WEB-BASED MEDICAL RECORDS INFORMATION SYSTEM DESIGN IN TANDUN I PUSKESMAS, ROKAN HULU DISTRICT

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Abstract
The medical record information system is a system for managing patient data and documents including patient identity, examination results, payments and other services that have been provided to patients. The processing of the medical record system and report preparation at the Tandun I Community Health Center is still manual and still uses bookkeeping media and requires a lot of space. Therefore, patient services at the Community Health Center become less effective and efficient. Using a website as a tool for inputting data can make it easier to process medical record data and create reports in an easier and more efficient way that can improve the quality of health services. The aim of this research is to find out how to design a web-based medical record information system that can improve the quality and efficiency of health services. The method used in this website application uses a qualitative descriptive method. Meanwhile, the system development method uses the waterfall method. The conclusion is that the system can make it easier for officers to work, an effective system can store all patient information, an effective system can register via the internet network.
Keywords: Information Technology, Health Services, Medical Records, Website

INTRODUCTION

The rapid development of information technology at this time is able to make changes in human actions both in terms of daily activities, such as personal activities and activities in an agency or company, without realizing it, technological developments have an impact on presenting information and communication. Presentation of information and communication makes people think about things quickly and efficiently. The use of technology can make human life easier in obtaining information and communicating (Maros & Juniar, 2016).

A website-based community health center information system was developed in a study by Putri & Kurniasari, (2020) which aims to make it easier for community health centers to process patient data and patient medical records into a report that is quite difficult to obtain information about patients, patient treatment visits, medical records. patients and also data on drugs that have been used by the health center. Apart from the problem of collecting patient data and archiving medical records, this is an important thing that needs to be considered (Putri & Kurniasari, 2020)

According to Manurung (2019), conducting research at the Temiang Island Community Health Center, medical records were written on paper and recorded for archives, as a result services became less efficient because data could be lost or damaged. This research aims to facilitate the process of managing medical record data such as storing and accessing data and reducing

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the risk of data damage due to disasters. Tandun I Community Health Center, Rokan Hulu Regency already has access to appropriate health service facilities to be a place for treatment. However, obtaining information about health service facilities in Tandun District, Rokan Hulu Regency is still inadequate because the general public still knows health information from person to person which can result in the information being less accurate. Tandun I Community Health Center has community health services, namely: 1 Treatment Registration Room/Counter, 4 poly rooms, namely: General Poly, KIA and KB Poly, Dental and Oral Poly, Elderly Poly, and Children's Poly. Patient registration and archiving of patient medical records are still done manually, meaning everything is still written on piles of paper and stored on storage shelves.

Manual medical record recording at the Tandun I Community Health Center has several obstacles, including: (1) it requires a lot of space and is limited in storage; (2) it takes a lot of time to search for patient medical record data when the patient arrives; (3) cannot meet needs quickly if data is to be analyzed; (4) susceptible to damage and loss due to age. The use of a Web-based service system with technology for processing patient data is very necessary, because it can provide several benefits and convenience in patient service, including: speeding up service, more accurate information, faster data searches, faster report creation and uniform management information systems. health center in Tandun Village. This Web-based program can help the performance of community health centers, so that the quality and quality of services improves.

RESEARCH METHODS
The type of research used in this research is qualitative descriptive research. Qualitative research is research that is descriptive in nature and tends to use analysis. Process and meaning (subject perspective) are more emphasized in qualitative research (Samsu, 2017). Meanwhile, the system development method uses the waterfall method.

