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Determinants of Antiretroviral (ARV) Treatment Initiation Behavior among People with HIV at Dr. Drajat Prawiranegara Hospital

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Abstract:
Indonesia is committed to accelerating increased access to treatment in hospitals with quality services. ARV treatment still faces several challenges, such as the level of knowledge of people living with HIV, problems with counseling, assistance, family support, community support, and the number of services available. This study aims to determine the factors associated with the behavior of initiating ARV treatment in people with HIV at RSUD Dr. Drajat Prawiranegara. This type of research is quantitative and has a cross-sectional design. Independent variables are education level, attitude, distance to health services, and family support. Meanwhile, the dependent variable is ARV treatment initiation behavior—the entire population of HIV patients at RSUD Dr. Drajat Prawiranegara in 2023. The total sample was 56 people selected by total sampling. Statistical tests used the Chi-square test with 95% CI and logistic regression tests. The results of statistical tests showed that the variable distance to availability of health services did not have a significant relationship with ARV treatment initiation behavior (p> 0.05), while the variable level of knowledge with p= 0.000, the attitude variable with p=0.009, and the family support variable with p=0.002, which means it has a significant relationship with ARV treatment initiation behavior. The largest OR value is in the knowledge variable OR=12.129.

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INTRODUCTION

Behavioral determinants of initiating antiretroviral (ARV) treatment are a major concern in efforts to overcome Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) (Hardja, 2021). Although ARV treatment has been proven to significantly increase life expectancy and quality of life for individuals living with HIV/AIDS, rates of initiation of ARV treatment still vary across countries and communities (Septimar & Adawiyah, 2019). Factors that influence an individual's decision to start ARV treatment include various aspects, ranging from sociodemographic characteristics such as age, gender, and education level to social factors such as family support and stigma towards HIV/AIDS. In addition, behavioral determinants of ARV treatment initiation also include health factors such as general health status, level of knowledge about HIV/AIDS, and accessibility to health services (Kurniawan et al., 2022; Kurniawan et al., 2021)

Based on the report from the Ministry of Health for the 1st quarter of 2023 regarding HIV treatment up to March 2023, the estimated number of people with HIV in 2023 was 515,455 people, the number of people living with HIV, and knowing their status was 438,231 people (85%), the number of people with HIV who were 184,890 people received treatment (42%), the number of

people with HIV who are receiving treatment who will be tested for Viral load in 2023, a minimum after 6 months of ARV treatment with suppressed Viral load results is 50,092 people (27%) (Directorate General of Prevention and Management of the Republic of Indonesia Ministry of Health, 2023). Data in Banten Province showed that up to 2022, 15,496 HIV cases were found, but only 5,676 people were on ARV treatment (37%) (Hidayat et al, 2022).

Indonesia is committed to accelerating increased access to hospital treatment with quality services through the STOP (Tell, Find, Treat, Maintain) strategy and the 95-95-95 fast track. However, ARV treatment still faces a number of challenges, such as the level of knowledge of people living with HIV, problems with counseling, mentoring, family support, community support, and the number of services available. In general, the existing challenges relate to human resources for health, which should be maximized through Care, Support, and Treatment (PDP) training in hospitals, including integrated management of HIV care with the latest approaches (Muchtar et al., 2023). HIV disease causes several serious problems for sufferers. Physically, it causes susceptibility to several diseases, such as TB, infection of the mouth and throat by fungus, swollen lymph nodes, recurring herpes zoster, and itchy spots all over the body (Nursalam et al., 2017). Accelerating HIV/AIDS prevention and control nationally is carried out by expanding health services to the Community Health Center level, starting from counseling, HIV testing, and ARV care/treatment (Kurniyawan et al., 2023).

The main goal of antiretroviral therapy (ART therapy) is to prevent HIV-related morbidity and mortality. This goal is achieved using effective ART therapy to achieve and maintain plasma HIV-1 RNA (viral load) below the quantification limit of commercially available tests (Putri & Andriyani, 2023). Long-lasting viral suppression improves immune function and overall quality of life, lowers the risk of AIDS-defining and non-AIDS-defining complications, and allows people with HIV to live life spans approaching those of people without HIV. Antiretroviral therapy has significantly improved patients' quality of life by reducing morbidity and mortality. Early diagnosis of HIV and initiation of ART therapy in countries with low resources and high HIV prevalence minimizes hospitalization costs and maximizes the benefits of ART therapy. However, large delays in the initiation of ART therapy led to low immunological responses, increased morbidity, mortality, and hospitalization of HIV-related patients (Aliyah et al., 2019).

