ABSTRAK

Pelayanan kesehatan di Poskesdes Pagar Ruyung masih menghadapi berbagai kendala dalam pengelolaan data dan pelayanan. Pencatatan data pasien serta pelayanan Kesehatan Ibu dan Anak (KIA) masih dilakukan secara manual menggunakan buku register sehingga proses pelayanan kepada pasien berikutnya baru dapat dilakukan setelah pencatatan selesai. Selain itu, penyampaian informasi jadwal kontrol masih mengandalkan kartu kontrol sehingga pasien berpotensi terlambat atau melewatkan jadwal pemeriksaan yang telah ditentukan. Penyusunan laporan pelayanan juga masih dilakukan melalui rekapitulasi data dari buku register sehingga petugas perlu menelusuri kembali data pelayanan yang telah dicatat sebagai dasar penyusunan laporan. Kondisi tersebut menunjukkan perlunya pemanfaatan sistem informasi yang mampu mendukung pengelolaan pelayanan kesehatan secara lebih terstruktur dan terdokumentasi.

Penelitian ini bertujuan merancang dan membangun Sistem Informasi Pelayanan Poskesdes Pagar Ruyung berbasis web untuk mendukung pengelolaan data pasien, pencatatan pelayanan kesehatan, pengelolaan jadwal kontrol, penyampaian notifikasi pengingat jadwal, serta penyusunan laporan pelayanan. Penelitian menggunakan metode kuantitatif dengan teknik pengumpulan data berupa observasi, wawancara, studi literatur, dan dokumentasi. Pengembangan sistem dilakukan menggunakan metode *Waterfall* yang meliputi tahapan analisis kebutuhan, perancangan sistem, implementasi, pengujian, dan pemeliharaan. Sistem dibangun menggunakan bahasa pemrograman PHP dan JavaScript dengan framework React serta basis data MySQL (MariaDB). Pengujian sistem dilakukan menggunakan metode *Black Box Testing* untuk memastikan setiap fungsi pada sistem berjalan sesuai dengan kebutuhan pengguna.

Hasil penelitian menunjukkan bahwa Sistem Informasi Pelayanan Poskesdes Pagar Ruyung berhasil dikembangkan sesuai dengan kebutuhan pengguna dan mampu mendukung proses pengelolaan pelayanan kesehatan secara digital. Sistem menyediakan fitur pengelolaan data pasien, pencatatan pelayanan KIA, pengelolaan jadwal kontrol, notifikasi pengingat jadwal, pengelolaan materi edukasi, serta penyusunan laporan pelayanan. Berdasarkan hasil pengujian menggunakan metode *Black Box Testing*, seluruh fungsi utama sistem berjalan sesuai dengan skenario pengujian tanpa ditemukan kesalahan fungsional. Implementasi sistem ini diharapkan dapat membantu petugas Poskesdes dalam mengelola data pelayanan secara lebih terorganisir, mempermudah penyampaian informasi jadwal kontrol kepada pasien, serta mendukung proses penyusunan laporan pelayanan kesehatan.

Kata kunci: Sistem Informasi, Poskesdes, Pelayanan Kesehatan, *Waterfall*, *Black Box Testing*

ABSTRACT

The abstract consists of three main parts containing research problems, research methods, and research results, written in three paragraphs. The first paragraph, includes problems raised as a research topic. Abstract in English is italicized.

Healthcare services at Poskesdes Pagar Ruyung still face several challenges in managing patient data and healthcare services. Patient records and Maternal and Child Health (MCH) service data are still documented manually using registration books, causing the next patient's service process to begin only after the recording process has been completed. In addition, follow-up appointment information is still delivered through appointment cards, increasing the possibility that patients may be late or miss their scheduled examinations. Furthermore, service reports are prepared by manually recapitulating data from registration books, requiring healthcare staff to review previously recorded service data before generating reports. These conditions indicate the need for an information system that can support healthcare service management in a more structured and well-documented manner.

This study aims to design and develop a web-based Information System for Poskesdes Pagar Ruyung to support patient data management, healthcare service recording, follow-up appointment scheduling, appointment reminder notifications, and healthcare service reporting. This research employed a quantitative research approach. Data were collected through observation, interviews, literature studies, and documentation. The system was developed using the Waterfall software development methodology, which consists of the requirements analysis, system design, implementation, testing, and maintenance phases. The application was developed using PHP and JavaScript with the React framework and MySQL (MariaDB) as the database management system. Functional testing was conducted using the Black Box Testing method to ensure that all system features operated according to user requirements.

The results of this study indicate that the web-based Information System for Poskesdes Pagar Ruyung was successfully developed in accordance with user requirements and is capable of supporting digital healthcare service management. The system provides features for patient data management, Maternal and Child Health (MCH) service recording, follow-up appointment scheduling, appointment reminder notifications, health education management, and healthcare service reporting. Based on the Black Box Testing results, all major system functions operated successfully according to the predefined test scenarios without any functional errors. Therefore, the implementation of this system is expected to assist healthcare personnel in managing service data more systematically, facilitate the delivery of follow-up appointment information to patients, and support the preparation of healthcare service reports more effectively.

Keywords: *Information System, Poskesdes, Healthcare Services, Waterfall, Black Box Testing*