RESULTS AND DISCUSSION
System Implementation
Implementation is the application and testing stage for the system based on the results of the analysis and design that has been carried out. Implementation of the design results into a Web-Based Medical Record Information Service System application.
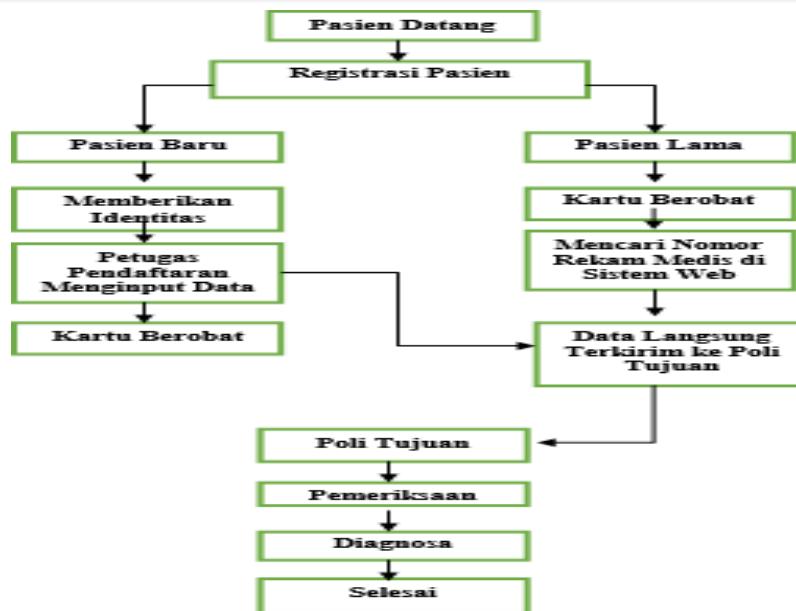
Figure 1. Web-Based Medical Record System Design

Design Flow of a web-based medical record system begins with the patient arriving, then registering. If it is a new patient, the registration officer asks for the patient's identity and inputs the data into the web. If it is an old patient, the officer only needs to enter the patient's medical record number, then the data is automatically input straight away. and enter the destination clinic, the doctor carries out an examination, diagnosis, and that's it.
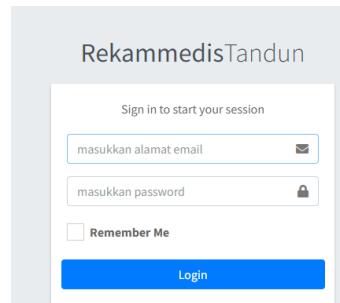
Figure 2. Login Menu

Officers must select the access level first before entering. Level access consists of 3 levels, namely for administrative employees, Poly Staff and medical records admin.
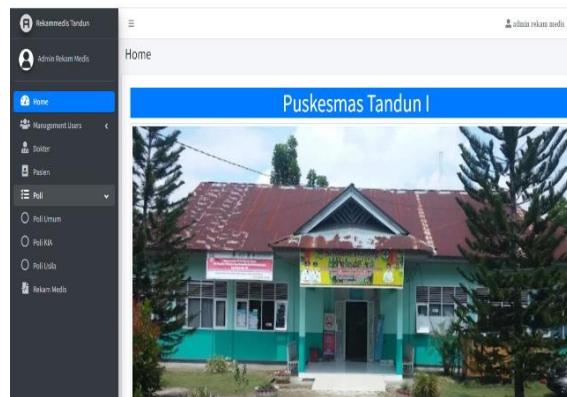
Figure 3. Home menu

The home menu is the start page when the admin successfully enters the username and password. This menu displays images of the Tandun I Community Health Center building and the staff who work at the Tandun I Community Health Center.
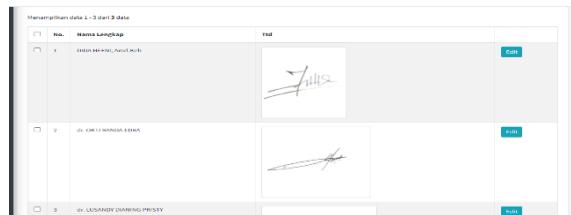

Figure 4. Doctor menu

The doctor menu displays the doctor management menu page which displays the doctors registered on the website and the polyclinic where they are assigned.
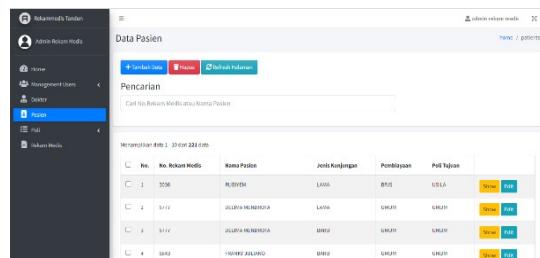

Figure 5. Patient Menu

The patient menu displays the patient management page, where this menu displays information on patients who have registered in the registration section

Figure 6. Patient Registration Form

The Paisen Registration Form displays the patient registration page. If the patient has previously registered in this web-based medical record system, the officer only needs to look for the patient's medical record number and click the retrieve data item, the old patient data will be filled in automatically. If the patient is a new patient, the registration officer will input the patient's identity, namely No. Medical records, patient name, date of birth, gender, address, occupation, religion, No. Cellphone, latest education, marital status, type of visit, financing, NIK, destination poly.