Data from Dr. Drajat Prawiranegara Regional Hospital, Serang Regency, from January to October 2023, of 87 people with new HIV who were found, 56 people were on HIV treatment, 10 people were reconciled, and 21 people were not taking HIV treatment (Directorate General of Disease Prevention & Control Infectious, 2022). To prevent these problems, it is important to identify factors that contribute to delayed initiation. This research is entitled Determinants of Antiretroviral (ARV) Treatment Initiation Behavior in People with HIV at Dr. Drajat Prawiranegara Hospital, Serang Regency, in 2023 to identify the behavior of people with HIV in initiating ARV treatment.

METHOD

This type of research is quantitative, with the design used in this research being cross-sectional, which is a research design that measures risk factors and their impacts, which can be studied simultaneously. This study analyzes the relationship between gender, age, knowledge, health services, and family support as independent variables with the behavior of initiating ARV treatment in people with HIV. The population in this study were people with HIV until 2023 at Dr. Drajat Prawiranegara Regional Hospital, Serang Regency. The sampling technique in this research was total sampling with a sample size of 56 people. The study was conducted from

December 2023 to January 2024 at Dr. Drajat Prawiranegara Regional Hospital, Serang Regency, Banten Province. The data collection technique was carried out by looking at data on HIV patients at Dr. Drajat Prawiranegara Regional Hospital in 2023 as a reference and conducting interviews using a data collection tool, namely a questionnaire filled out by respondents.

RESULT

Univariate Analysis

The research was carried out by distributing questionnaires and Google forms to 56 respondents among people with HIV at RSUD Dr. Dradjat Prawiranegara obtained according to the results of the univariate analysis can be shown as follows.

Table 1. Frequency of Respondent Characteristics

Characteristics	Frequency	(%)
Gender		
Woman	20	35.7
Man	36	64.3
Age		
< 20 years	5	8.9
> 20 years	51	91.1
Education		
Low	18	32.1
Height	38	67.9
Job status		
Doesn't work	22	39.3
Work	34	60.7

The characteristics of research respondents include gender, age, education level and employment status. Most of the research respondents were men (64.3%), aged > 20 years (91.1%), had high educational status (67.9%), and were working (60.7%).

Table 2. Frequency Distribution of Behavioral Determinants of ARV Treatment Initiation

Variable	Amount	(%)
Initiation Behavior		
Do not do	17	31.4
Do	39	69.6
Knowledge level		
Less	20	35.7
Good	36	64.3
Attitude		
Does not support	28	50
Support	28	50
Availability of Health Services		
< 20 KM	36	64.3
> 20 KM	20	35.7
Family support		
Does not support	22	39.3
Support	34	60.7

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Some respondents had insufficient knowledge, namely, 20 people (35.7%) answered that consuming antiretroviral drugs (ARV) cannot prevent HIV transmission from mother to child. Based on these results, most respondents had good knowledge about the initiation of ARV treatment.

The frequency of respondents with attitudes regarding the initiation of treatment was divided into two categories, namely supporting and not supporting, where the results obtained were balanced between respondents who supported and did not support each, amounting to 28 people (50%).

The distance to the availability of health services as per the research operational definition is divided into 2 categories, namely easy access to health services if the distance from the respondent's residence is < 20 kilometers and difficult distance if the distance from the respondent's residence to the health service is ≥ 20 kilometers. Based on the existing categories, it shows that 36 people (64.3%) of respondents have easy travel distances (distance <20 kilometers). As per the research operational definition, family support is divided into 2 categories: supporting and not supporting. Based on the existing categories, it shows that 34 people (60.7%) of respondents received family support.

Bivariate Analysis

Bivariate analysis in this study used the chi-square test with $p < 0.05$ and knowing the PR (Prevalence Ratio) value, which measures the strength between the risk factor variables and effects with PR > 1, meaning a positive relationship between risk factors and effects. The factors examined in the research related to ARV Treatment Initiation Behavior in people with HIV can be seen in the following table.

