Diabetic foot ulceration (DFU) is one of the most disabling complications of diabetes mellitus (DM). It is second to trauma as the commonest cause of lower extremity amputation (LEA) and one of the major causes of DM-related hospital admissions and mortality. Due to a high level of ignorance and poverty, coupled with poor access to qualitative healthcare services, the burden of DFU in developing countries is expected to be enormous. This study sought to evaluate the actual burden and clinical outcome of DFU in a typical developing country and the most populous black nation – Nigeria.

**Methods**

The Multi-center Evaluation of Diabetic Foot Ulcer in Nigeria (MEDFUN) was a one year prospective study of all patients admitted for DFU in any of the 6 participating tertiary healthcare institutions in Nigeria, between January 1 and December 31 2016. Demographic characteristics, diabetes-related information and knowledge of proper foot care practices were assessed. Ulcer characteristics including mode of onset, site, size, duration, prior treatment center, Wagner grade and University of Texas (UT) class were documented. Known DFU risk factors including history of previous foot ulcer, bare-foot walking, visual impairment, neuropathy and peripheral arterial disease (PAD) were also evaluated. Investigations included urine protein, HbA1c, full blood count, ESR, blood culture, ulcer specimen culture, lipid profile, plain radiograph of the foot and Doppler ultrasonography of both lower limbs. Associated co-morbidities including hypertension, anemia, shock, hyperglycemic emergency, hypoglycemia, stroke, renal and cardiac failure were explored. All patients received appropriate multi-disciplinary care and were followed up for a minimum of 3 months post discharge or death. Outcome variables of interest included ulcer healing, LEA, duration of hospitalization and mortality.

**Results**

A total of 336 patients with a male: female ratio of 1:0.8 participated in this study. The mean (±SD) age and mean (±SD) duration of DM were 55.9 ± 12.5 years and 8.5 ± 5.7 years respectively. Majority of the subjects (96.1%) had type 2 diabetes. Only 41 (20.4%) subjects had received foot care education prior to development of ulcer and over half (52.2%) admitted to walking bare feet. Majority of the subjects (66.5%) first indulged in either self medication or unorthodox treatment prior to hospital presentation (fig.1). The median (IQR) duration of ulcer at presentation was 39 (28 - 54) days. Ulcers were already advanced (Wagner grades ≥ 3) in 79.2% of the participants at the time of admission. Neuropathic, ischemic and neuro-ischemic ulcers occurred in 37.2%, 12.5% and 40.2% respectively while 10.1% of ulcers had no identifiable underlying factor. Majority of the ulcers (76.8%) were infected at presentation. Glycemic control was generally poor (mean HbA1c 9.6 ± 1.9%). The commonest co-morbidities were systemic hypertension (56.8%), anemia (53.6%) and hyperglycemic emergencies (36.6%). Of the 217 subjects who did not undergo LEA, satisfactory ulcer healing occurred in 43.8% prior to discharge and 63.5% at 3 months follow-up. LEA was indicated in 110 (47.8%) while 79 (34.3%) underwent LEA of which 75.6% were major amputations. 35 subjects (10.4%) left against medical advice mainly due to refusal of amputation (48.6%) and poverty (42.9%). The median (IQR) duration of hospitalization was 52.0 (29 - 66) days with mortality rate of 20.9%. Both amputation and mortality rates increased with a higher grade of ulcer (fig. 2).

**Conclusion**

Results from this study tell a pathetic tale of the devastating impact of DFU in a typical developing country – Nigeria. From poor knowledge of foot care, to a high prevalence of unorthodox treatment and self medications, late hospital presentation with advanced and infected ulcers, high lower extremity amputation rate, prolonged hospitalization and high mortality. LEA in diabetics is associated with significant disability including loss of productivity, depression and poor quality of life. Besides, it has been shown that 3-year survival after a diabetic foot amputation is less than 50%. This high rate of DFU-related LEA in Nigeria therefore calls for an urgent national intervention to stem this ugly tide. Since most developing countries do not have requisite resources and facilities to manage the burden of DFU, attention should therefore be focused mainly on prevention. This may include improved public awareness, foot care education of patients with diabetes and their care givers, control of risk factors as well as frequent screening to identify foot at risk and institute early interventions.

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