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IMPLEMENTATION OF OUTPATIENT FAMILY PLANNING INFORMATION SYSTEM WITH WATERFALL

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Abstract: Population growth in some regions such as Asia is still high, especially in the number of births in children. Indonesia is one of the many countries whose birth rate growth is still high. With this high birth rate, it will cause problems for the region such as the problem of uncontrolled population growth if the birth rate continues to be high in addition to the social and economic impact of the region. To reduce the birth rate, the government created a family planning program to minimize the high birth rate. In birth control with this birth control program, contraceptive devices and drugs (ALOKON) are used as a prevention of pregnancy. This is intended to determine the level of allocone use in family planning patients in the outpatient unit and recap reports of birth control patients in the outpatient unit. In addition, the era of digitalization of technology utilization with information systems that have been increasingly developed and advanced, especially in the health sector. The system development method used in this journal is the waterfall method which consists of analysis, system design, implementation, unit testing, and maintenance. The results obtained are in the form of developing implementation results from the design made into a family planning information system in the outpatient unit. This research was made to develop an existing information system and can assist medical record officers in processing data and reports more effectively and efficiently.

Keywords: alokon; growth of birth rate; information system; kb

Abstrak: Pertumbuhan penduduk dibeberapa wilayah seperti di Asia masih tinggi terutama pada angka kelahiran pada anak. Indonesia merupakan salah satu dari sekian banyak negara yang pertumbuhan angka kelahirannya masih tinggi. Dengan tingginya angka pertumbuhan kelahiran ini akan menimbulkan masalah bagi wilayah itu seperti permasalahan pertumbuhan penduduk yang tidak terkendali jika angka kelahiran terus tinggi selain itu berdampak pada kehidupan social dan ekonomi wilayah itu. Untuk menekan angka kelahiran pemerintah membuat program KB (Keluarga Berencana) dalam meminimalisir angka kelahiran yang tinggi. Dalam pengendalian kelahiran dengan program KB ini digunakan alat dan obat kontrasepsi (ALOKON) sebagai pencegah kehamilan. Hal ini ditujukan untuk mengetahui tingkat pemakaian alokon pada pasien KB di unit rawat jalan serta rekapan laporan pasien KB di unit rawat jalan tersebut. Selain itu era digitalisasi pemanfaatan teknologi dengan sistem informasi yang sudah semakin berkembang dan maju, terutama pada bidang Kesehatan. Metode pengembangan sistem yang digunakna pada jurnal ini adalah metode waterfall yang terdiri dari analisis, perancangan system, implementasi, pengujian unit, dan pemeliharaan. Hasil yang diperoleh berupa pengembangan hasil implementasi dari perancangan yang dibuat menjadi system informasi KB di unit rawat jalan. Penelitian ini dibuat untuk mengembangkan system informasi yang telah ada serta dapat membantu petugas rekam medis dalam pengolahan data dan laporan yang lebih efektif dan efisien.

Kata kunci: alokon; kb; pertumbuhan angka kelahiran; sistem informasi

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INTRODUCTION

Family Planning (KB) is an effort to regulate child birth, distance and ideal age of childbirth, regulate pregnancy, through promotion, protection, and assistance in accordance with reproductive rights to realize a quality family. With efforts to apply technology in the health sector, this research was conducted by developing an existing information system to determine the level of use of contraceptives based on their type and classifying report recaps in the family planning system to facilitate officers in processing data more effectively and efficiently. [1]

In controlling or regulating this pregnancy can help husband and wife to give birth at the ideal age, have the number of children, and regulate the ideal birth distance of children using contraceptive methods, devices, and drugs. This is useful to minimize the level of morbidity and death in mothers who are high due to pregnancy experienced by women. In addition, it minimizes the mortality rate in infants who are still the same high. [2]–[4]

Maternal Mortality Rate (MMR) in Indonesia is still a problem in the health sector and has not yet reached the desired target. In addition, the Neonatal Mortality Rate (NMR) and Infant Mortality Rate (IMR) are still relatively high. With this contraceptive service, it is a strategy in reducing maternal and infant mortality rates. [5]

Need to know that Indonesia still has a high level of population growth. This is one of the problems that still occurs in Indonesia and still needs to be considered by the government, because it can cause social, economic, and development problems. In addition, if population growth cannot be controlled, there will be more and more population in Indonesia.[6]

In the period 2000 – 2010 amounted to 1.49% of population growth decreased, this had a positive impact because it was supported by the implementation of this family planning program. That way it can be seen that the impact of implementing family planning programs can slowly help reduce population growth rates as well as reduce birth and death rates in mothers and babies.[7], [8]

However, in West Java Province, in the last ten years, from 2010 to 2020, the population growth rate increased by 5.2 million people. Therefore, the government is still running family planning programs that can help minimize these lands, in an effort to reduce the level of population density that occurs and this still helps in intensifying population growth.[9]

In addition, this family planning program can provide education for mothers and expectant mothers in preparing and considering the risks of pregnancy, as well as protecting the health of each individual and their sexuality.[10], [11]

In helping this control, married couples are expected to be able to choose a good and appropriate alokon and can help this pregnancy and birth control program. Contraception is a tool used to prevent pregnancy, this contraceptive helps prevent the discovery of sperm and egg cells and stops the fertilization of the implant attached to the uterine wall so that pregnancy does not occur. Contraceptives have been around since ancient times. In its development, this contraceptive has experienced many developments since its first appearance because it is considered helpful and until now contraceptives are still found with

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updates from time to time.[12], [13]