Table 3. Determinants of the Causes of Hypertension in Pregnant Women in the Ciruas Health Center Working Area, Serang Regency in 2023

Knowledge level	ARV Treatment Initiation Behavior				Total		p-value	PR	CI 95%
	Do		Do not do						
	n	%	n	%	N	%			
Knowledge level							0.000	5.850	3.710-59.49
Good	32	88.8	4	11.2	36	100			
Not good	7	35	13	65	20	100			
Amount	39	69.6	17	30.4	56				
Attitude							0.009	3.250	1.427-18.94
Support	24	85.7	4	14.3	28	100			
Does not support	15	53.5	13	46.5	28	100			
Amount	39	69.7	17	30.3	56	100			
Distance to availability of health services							0.965	1.018	0.296-3.204
<20 KM	25	69.4	11	30.6	36	100			
>20 KM	14	70	6	30	20	100			
Amount	39	69.6	17	30.4	56	100			
Family support							0.002	3.709	1.961-24.70
Support	29	85.3	5	14.7	34	100			
Does not support	10	45.4	12	54.6	22	100			
Amount	39	69.6	17	30.4	56	100			

Based on the results of this study, it is known that respondents who carried out ARV treatment initiation behavior mostly had a good level of knowledge. In contrast, respondents who did not carry out ARV treatment initiation behavior mostly needed a better level of understanding.

Thus, there are differences in the level of knowledge among respondents based on treatment initiation behavior. Based on statistical tests, it is known that the value is p=0.000, meaning that there is a significant relationship between the level of knowledge and the behavior of initiating ARV treatment, where PR=5.850 (95% CI: 3710-5949), meaning that a poor level of knowledge is a risk factor for respondents not carrying out initiation behavior. ARV treatment.

Based on the results of this study, it is known that respondents who carried out ARV treatment initiation behavior mostly had a supportive attitude. In contrast, respondents who did not carry out ARV treatment initiation behavior mostly had an unsupportive attitude. Thus, respondents' attitudes differ based on treatment initiation behavior. Statistically, it shows that mentality has a significant relationship with the behavior of initiating ARV treatment, as demonstrated by the value of p = 0.009 and PR = 3.250, meaning that an unsupportive attitude is a risk factor for respondents not initiating ARV treatment behavior (95% CI: 1.42-18.94) .

Based on the results of this research, it is known that most of the respondents who initiated ARV treatment behavior had a long distance to service availability (<20KM). At the same time, most respondents who did not undertake ARV treatment initiation behavior also had a long distance to service availability (<20KM). Thus, there is no difference in the distance between respondents' availability of services based on treatment initiation behavior. Based on statistical tests, it is known that the p-value = 0.965, meaning that there is no significant relationship between the distance between the availability of health services and the behavior of initiating ARV treatment, where PR = 1.018 (95% CI: 1.961-18.24.70).

Based on the results of this study, it is known that respondents who carried out ARV treatment initiation behavior mostly had supportive family support. In contrast, respondents who did not carry out ARV treatment initiation behavior mostly had unsupportive family support. Thus, there are differences in family support among respondents based on treatment initiation behavior. Based on the results of statistical tests, it is known that the value is p=0.002, meaning that there is a significant relationship between family support and ARV treatment initiation behavior, where PR=3.709, meaning that respondents who do not receive family support are a risk factor for respondents not initiating ARV treatment behavior (95% CI: 1.961-18.24.70).

DISCUSSION

The Relationship Between Knowledge Level and ARV Treatment Initiation Behavior in People with HIV

The results of univariate analysis show that most respondents have good knowledge about the initiation of ARV treatment. Meanwhile, the bivariate analysis results statistically show that the knowledge factor has a significant relationship with the behavior of initiating ARV treatment, as indicated by the p-value = 0.000 (95% CI: 3.71-59.49). The results of this research are in accordance with the research of Septiansyah et al. (2018) that more patients have good knowledge with a percentage of around (63.41%) or around 26 patients, while there are around 14 patients (34.14%) with sufficient knowledge and the remaining 1 patient (2.45%) has good knowledge less category.

Knowledge is everything that the patient understands regarding the disease and the treatment process being carried out. In the current era, technology is very advanced so that people can obtain information related to HIV/AIDS easily through communication and information media or the internet. This gives patients knowledge that can be said to be good because it is easy to obtain information independently or ask health workers at the hospital or companions (Aisyah & Harahap, 2023).

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The findings in the field are that most respondents have good knowledge. This can be proven based on the results of filling out the questionnaire where all respondents know about HIV disease, HIV transmission through sexual intercourse, HIV prevention by using condoms, initiation of ARV treatment, and the vulnerability of HIV patients to other diseases. However, some respondents also did not know about the transmission and prevention of HIV from mother to fetus. HIV patients' knowledge regarding ARVs can indirectly influence patient compliance in taking ARV drugs, compared to patient behavior that is not based on knowledge. This is in line with the research conducted (Debby et al., 2019), where it was found that the level of knowledge and adherence had a significant relationship, so the researchers assumed that good knowledge could have a high level of adherence to ARV treatment.

