Sistem Pakar Untuk Mendiagnosa Gangguan Kesehatan Mental Dengan Menggunakan Metode Fuzzy Logic
Expert System for the Diagnosis of Mental Health Disorders Based on the Fuzzy Logic Method

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ABSTRACT

The diagnosis of bipolar disorder in Indonesia is hampered by several challenges, including low public awareness, social stigma, and limited access to psychiatrists, often leading to delayed treatment. Diagnostic ambiguity arising from diverse and overlapping symptoms further complicates this process. This research aims to develop a web-based expert system utilizing the Fuzzy Logic method to assist in the initial diagnosis of bipolar disorder. The system focuses on four primary types: Bipolar I, Bipolar II, Cyclothymia, and Not Otherwise Specified (NOS). The knowledge base for the system's rules was acquired through validated questionnaires and interviews with a clinical psychologist from RSUD dr. H. Koesnadi Bondowoso. The Fuzzy Mamdani method was implemented to process user inputs from a questionnaire and effectively manage diagnostic uncertainty. The result of this study is a functional expert system that provides a preliminary diagnosis score for each bipolar type based on user-reported symptoms. The system also functions as an educational platform, offering information on symptoms, treatments, and support resources. User Acceptance Testing (UAT) conducted with 32 respondents yielded positive feedback, with the majority finding the system easy to use, informative, and well-designed, indicating high user acceptance. This expert system shows potential as an initial screening tool to enhance early detection and encourage timely professional consultation.
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Keywords: *Expert System, Fuzzy Logic, Mental Health, Bipolar Disorder, Diagnosis System, Web Application.*