Figure 7. Poly Menu

The poly menu displays data on patients who have registered and then the health center officers categorize complaints according to the poly destination. Then the doctor carries out an examination by editing the patient data that has been entered into the destination clinic.
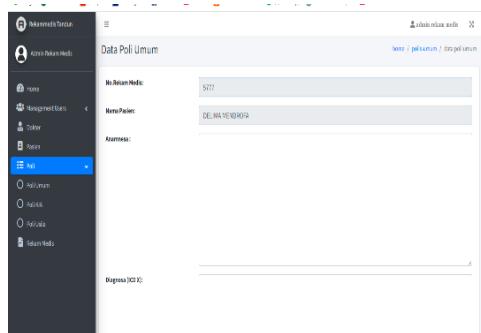
Figure 8. Inspection Form

The patient examination form that will be examined by the destination poly doctor includes anamnesis, diagnosis, therapy, follow-up services, physical examination, name and signature of the examining doctor.

The patient's medical record menu contains a summary of all patient service activities. In this menu, officers can easily recap inspection data registered on the website, the output of which is in the form of an excel file, making it easier for officers to recap the data every month.

Design of a Web-Based Medical Records Information System
Development method The design of a web-based medical record information system uses the waterfall method. The stages of the waterfall model include requirements, design, implementation, verification and maintenance.

Requirements
At this stage, researchers carried out communication and discussions with the Person in Charge of Medical Records at Tandun I Community Health Center with the aim of understanding what users of the web-based medical record system at Tandun I Community Health Center expect.

Design
At this stage, the researcher created a system design which the researcher discussed with the person in charge of medical records at the Tandun I Community Health Center
Implementation
This stage is the stage of creating an application by a programmer using programming language codes.

Verification
At this stage, the system is verified and tested to see whether the system meets what is expected by users of the Web-Based Medical Record System at the Tandun I Community Health Center.

Maintenance

At this stage, maintenance will be carried out on the system that has been implemented, including correcting errors, backing up website data, whether or not it runs smoothly when using the system, being alert if damage or undesirable things occur.

The design of a web-based medical record information system that the researchers designed produces a system that can improve the quality of service at the Tandun I Community Health Center, including making Tandun I Community Health Center officers able to easily carry out services, save service time, and more easily retrieve patient medical record reports because the data can exported to Excel. However, this system still has shortcomings, namely that the names of medicines that are still available in pharmacies have not been recorded, which can make it easier for doctors/midwives to prescribe medicines if medicines run out.

Make it easier for officers to work

Based on the results of interviews and observations made by researchers regarding the design of this web-based medical record system, it can make it easier for officers to work. This can be seen from the shorter web-based medical record system service flow which can make officer performance easier and faster compared to using a manual system.

The system can save patient data

The web-based medical record system at the Tandun I Community Health Center is very helpful in the effectiveness of storing patient information because with this web-based medical record system, storing patient medical record information becomes more effective because it minimizes the occurrence of lost or damaged data in paper form. With this web-based medical record system, documents will be stored in a database that can store all patient data without full data storage. However, according to researchers, this system could be subject to criminal attacks from hackers who can steal, change and destroy important data.

Registration Via Network

From the results of interviews conducted by researchers with informants at the Tandun I Community Health Center, it can be seen that the web-based medical record system at the Tandun I Community Health Center can effectively register patients via the network. With this web-based medical record system, registration officers can easily input patient data and can also save registration time.

This system also has drawbacks, namely an unstable network which makes information services hampered and not run smoothly. However, with this deficiency, officers will fill in the medical record manually first if the system slows down or the network is unstable and input data into the web-based medical record if the network is stable again.

CONCLUSION

The design of a Web-based Medical Record System can improve the quality of health services, The design of a Web-based Medical Record System can make it easier for officers to work, The design of the Web-based Medical Record System is effective in storing all information about patients and The design of the Web-based Medical Record System is effective in registering via the internet network.

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