The Relationship Between Attitudes and Behavior in Initiating ARV Treatment in People with HIV

Based on the results of univariate analysis, the results obtained were balanced between respondents who supported and did not support each, amounting to 28 people (50%). Meanwhile, the bivariate analysis results statistically show that attitude has a significant relationship with ARV treatment initiation behavior, as shown by the p-value = 0.009 (95% CI: 1.42-18.94). The results were the same in the field of respondents who had a supportive and non-supportive attitude. This was proven by the results of filling out the questionnaire, where several respondents said they agreed about the transmission of HIV through sexual intercourse only, regular consumption of ARV drugs for life, and measures to prevent transmission of HIV. However, several respondents showed a disapproving attitude regarding this matter. Attitude is a person's closed response to a particular stimulus or object, which already involves the relevant opinion and emotional factors (Notoatmodjo, 2019).

According to Azwar (2016), some factors influence attitudes: personal experience, other people considered necessary, culture, mass media, emotional factors, education, and religion. According to the researcher's analysis, attitudes influence a person's behavior through a thorough and reasoned decision-making process and have the following impacts: first, a specific attitude towards something that will determine behavior; second, what influences behavior is not only attitudes, but there are subjective norms, namely our beliefs about what other people want us to do, third, attitudes towards behavior together with subjective norms form an intention to behave in a certain way. Specific attitudes that influence behavior are social attitudes expressed repeatedly in the same activity, commonly called habits.

The Relationship Between Distance to Health Service Availability and ARV Treatment Initiation Behavior in People with HIV

Based on the results of univariate analysis, it shows that 36 people (64.3%) of respondents had a manageable distance to travel, and 20 people (35.7%) had a difficult distance to travel. Meanwhile, the bivariate analysis results statistically show that the distance factor to the availability of health services has no relationship with the behavior of initiating ARV treatment because the p-value is > 0.05. This is shown by the p-value = 0.965 (95% CI: 0.29-3.20). The results of the research showed that the distance to health services was another difficulty felt by participants because they had to come to health services every week to take ARV drugs. People with HIV felt it was difficult due to the long distance between hospitals and homes and the lack of transportation (Septimar & Adawiyah, 2019). The findings in the field are that the majority of respondents have easy travel distances to services so they can easily access HIV treatment (Manalu et al., 2019).

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Based on research analysis in the field shows that respondents do not mind the distance they travel to have their health checked at the available health services. Several respondents deliberately sought treatment at health services far from where they lived to maintain privacy and comfort in carrying out treatment for those affected by HIV.

The Relationship Between Family Support and ARV Treatment Initiation Behavior in People with HIV

Based on the results of univariate analysis, 34 respondents received family support, as in the table above (60.7%), and 22 people did not (39.3%). Meanwhile, the bivariate analysis results statistically show that family support has a significant relationship with ARV treatment initiation behavior because the p-value is <0.05. This is indicated by the p-value = 0.002 (95% CI: 1.96-24.7). Family support is a form of social support. The results of Jusriana's research, 2020, show that family support is related to the level of adherence to ARV therapy p= 0.024 ≤ α 0.005, where 60% of PLWHA who do not receive family support tend to be non-compliant with taking ARVs.

The results of this study are also in accordance with research by Harsito et al. (2021), which showed that the p-value = 0.011 between family support and adherence to taking ARV medication, so it can be concluded that there is an influence of family support on the treatment behavior of HIV/AIDS patients in Tulungagung Regency. The value r=0.328 shows a weak correlation strength with a positive correlation direction, which explains that the higher the family support, the higher the patient's adherence to ARV medication. Family support is a process of relationships between families that is demonstrated through attitudes, actions, and family acceptance that occurs during life (Afandi, 2016). Family support can be in the form of internal support that can be received from the husband, wife, or siblings, as well as external support from the nuclear family. Support provided by the family includes emotional support, appreciation support, informational support, and instrumental support (Putri & Afandi, 2022).

The results of this study are in line with research conducted by Bachrun (2017), explaining that there is a relationship between family support and adherence to taking ARV medication in patients with HIV. Family support is a primary need for patients new to the treatment process. With this family support, it is hoped that it can improve the enthusiasm for life of patients with HIV. Another similar study also explains that there is a significant relationship between family support and medication adherence in patients suffering from HIV/AIDS. Based on these studies, family support is an essential aspect of supporting the treatment process for patients with HIV.

CONCLUSION

This research shows a significant relationship between the level of knowledge, attitudes, and family support on the behavior of initiating Antiretroviral Treatment (ARV). However, there is no significant relationship between the distance between the availability of health services and the behavior of initiating antiretroviral (ARV) treatment. The most dominant variable in the behavior of initiating Antiretroviral (ARV) Treatment is the knowledge variable.

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