size indirectly. Each ring's area represents the number of citations in a given year [3].

To differentiate, colour was used. The warmer the hue of the rings, the closer the year; the colder the colour, the further the year. It is critical to the pivot node, which has a purple outer ring, is often of high centrality, which suggests it has greater association and cooperation. Furthermore, a huge node, dubbed a landmark node, signifies a high number of citations. A cluster is a collection of comparable and associated nodes that is represented by a certain location. Adjacent clustering usually corresponds to similar topics, and the colour indicates the information flow between clusters. The most representative noun phrase determined by several methods is the

cluster label. The joined network was then pruned using Pathfinder, a pruning method. Articles (n = 1,229; 83.3 percent) and reviews (n = 211; 14.3%) made up the vast majority of publication kinds, with only a few others. The most cited publication, according to statistics on citations, was Singh N.'s "Preventing Foot Ulcers in Patients with Diabetes," which was published in 2005. There were 1,280 citations in all, with an average of 80 citations per year. In addition, Supplementary lists the top ten most cited papers [4].

According to statistics, the lifetime prevalence of DFU in diabetic patients could be as high as 25%. Additionally, patients with foot ulcers have a higher risk of amputation and fatality. As a result, amputation and death in DFU patients must be reduced by prevention, diagnosis, and therapy. Surgical management (such as dressing, off-loading, and the necessary procedures) has played an essential role in controlling/healing DFU, according to several research. These findings could aid academics and doctors working in the field of DFU surgical management. It is the first bibliometric study in this sector, and it includes valuable information on author collaboration, institutional collaboration, and country collaboration, intellectual structure, knowledge flow, and rising topic trends. With the rise in the number of patients with diabetes mellitus and DFU, the number of studies and publications on surgical care of DFU has risen as well [5]. We discovered that surgical-related journals, such as the International Journal of Lower Extremity Wounds, Journal of Foot & Ankle Surgery, Journal of Vascular Surgery, Plastic and Reconstructive Surgery, and others, covered a variety of departments related to the surgical management of DFU, including wound repair, plastic and reconstructive surgery, vascular surgery, and orthopaedics. Journals in this discipline were divided into two categories based on their co-citation network: surgical and diabetes-related journal groups.

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