

Intisari

Latar belakang : Kehilangan gigi pada lansia dapat disebabkan oleh karies gigi dan penyakit periodontal, yang dipengaruhi oleh beberapa faktor lain. Penelitian ini bertujuan untuk mendapatkan faktor-faktor yang berhubungan dengan kejadian kehilangan gigi pada lansia, yang dijadikan dasar pengembangan aplikasi prediksi kehilangan gigi pada lansia, yang akurat dan dapat diterima oleh pengguna.

Metode Penelitian : Penelitian ini terdiri dari III tahap. Tahap I merupakan penelitian survei dengan rancangan *cross sectional*. Subjek penelitian berjumlah 2000 orang lansia dari 5 Kelurahan di Kecamatan Mangkubumi Kota Tasikmalaya. Variabel terikat adalah kejadian kehilangan gigi, sedangkan variabel bebas adalah umur, jenis kelamin, tingkat pendidikan, kepesertaan asuransi gigi, kebiasaan merokok, kunjungan terakhir ke dokter gigi, alasan ke dokter gigi, frekuensi kunjungan ke dokter gigi, karies gigi, kegoyangan gigi, dan poket periodontal. Data dianalisis menggunakan uji *chi square* dan *multiple logistic regression*, yang dijadikan dasar perhitungan probabilitas yang digunakan untuk pengembangan aplikasi prediksi kehilangan gigi lansia. Tahap II merupakan tahap pengembangan aplikasi prediksi kehilangan gigi pada lansia. Tahap III merupakan tahap uji akurasi dan penerimaan aplikasi oleh pengguna dilakukan dengan analisis deskriptif.

Hasil Penelitian : Hasil analisis tahap I, melalui uji *chi square* menunjukkan variabel umur, tingkat pendidikan, kepesertaan asuransi gigi, kebiasaan merokok, kunjungan terakhir ke dokter gigi, alasan ke dokter gigi, karies gigi, kegoyangan gigi, dan poket periodontal mempunyai hubungan dengan kejadian kehilangan gigi pada lansia ($p < 0,25$). Hasil analisis *multiple logistic regression* $p < 0,05$ yaitu : variabel umur (Exp B/OR = 2.90), tingkat pendidikan (Exp B/OR = 3.21), kunjungan terakhir ke dokter gigi (Exp B/OR = 3.37), alasan ke dokter gigi bila (Exp B/OR = 4.22), karies gigi (Exp B/OR = 40.73), kegoyangan gigi (Exp B/OR = 2.52), dan poket periodontal (Exp B/OR = 2.99) mempunyai hubungan yang signifikan dengan kejadian kehilangan gigi pada lansia. Variabel tersebut diatas dijadikan dasar pengembangan aplikasi prediksi. Hasil penelitian tahap II menghasilkan pengembangan aplikasi prediksi kehilangan gigi pada lansia sudah sesuai standar *functional suitability*, *performance efficiency*, *usability*. Hasil penelitian tahap III menunjukkan aplikasi akurat dan dapat diterima oleh pengguna.

Kesimpulan : Faktor-faktor risiko yang berhubungan dengan kejadian kehilangan gigi dapat dijadikan acuan untuk pengembangan aplikasi prediksi yang sesuai standar dan akurat serta dapat digunakan secara mudah oleh lansia.

Kata kunci : Prediksi Kehilangan Gigi, Lanjut Usia, Aplikasi Android

Abstract

Background : Tooth loss in the elderly can be caused by dental caries and periodontal disease, which are influenced by several other factors. This study aims to obtain the factors associated with the incidence of tooth loss in the elderly, which is used as the basis for developing an application to predict tooth loss in the elderly, which is accurate and acceptable to users.

Research Method : This research consists of III phases. Phase I is a survey research with a cross sectional design. The research subjects were 2,000 elderly people from 5 sub-districts in Mangkubumi District, Tasikmalaya City. The dependent variable is the incidence of tooth loss, while the independent variables are age, gender, education level, dental insurance membership, smoking habits, last visit to the dentist, reasons for visiting the dentist, frequency of visits to the dentist, dental caries, tooth mobility, and periodontal pocket. Data were analyzed using the chi square test and multiple logistic regression, which were used as the basis for calculating the probability used to develop an application to predict tooth loss in the elderly. Phase II is the development stage of the application for predicting tooth loss in the elderly. Stage III is the stage of testing the accuracy and acceptance of the application by users using descriptive analysis.

Results: The results of the first phase analysis, through the chi square test showed that the variables age, education level, dental insurance membership, smoking habits, last visit to the dentist, reasons for visiting the dentist, dental caries, loose teeth, and periodontal pockets have a relationship with the incidence tooth loss in the elderly ($\chi^2 < 0.25$). The results of multiple logistic regression analysis $p < 0.05$, namely: variable age (Exp B/OR = 2.90), level of education (Exp B/OR = 3.21), last visit to the dentist (Exp B/OR = 3.37), reason for going to the dentist when pain (Exp B/OR = 4.22), dental caries (Exp B/OR = 40.73), tooth mobility (Exp B/OR = 2.52), and periodontal pockets (Exp B/OR = 2.99) have a significant relationship with the incidence of tooth loss in the elderly. The variables mentioned above are used as the basis for developing predictive applications. The results of the second phase of the research resulted in the development of a tooth loss prediction application in the elderly that complies with the standards of functional suitability, performance efficiency, usability. The results of phase III research show that the application is accurate and acceptable to users.

Conclusion: The risk factors associated with the incidence of tooth loss can be used as a reference for developing prediction applications that are standardized and accurate and can be used easily by the elderly.

Keywords: Prediction of Tooth Loss, Elderly, Android Application