Analisis Efektivitas Asesmen Risiko dan Sistem Rekomendasi Kanker Payudara Berbasis Artificial Intelligence = Analysis of the Effectiveness of the Artificial Intelligence-Based Breast Cancer Risk Assessment and Recommendation System

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Abstrak

Angka kejadian kanker payudara meningkat setiap tahun, namun angka cakupan deteksi dini sebagai program penanggulangannya masih sangat rendah. Salah satu penyebab hal tersebut adalah tingginya beban kerja tenaga kesehatan di puskesmas. Tujuan penelitian ini adalah untuk mengembangkan chatbot asesmen risiko dan sistem rekomendasi, serta menilai efektivitasnya untuk membantu puskesmas dalam meningkatkan cakupan deteksi dini secara efektif dan efisien melalui pendekatan selektif. Desain penelitian menggunakan desain kualitatif studi kasus di Puskesmas Jayagiri Lembang untuk mengetahui efektivitas chatbot dalam menilai risiko kanker payudara dengan menerapkan pendekatan model waterfall dalam membangun model aplikasi chatbot. Chatbot—yang dikembangkan menggunakan teknologi natural language understanding dan conditional statements sehingga membuatnya lebih dinamis dalam berinteraksi dan mengurangi error—teruji sangat efektif untuk melakukan asesmen awal risiko kanker payudara. Namun, sistem ini perlu dilakukan upaya revalidasi dan pengembangan lebih lanjut sebelum dapat digunakan oleh masyarakat secara masif.

.....The incidence of breast cancer increases every year, but the coverage rate for early detection as a prevention program is still low. One of the reasons is the high workload of health workers at the public health center. The purpose of this study was to develop a risk assessment and recommendation system and assess its effectiveness to assist public health center in increasing the coverage of early detection effectively and efficiently through a selective approach. A qualitative case study design at the Jayagiri Lembang Public Health Center to determine the effectiveness of chatbots in assessing breast cancer risk by applying the waterfall model approach in building a chatbot application model was used for the research design. Natural language understanding and conditional statements were used by the developed chatbot hence made it more dynamic in interacting and preventing errors. It was also proven very effective in doing early risk breast cancer assessment. However, this system needs to be revalidated and further developed before it can be used by the community on a massive scale.