

INTISARI

Komplikasi luka kaki diabetes akan menimbulkan dampak menurunnya kualitas hidup penderita dan menjadi beban ekonomi. Tindakan pencegahan untuk mengurangi risiko kejadian luka, salah satunya melalui aplikasi kesehatan seluler dapat mendukung kemandirian penderita diabetes dalam *self-care* sehari-hari. Tujuan penelitian ini adalah untuk mengidentifikasi kebutuhan pasien DM; mengembangkan aplikasi *self-care* yaitu Kaki Sehat yang akan digunakan pasien DM dalam mencegah luka; dan menganalisis pengaruh aplikasi terhadap pengetahuan, praktik perilaku perawatan, kontrol glikemik, xerosis, kualitas hidup, serta manfaat secara ekonomi terhadap pencegahan luka.

Tahapan penelitian yaitu studi pendahuluan, pembuatan aplikasi, dan uji coba aplikasi. Studi pendahuluan survei *need assessment self-care* perawatan kaki pada 57 orang pasien diabetes. Aplikasi yang dibuat berdasarkan *need assessment* diuji kemanfaatan dan *interface* masing-masing ke calon pengguna dan pakar. Uji coba aplikasi menggunakan desain kuasi eksperimental pada pasien diabetes, dilanjutkan analisis statistik dan perhitungan biaya medis langsung. Analisis pada tahapan *Need Assessment*, uji kemanfaatan dan *interface* adalah uji deskriptif. Uji beda untuk menilai pengaruh aplikasi terhadap pengetahuan, perilaku, kontrol glikemik, skor xerosis, dan kualitas hidup, serta menilai perbedaan variabel yang diukur terhadap antar kelompok. Perhitungan selisih biaya medis langsung partisipan kelompok kontrol dan intervensi untuk memperoleh biaya yang dihemat atas pencegahan kejadian luka kaki diabetes.

Rangkaian *self-care* serta aktivitas olahraga, informasi anti diabetes dan luka, pencatatan glikemik, diskusi, dan interaksi obat adalah kebutuhan yang diperoleh dari proses *need assessment* dan menjadi fitur aplikasi. CVI fitur aplikasi sebesar 0,933 dan nilai kemanfaatan menurut skor SUS adalah 85,33. Perubahan pengetahuan setelah implementasi aplikasi (p 0,134) dan antar kelompok tidak berbeda signifikan (p 0,377), serta hanya 4% partisipan glikemiknya menjadi terkontrol (p 0,467). Skor perilaku (p 0,000), xerosis (p 0,002), indeks utilitas (p 0,035), dan VAS (p 0,011) meningkat signifikan setelah implementasi aplikasi selama 24 minggu. Biaya medis langsung yang dihemat akibat tercegahnya luka diabetes Rp 767.238,-/kunjungan. Aplikasi Kaki Sehat dapat digunakan sehari-hari sebagai *self-care* dan bermanfaat dalam mencegah kejadian luka kaki diabetes, yang dibuktikan melalui rasio kemanfaatannya atas biaya yang akan dikeluarkan akibat luka kaki diabetes.

Kata Kunci: aplikasi *self-care*, *benefit*, kontrol glikemik, luka kaki diabetes, pengetahuan.

ABSTRACT

The complications of diabetic foot ulcers will impact on decreasing the quality of life of the patient and become an economic burden. To prevent the impact, it is important to reduce the risk of ulcer, one of preventive action is through a mobile health application that supports the independence of patients in daily self-care. The aims of this research are to identify the needs of patients, to develop a self-care application, namely Kaki Sehat, that will be applied by patients in preventing diabetic ulcer; and to analyze the effect of application on knowledge and behavior of self-care, glycemic control, xerotic score, quality of life, and economically *benefit*.

This research consists of three stages i.e.: preliminary studies, application development, and application implementation. Preliminary study was a need assessment for foot self-care prevention in 57 diabetes patients. The App that was developed based on patient needs was evaluated for its validity to expert judges and tested the usability to users. A quasi design was applied in App pilot study to eligible diabetes patients which were aged 18-60 years, and no history of ulcer. A descriptive analyze was utilized in Need Assessment, validity, and usability outcomes. The inferential statistics were used to assess the effect of the App on knowledge, behavior, glycemic control, xerotic scores, and quality of life. The calculation of the difference in direct medical costs between the control and intervention groups to determine the costs that were saved by preventing the occurrence of foot ulcers.

The results of this study showed a series of self-care, foot exercise, anti-diabetic and wound information, glycemic recording, chat room, and drug interactions are needs obtained from the need assessment process and become application features. CVI for all App features is 0.933; and App usability score is 85.33. The increasing knowledge after App was used (p 0.134) and the differences of score between group were insignificantly different (0.377). Patients who used the App had a 4% improvement in managed glycemic control (p 0.467). Significant increases were observed in behavior scores (p 0.000), xerosis (p 0.002), utility index (p 0.035), and VAS (p 0.011) following 24 weeks of application installation. The visit savings of IDR 767.238 in direct medical costs were a result of preventing diabetic ulcers. An analysis of the *benefits* and costs associated with diabetic foot ulcers reveals that the Kaki Sehat app, particularly used as part of regular self-care, is effective to minimize the potential of diabetic ulcer.

Keywords: economic *benefit*, diabetic foot ulcer, glycemic control, knowledge, self-care application.