Propilar Application For Drug Distribution Solutions For HIV / AIDS Patients

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Abstract— The HIV (Human Immuno-deficiency Virus) virus is already known to be one of the deadly and very dangerous viruses. This virus attacks white blood cells so that the human immune system decreases and sufferers become susceptible to other diseases and experience complications.[1] Various symptoms that arise as a result of the HIV virus are called Acquired Immunodeficiency Syndrome (AIDS).[1] In Indonesia, the HIV virus case has become a concern of the government because of its increasing development.

This HIV virus cannot be removed but can be suppressed by using antiretroviral drugs. Antiretroviral drugs work by suppressing the development of the virus until it reaches its lowest point so that the patient's immune system can function optimally. HIV / AIDS sufferers are required to take this medicine every day and should not be forgotten. Compliance with HIV/AIDS patients or commonly called ODHA is very important for the success of treatment.[2]

In carrying out antiretroviral therapy treatment failure often occurs. This is caused by many factors that affect one of them sufferers often forget to take the medicine on time so that treatment fails.

For this reason, the report will discuss the design of health applications as a reminder for HIV patients in taking antiretroviral drugs. Besides this application will help antiretroviral drugs better known to the wider community.

Keywords— HIV, AIDS, ODHA, health applications, reminders

I. INTRODUCTION

Human Immunodeficiency Virus or often called HIV is a virus that attacks the immune system of the human body and makes the body's immune system not work effectively to fight infection and disease.[3] People with HIV are susceptible to various diseases because their immune cells are damaged by the HIV virus, a collection of diseases that attack the body of an HIV sufferer, which is called AIDS.[4] At the AIDS stage, the body's immunity to fight infection and disease has disappeared completely. People with HIV / AIDS are commonly called ODHA.

The HIV virus spreads through several human body fluids for example blood, ASI (Mother's Milk), transfusion of blood, vaginal fluids and sperm.[5] But not all fluids in the body can be a medium of transmission of the HIV virus. Some examples of other body fluids that cannot transmit the HIV virus are sweat, urine, saliva.[5] The HIV virus also does not spread through the air like influenza and cough. The spread of the HIV virus can be caused by the use of needles that are not sterile or have been infected with the virus. In addition, free sex and deviant sexual behavior can be a major cause of someone contracting the HIV virus.

Treatment to completely eliminate the HIV virus has not yet been found, but there are treatment measures that are effective enough for people living with HIV. ODHA can adopt a healthy lifestyle and carry out various vaccines in a timely manner. In addition there are therapies that can be lived by people living with HIV, namely ART therapy (antiretroviral), this therapy is carried out by means of people living with HIV taking

antiretroviral drugs or commonly known as antiretroviral drugs. Antiretroviral drugs function to suppress the number of viruses that damage the immune system of ODHA so that it will improve the immune status of ODHA and ODHA to avoid infection with other diseases.[6]

By undergoing treatment using antiretroviral drugs, ODHA must take 2-3 pills in 1-2 times per day for a lifetime and must not be interrupted. However, sometimes some sufferers forget to take the medicine because the amount of medication they take is quite a lot. However, recently there has been a simpler choice of antiretroviral therapy, namely antiretroviral type Fixed Dose Combination. ODHA only have enough to take this antiretroviral drug once a day. [7]

Even though there are antiretroviral drugs as effective treatment media, the death rate of HIV sufferers in Indonesia still continues to increase from year to year. This is caused by a lack of public knowledge about the presence of this type of treatment. In addition, the limited service to get this drug is one of the causes. Therefore, a mobile application was developed to help HIV sufferers in Indonesia get this drug easily and quickly so that the possibility of discontinuation when taking antiretroviral drugs can be minimized. This application will help the government in distributing and introducing antiretroviral drugs in addition to making it easier for patients to get drugs.

II. LITERATUR REVIEW
A. HIV/AIDS

HIV (Human Immunodeficiency Virus) is a virus that attacks a person's immune system. AIDS (Acquired Immune Deficiency Syndrome) is a collection of infections and symptoms that arise due to damage to the body's immune system due to infection with the HIV virus [3]

B. Terapi antiretroviral

Antiretroviral therapy is a treatment method for people with HIV / AIDS by periodically taking antiretroviral drugs without interruption. [10] People with HIV / AIDS who are recommended to undergo antiretroviral therapy are patients with a CD4 count of less than 350sel / mm3. When undergoing antiretroviral therapy, the patient is required to take medicine every day without being forgotten, when the patient forgets to take the medicine a day it will be declared a failure, this is called first-line therapy and the patient must switch to second-line therapy by changing the type of antiretroviral medication consumed [11].

