**ABSTRACT**

BIONDI / 59150542/2019 / Application of Expert Systems to Diagnose Cavity Disease Website-Based by Using Forward Chaining Method / Yunus Fadillah Soleman, S.Kom, M.Kom

The application of computer science is increasingly expanding to various fields. The rapid development of information technology has also had a positive impact on the dental field today. The use of information technology in the health sector can be used to improve better health services. One of the implementations is to diagnose cavities. Dental disease is an important thing to note because the effects of dental disease will also be felt by other parts of the body. Apart from that, limited information, the presence of dental medical personnel is one of the causes of the emergence of broader problems in handling dental diseases.

In this study a web-based expert system application was built to help consult patients with toothache. The method applied is Forward Chaining by employing an algorithm pattern. It is expected that this application can be used to diagnose dental diseases wherever and whenever through internet-connected devices. Due to website-based, making it easier for everyone.

This research will be conducted by observing the clinical environment, then conducting interviews with dentists, then conducting literature studies from books, journals, and websites that can be a reference for expert systems.

The design of the application created will include the system architecture described by the UML Diagram to better illustrate the program created. The application that will be obtained is an expert system application that can diagnose problems with cavities.

The expert system application produced is intended to provide a solution for what must be done by a user to eliminate symptoms caused by cavities so that the dentist can take action to be more efficient in terms of user time.

Keywords: cavities problem, expert systems, forward chaining