

## ABSTRAK

Ine Putri Selziana. 2024. Rancang Bangun Sistem Diagnosa Penyakit *Degeneratif* Pada Lansia Menggunakan Metode *Certainty Factor* Di Posyandu Lansia Desa Guyung. *Skripsi*. Program Studi Teknik Informatika, FT, Universitas PGRI Madiun, Pembimbing (I) Erny Untari, S. Pd., M. Pd (II) Yoga Prisma Yuda, S. Kom., M. Kom.

Lanjut usia (lansia) rentan terhadap berbagai penyakit *degeneratif* akibat penurunan fungsi sel-sel tubuh yang berkelanjutan. Penyebaran penyakit degeneratif di kalangan lansia di Indonesia meningkat karena perubahan gaya hidup, kurangnya pengetahuan, kesadaran kesehatan, dan faktor genetik. Posyandu lansia memainkan peran penting dalam menjaga kesehatan lansia dan mendeteksi dini penyakit degeneratif, meskipun masih terdapat kendala dalam diagnosis yang memerlukan tenaga ahli dan biaya tinggi. Penelitian ini bertujuan mengembangkan sistem diagnosa penyakit *degeneratif* pada lansia menggunakan metode *Certainty Factor* di Posyandu lansia Desa Guyung. Sistem ini diharapkan dapat membantu tenaga kesehatan dalam diagnosis yang lebih akurat, cepat, dan murah, serta memberikan manfaat bagi kader dan petugas posyandu. Sistem diagnosa yang dikembangkan menggunakan metode *Certainty Factor* memungkinkan perhitungan tingkat kepastian diagnosis berdasarkan gejala yang dimasukkan oleh pengguna. Sistem ini diimplementasikan menggunakan bahasa pemrograman PHP dan *JavaScript*, dengan dua akses utama: kader posyandu lansia dan petugas kesehatan. Evaluasi model CF pada ketiga penyakit degeneratif di posyandu lansia desa Guyung memiliki nilai CF diatas atas 90% yang menunjukkan tingkat keyakinan yang tinggi dalam diagnosis. Serta nilai akurasi diatas 80% nilai tersebut memiliki tingkat akurasi yang tinggi namun tidak sempurna. Hasil pengujian terhadap 15 responden menunjukkan skor *System Usability Scale* (SUS) sebesar 68,6, masuk dalam kategori D, yang menunjukkan adanya kekurangan signifikan. Pengguna merasa sistem ini bisa digunakan, namun belum mencapai tingkat penerimaan yang memuaskan.

**Kata Kunci:** lanjut usia, penyakit *degeneratif*, sistem pakar, *Certainty Factor*, diagnosis.

## ABSTRACT

Ine Putri Selziana. 2024. *Design of a Diagnostic System for Degenerative Diseases in the Elderly Using the Certainty Factor Method at the Posyandu for the Elderly in Guyung Village*. Thesis. Informatics Engineering Study Program, FT, Universitas PGRI Madiun, Advisor (I) Erny Untari, S. Pd., M. Pd Co-Advisor (II) Yoga Prisma Yuda, S. Kom., M. Kom.

*Elderly people are vulnerable to various degenerative diseases due to a continuous decline in the function of body cells. The spread of degenerative diseases among the elderly in Indonesia is increasing due to changes in lifestyle, lack of knowledge, health awareness and genetic factors. Posyandu for the elderly plays an important role in maintaining the health of the elderly and early detection of degenerative diseases, although there are still obstacles in diagnosis that require experts and high costs. This research aims to develop a system for diagnosing degenerative diseases in the elderly using the Certainty Factor method at the Posyandu for the elderly in Guyung Village. It is hoped that this system can help health workers in making more accurate, faster and cheaper diagnoses, as well as providing benefits for posyandu cadres and officers. The diagnosis system developed using the Certainty Factor method allows calculating the level of certainty of a diagnosis based on the symptoms entered by the user. This system is implemented using the PHP and JavaScript programming languages, with two main access points: elderly posyandu cadres and health workers. Evaluation of the CF model on the three degenerative diseases in the Guyung village elderly community center had a CF value above 90%, which indicates a high level of confidence in the diagnosis. And accuracy values above 80%, these values have a high level of accuracy but are not perfect. The test results on 15 respondents showed a System Usability Scale (SUS) score of 68.6, falling into category D, which indicates a significant deficiency. Users feel the system can be used, but it has not yet reached a satisfactory level of acceptance.*

*Keywords: Elderly, degenerative diseases, expert system, certainty factor, diagnos*