C. Mobile Health Application

The use of smartphones is increasing, smartphones are now a service platform that provides many social, business and health services. Increasingly advanced developments will allow a smartphone with unique features that can monitor and deliver drugs to people with HIV / AIDS [12].

D. Push Notification

In the era of technology development is growing rapidly and smartphone use is also increasing. Smartphones circulating today have various features that make it easier for users to use it for everyday life. One of the features contained in the smartphone is push notification.[8] Push notification can be useful as a feature that makes it easier for users to receive information quickly and periodically without having to open the site. [8]

E. Google MAP API

Google Maps is a service provided by Google and has been widely used. [9] Using Google Maps can see a city or region using a smartphone. Google Maps can also be added to applications that have been created using the Google Map API. Google Map API is a library in the form of javascript. [9]

F. PHP

One of programming language that is usually used to develop a website is PHP or an extension of Hypertext Preprocessor. The PHP programming language in processing data is done from the server side or commonly called server-side scripting. [10]

G. Elimination

HIV elimination is an effort to reduce the number of people with HIV / AIDS. Not achieving the goal of elimination in an increasing population means more and more individuals are infected even at constant prevalence. This shows that obtaining statements about the absolute number of deaths prevented depends on assumptions about how the population heterogeneity impacts on the level of transmission. The question of whether elimination is possible or not at all can be answered independently of the relationship between transmission and prevalence.[11]

III. RESEARCH METHODOLOGY

In this study began with a literature study of existing problems. Literature studies include interviews with related parties, literature studies and questionnaires. After that go to the stage of designing and making the application. After the design is approved the application is tested and made a report.
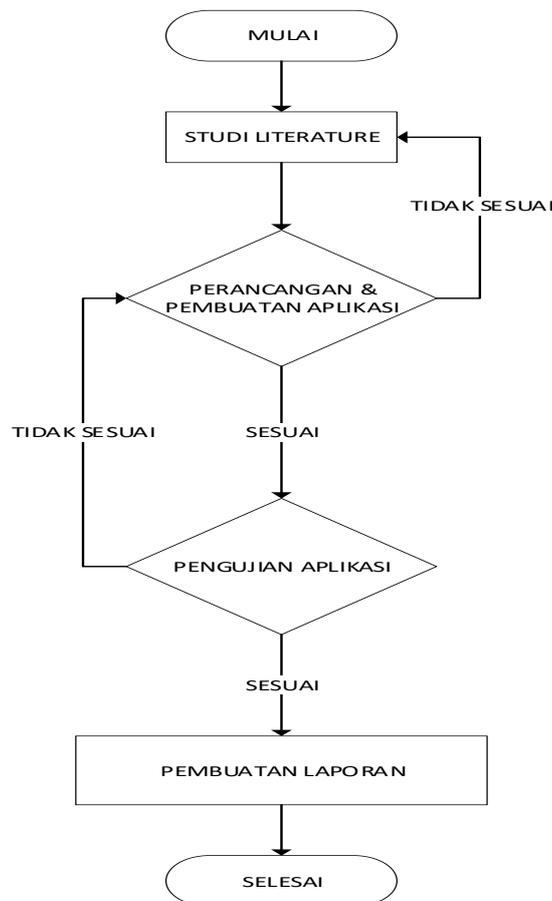

Figure 3.1 Flowchart Methodology

IV. RESULTS AND DISCUSSION

A. Application

The name of this application is "Propilar", this application is intended for patients with HIV/AIDS to help remember in taking antiretroviral drugs and find services that provide antiretroviral drugs in the city of Semarang. This application is based on Android and was developed using Android Studio software.

In the Propilar application there are 6 menus, namely:
a. Profile
b. Map
c. Reminder
d. Stok
e. Event

Figure 4.1 Menu

Profile : In the profile menu the user can view the data themselves and edit the data themselves.

Figure 4.2 Profile

Map: In the map menu, users can find services that provide medicine in the city of Semarang.

Figure 4.3 Map

Reminder: In the reminder menu, users can set the hours for notifications to take medication.
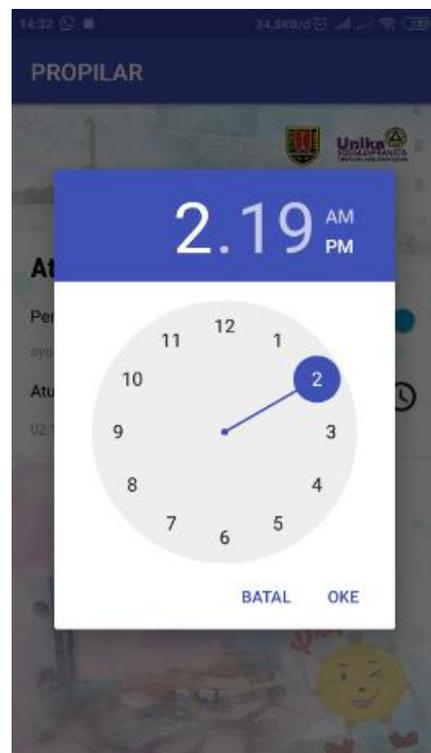
Figure 4.4 Reminder

