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Risk Factors of HIV and AIDS Mortality At Ibnu Sina Hospital

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ABSTRACT

Globally, HIV infection (Human Immunodeficiency Virus) and AIDS (Acquired Immune Deficiency Syndrome) were still a problem in the health. East Java Province's case rate is in the top 10, which is 29.70%. The case rate number was still above the national figure of 26.85% until March 2016. Case Rate of East Java Province was in the 10th position but cumulatively the East Java Province is ranked first with 3,292 deaths until March 2016 compared to other provinces. Gresik Regency was include in the top 10 largest number of AIDS cases with 898 AIDS cases per 2017 increased compared to 2016. The aim of the study was to find out the factors related to mortality in HIV and AIDS patients in Ibnu sina gresik district general hospital. The research method was a restropective cohort with a total of 299 patients. Data analysis used cox non-proportional hazard with a value of $\alpha = 0.05$. Based on the results of the analysis showed that medication adherence was $p < \alpha$ (0.05) so that H0 was rejected which meant that medication adherence had an effect on the mortality of HIV and AIDS. Increase the motivation of patients who were less adherent to took medication to be compliant in taking ARV drugs so that patient mortality is reduced. Maintain patients who took ART therapy to be obedient in taking therapy so that assessment of medication adherence can be maintained and patient survival was longer.

Keywords: Mortality, HIV, AIDS, Adherence

INTRODUCTION

Background

The number of HIV cases up to March 2016 was 198,219 people. Based on 5 provinces with the highest number of HIV, it was DKI Jakarta (40,500), East Java (26,052), Papua (21,474), West Java (18,727) and Central Java (13,547). The cumulative number of AIDS until March was 78,292 people. The highest number of AIDS was reported from the province of East Java (14,499), followed by Papua (13,335), DKI Jakarta (8,105), Bali (5,934), and Central Java (5,049)[(1)].

AIDS mortality rate decreased from 0.94% in the year to 0.02% in March 2016. The case rate of East Java Province was in the top 10 highest at 29.70%. The case rate number was still above the national figure of 26.85% until March 2016. Case Rate of East Java Province was in the 10th position but cumulatively the East Java Province was ranked first with 3,292 deaths until March 2016 compared to other provinces with the highest case rates, because East Java Province had more population than other provinces. AIDS was the final stage of HIV-infected patients. Delay in ART treatment causes many patients deaths[(2)].

Most patients began treatment in stages III and IV. began treatment at stage III and IV has a risk of death 4.5 times greater than who began treatment at stage I and II. According research clinical conditions ware related to stage, CD4 count and functional status. Poor clinical conditions gave affect death greatly. Death often occured in the clinical condition of bed rest with stages III and IV. Most deaths at median CD4 were 18 cells / mm3. This showed that most patients deaths by CD4 cells less than 200 cells / mm3 or end stage (AIDS)[(3)].

Adherence to ARV treatment was due to several factors, one of which was due to lack of motivation in the patient. The aim of ARV treatment was also to prolong the life of sufferers of HIV and AIDS by preventing complications. The success of the treatment program can be seen from the regular adherence to treatment. PMO (supervisor taking medication) was need to increased patient motivation to taking medication. This can decreased mortality due to HIV and AIDS[(4)].

Purpose

The aim of the study was to find out the factors related to mortality in HIV and AIDS patients in Ibnu sina gresik district general hospital.

METHODS

The research method was restropective cohort. Subject of research was HIV and AIDS patients who took ARV treatment for the period 2013-2016. Number of populations by 303 patients. Pregnant patients with HIV and AIDS was 4 patients. Patients with HIV and AIDS who was pregnant excluded from this study because pregnant women have different ART guidelines that were likely counfounding of the study. The number of subject by 299 patients who followed ART at Ibn Sina hospital. CD4 measurement was the CD4 count when the patient was first starts ART. It recorded in the medical records. Stage measurement was the clinical stage when the patient first starts ART based on the category set by the hospital. The measurement of functional status was ability of HIV and AIDS patients to carry out physical activity and self-care when starting ARV therapy. It recorded in the medical records. The measurement of opportunistic infections was presence of other infections that accompany HIV infection in HIV and AIDS patients. It recorded in the medical record. Data analysis used cox non propotional hazard.

RESULTS

Mortality per Year

Based on Figure 1 showed that in 2014 mortality per 100 person per year experienced an increase. Furthermore, until 2016 mortality per 100 person per year had decreased.