From the official data of the West Java government website, especially Bandung City from 2019 to 2021, the most widely used contraceptives to date are injectable birth control with a usage rate of 42% in 20019 and 39.2% in 2021, besides that the contraceptives that are widely used are IUDs with a usage rate of 33.6% in 2019 and 36.2% in 2021, In addition, there are also pills 15.3% in 2019 and 14.5% in 2021, condoms 2.6% in 2019 and 2.9% in 2021, implants 2.5% in 2019 and 2.7% in 2021, MOW 3.9% in 2019 and 4% in 2021, and MOP 0.2% in 2019 and 0.4% in 2021. From this data, many people have used family planning but there are still many people who have not used it because of fear in its use and lack of education.[14]

From the description that has been explained, therefore the author designed a family planning information system, especially in the outpatient unit of the Mother and Child Hospital to determine the number of outpatient visitors who carry out family planning activities or actions. Family information systems are data, information, indicators, procedures, devices, technology, and human resources that are interrelated and managed to take actions or decisions that are useful in supporting family development.

In previous research supported the strength of the research carried out because it has scientific reference so that it can strengthen this research. However, there are several shortcomings in the study, namely the information system that does not cover the entirety, one of which is the data for reporting needed. .[15]

With efforts to apply technology in the health sector, this research was conducted by developing an existing information system to determine the level of use of contraceptives based on their type and classifying report recaps in the family planning system to facilitate officers in processing data more effectively and efficiently.

METHOD

The research method is a step taken to collect information or data, and provide a design overview for researchers. That the research method is basically a scientific way to obtain data with certain purposes and uses. The system development method used in this study is the waterfall method or waterfall method. Explained that there are five stages in the waterfall method, namely Requirements Analysis and Definition, System and Software Design, Implementation and Unit Testing, Integration and System Testing, and Operational and Maintenance. With these five stages, it becomes more organized regularly and sequentially so as to avoid the risk of repetition.[16]–[18]

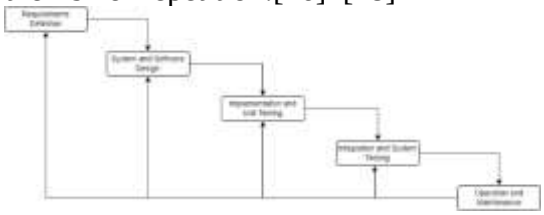

Image 1. Waterfall

Image 1 is the stage of the waterfall method which is often used as a reference in the implementation of the system development process. There are explanations at each stage, namely:

a. Needs Analysis

At this stage is the first stage, namely by analyzing everything needed for the establishment of a family planning information system.

b. System Design

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At this stage, a design is carried out for the system as well as the analysis of needs that have previously been carried out.

c. Code Generation

At this stage, code is created for the outpatient unit planning family information system program using the Mi-crosoft Visual Studio 2012 programming language using the Microsoft Access data base.

d. System Testing

At this stage it is focused on software testing. This aims to minimize system errors that may occur and ensure the desired output is appropriate.

e. Implementation

At the implementation stage, it is carried out for users to test and ensure the information system can run as desired by users.

f. Maintenance

At the maintenance stage, it is important so that the system does not get damage or threats from viruses. Therefore the system must be maintained and checked regularly.[19]

RESULT AND DISCUSSION

Implementation Results

After system analysis and design, the next stage is the implementation stage, namely making a program. Display or interface design on KB information system:

Main Menu Page

Image 2. Main Menu

This display is the main menu display, if after the officer successfully enters from the log in page, a menu display will appear as shown above. On this page is the display of the initial menu or main page to access all the pages in it.

Doctor Data Page

Image 3. Doctor Data

This view is a page display that contains data on doctors who serve outpatient services, especially services in the obgyn section.

Patient Data Page

Image 4. Patient Data

The patient page display is a page display containing patient data that enters or registers in the outpatient unit at family planning services.

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Officer Register Data Page

Image 5. Officer Register Data

This display contains the data of officers who have access to enter the hospital's service information system, as well as to fill in or add new officer data that can have access.

Outpatient KB Patient Data Page

Image 6. Outpatient KB Patient

This page is a display for patients who perform family planning services in the outpatient unit in particular, this page contains patient data that has previously been registered and data on incoming patient family planning activities stored on this page.

Reporting Page

Image 7. Reporting

On this page is a display to print reports based on the needs needed for officers to process data. The results of processing report data based on their needs:

Monthly Report of KB Patients

Image 8. Monthly Report

Image 8 on patient report data for family planning services in the outpatient unit within 1 month.

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Daily Report of KB Patients

Image 9. Daily Report

Image 9 is about the data from the daily patient report to determine the number of patients who perform family planning services in the outpatient unit every day.

Reports per Type of Contraception

Image 10. Reports per Type of Contraception

Image 10 is a family planning report data based on the type of contraception used. This is necessary to determine the level of contraception types that are widely used by birth control patients in outpatient units.

Reports per Village Area

Image 11. Reports per Village Area

Image 11 on family planning patient report data by region per urban village.

CONCLUSION

In the development of making a Family Planning (KB) information system using this waterfall method and assisted by the visual studio 2012 application in its implementation. This can make it easier for family planning services in the process of inputting data or processing reports. This hospital has utilized a computerized system in inputting data and patient reports so that the Family Planning (KB) information system can be realized easily in the implementation of services in outpatient units, especially in family planning services.

In addition, reports on the level of use of contraceptives and drugs can be seen based on which type of use is more interested in patients, as well as recaps of reports of family planning patients in outpatient units in daily, monthly frequency, and can be classified by village area. With the results of designing and making the results of this report, it can help officers in processing data more effectively and efficiently and minimize errors in processing data or reports.

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