Stok : contains the amount of medicine

Figure 4.5 Stock

Event : this menu displays events that will be held by the community or hospital.
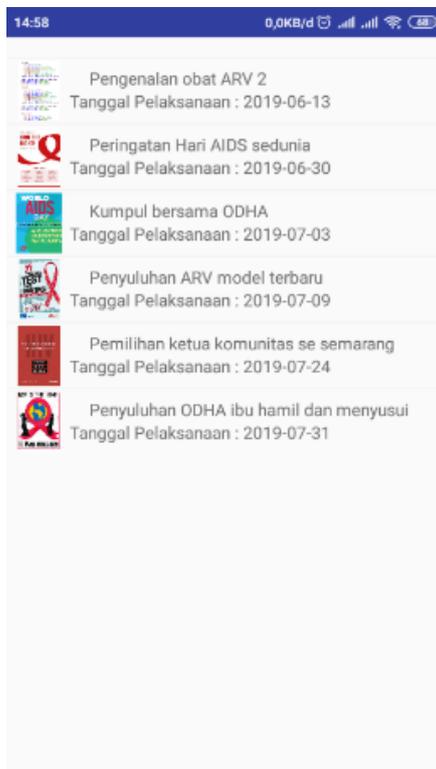
Figure 4.6 Event

B. Review

Based on 30 respondents who have filled out the questionnaire, the results are obtained
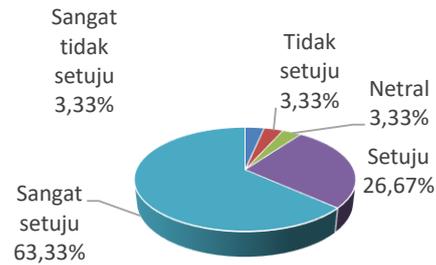
Figure 4.7 helped reminded the drug will run out

According to 63.33% of respondents strongly agree if the application helps remind when antiretroviral drugs or the like will run out. A total of 26.67% of respondents agreed if they were helped to be reminded when antiretroviral drugs would run out. And according to other respondents as many as 3.33% of respondents stated strongly disagree, disagree, and neutral.
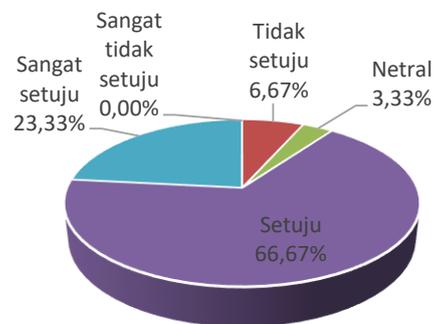
Figure 4.8 helped to be reminded to take ARV regularly

66.67% of respondents said they agreed to feel helped to be reminded of taking antiretroviral drugs or the like. A total of 23.33% of respondents said they strongly agreed to be helped to be reminded to take antiretroviral drugs or the like. According to 6.67% other respondents disagree if it is helped to be reminded of taking antiretroviral drugs or the like. 3.33% of other respondents thought neutral or felt that among those who

were helped or not helped were reminded to take antiretroviral drugs or the like. And as many as 0% of respondents or no respondents stated that strongly disagree if it is helped to be remnded in taking antiretroviral.

V. CONCLUSIONS

a. Strategies designed to distribute drugs with the application of Propilar by hospital or service require registered patients to install applications when taking drugs. Every month patients who take drugs are inputted into the hospital / service application.

b. By using the application "Propilar" users feel helped to be reminded to take medicine every day and on time. This is evidenced by 66.67% of respondents feeling strongly agree if the application "Propilar" helps to remind you to take medicine every day and on time. The strategy used is the notification feature found in the "Propilar" application.

c. 63.33% of respondents stated that the Propilar application helps HIV / AIDS patients to remind them that the drug will run out so that the risk of running out of drugs and the failure of therapy can be minimized.

d. In the daily lives of people with HIV / AIDS or commonly called ODHA, they often close themselves from the community. HIV / AIDS patients feel more confident if those who suggest are fellow patients or community groups. Therefore, in the introduction of the application carried out with the help of WHO and the HIV / AIDS community of Semarang City.

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