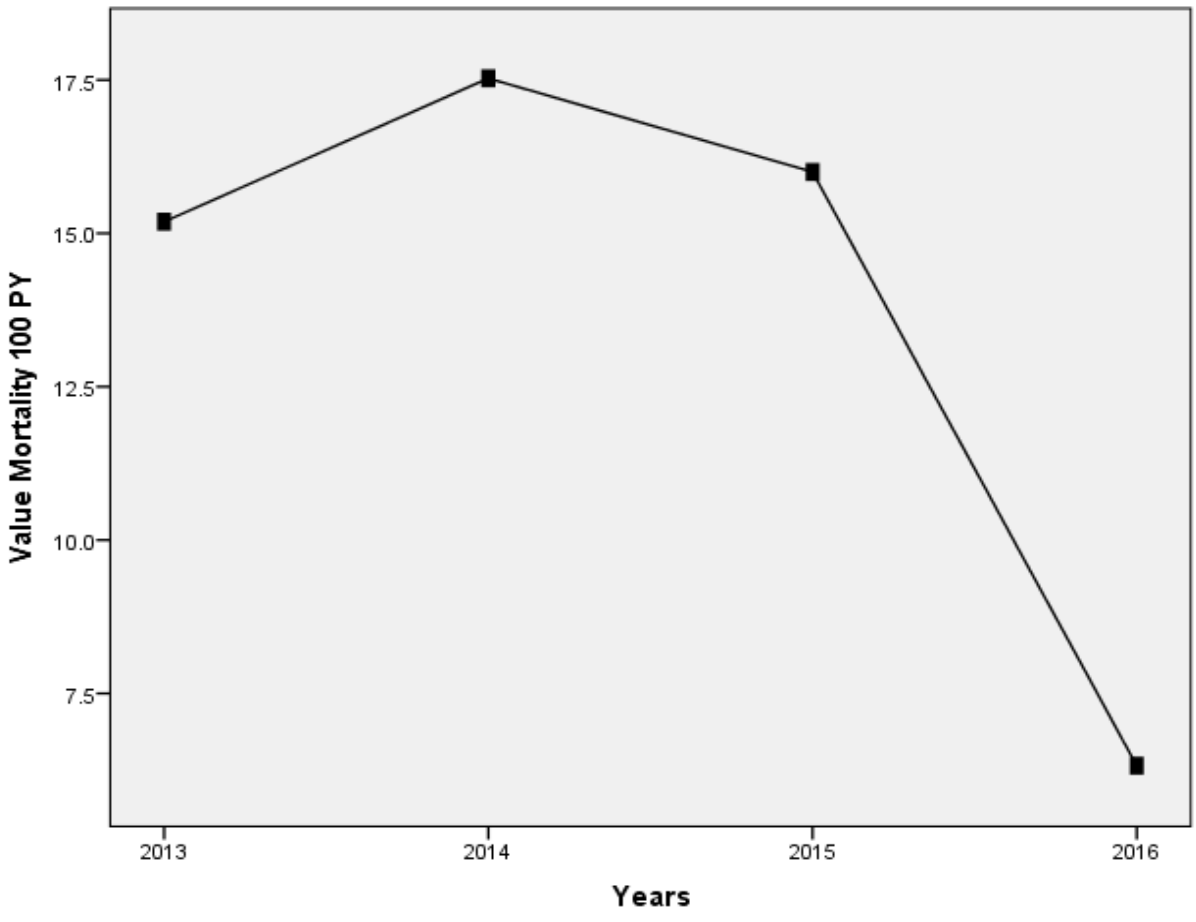

Figure 1. Mortality per Year

Mortality of HIV and AIDS Cases per Year

Based on Figure 2 showed that AIDS cases experienced an increase in mortality from 2014 to 2015. While HIV cases experienced a decline from 2016.

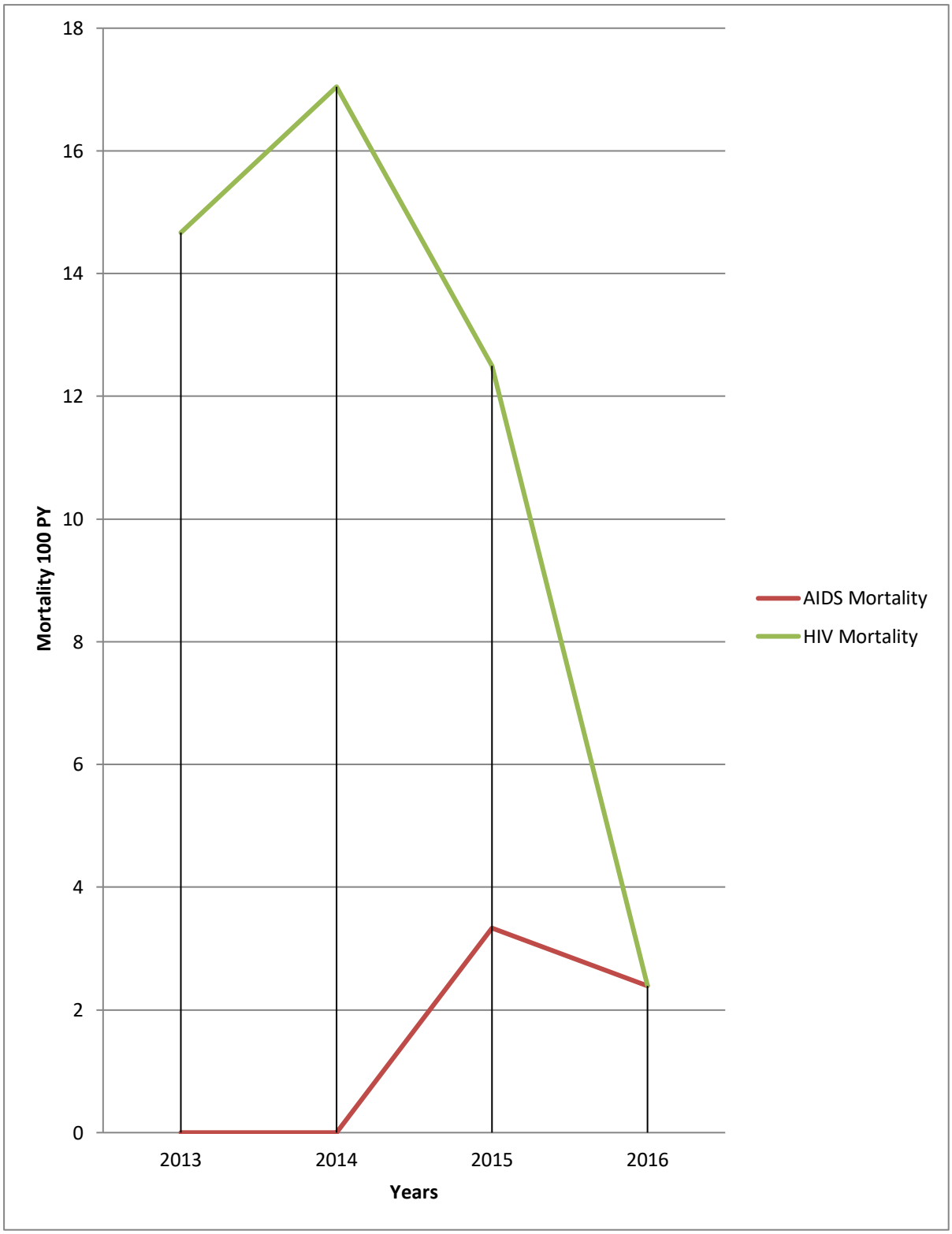

Figure 2. Mortality of HIV and AIDS Cases per Year

Risk Factors of HIV and AIDS Mortality

Based on the results of the analysis showed that medication adherence was p <α (0.05) so that H0 was rejected which meant that medication adherence had an effect on the mortality of HIV and AIDS. Drug adherence hazard rate is 0.961 which means that every increase of 1% adherence to taking medication for HIV and AIDS patients will experience a decrease in mortality by 0.961 times.

Table 1. Risk Factors Mortality of HIV and AIDS

No	Variabel	HR	Nilai P	Keterangan
1.	CD4	1.000	0.929	No significant
2.	Stage			
	Stage I		Referens	
	Stage II	1023.167	0.950	No significant
	Stage III	755.297	0.952	No significant
	Stage IV	3462692	0.941	No significant
3.	Functional Status			
	Working		Referens	
	Ambulatory	1.190	0.856	No significant
	Bedridden	0.634	0.657	No significant
4.	Opportunistic infections			
	Absent		Referens	No significant
	Present	0.799	0.822	
7.	Medication adherence	0.964	0.001	Significant

DISCUSSION

This study showed that from several variables that were tested for their effect on mortality there was only a variable adherence to medication that had an influence on mortality. Research carried out namely survival is a prognosis analysis, it could be HIV and AIDS patients whose initial severity is high because of adherence to drinking can reduce the severity. The level of adherence to medication that is less will be related to the progression of HIV disease so that patients do not survive[(4)].

This research showed that stadiums had no effect on the mortality of HIV and AIDS patients. Stadium was a measure of the severity of patients with HIV and AIDS. HIV patients with stage IV enter the final stage, increased the risk of mortality than those who present with stage I, but the stage has no effect on HIV and AIDS. The cause of the stage has no influence on HIV and AIDS was likely to be influenced by the number of censored and missing factors so that the information obtained was also lacking. This is in contrast to other study which showed that patients who started therapy in stage III and IV had a greater risk of death up to 4.5 times than those who started therapy at stage I and II[(3)].

Other factors such as CD4 cell count, functional status, opportunistic infections and adherence to therapy were not related to survival in patients with HIV and AIDS at Ibnu Sina Gresik Hospital. This was likely due to incomplete data collection so that more data is missing and sensors. For example, adherence to therapy was lacking, as was lost to follow-up, as it was found that lost to follow-up was included in the censored data in survival analysis. OIs did not affect survival when tested together with other factors. This was because opportunistic infections were not sensitive enough when tested together with other factors[3]. In contrast to the other research showed that factors that influence HIV survival in CD4 counts. In addition, OIs are not sensitive in influencing HIV survival. The biggest possibility that influences these factors does not affect the survival of HIV and AIDS due to data regarding CD4, functional status, opportunistic infections, and supervisors taking medication, namely the first data of HIV and AIDS patients first taking ARV therapy[(4)].

CONCLUSION

The factors that influence HIV AIDS mortality were adherence to taking medication. Increasing the motivation of patients who are less adherent to take medication to be compliant in taking ARV drugs so that patient mortality is reduced. Maintaining patients who take ART therapy to be obedient in taking therapy so that assessment of medication adherence can be maintained and patient survival is longer.

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