ABSTRACT

Mixture Survival Modelling (Case Study HIV/AIDS in VCT/CST Clinic of Kariadi Hospital Semarang)

A cohort study was conducted in Kariadi hospital and used simple random sampling method. The objective were to determine which factors are associated with survival time of HIV/AIDS. Factors that influence with survival time of HIV/AIDS patient's included age, gender, education level, working status, marital status, antiretroviral therapy, CD4 counts, opportunistic infections, functional status, stadium and adherence. This research employed *Mixture Survival* analysis with cox regression of proportional hazard. This model consist of two distribution of survival .They are higher risk sub population and lower risk sub population of HIV infection. The result of cox proportional hazard regression mixture analysis by its population at risk classification shows that the resulting model for each component risk is different based on percentage of survival time. Analysis of multivariate Cox proportional hazards models were constructed for each to evaluate trends in the RR of HIV related death. Multivariate cox regression in higher status risk group resulted that education level (HR = 1, 826 , $CI :$ 1,048 - 3,182), CD4 counts (HR = 0,995 , $CI :$ 0,991 - 0,999), functional status (HR = 3,063 , $CI :$ 1,670 - 5,617) and adherence (HR =0,235 , $CI : 0,$127 - 0,436) have significant with survival time. The other nonrisk group represented age (HR = 0,903 , $CI :$ 0,825 - 0,988), marital status (HR = 0,031 , $CI : 0,$002 - 0,575), CD4 counts (HR =0,992 , $CI : 0,$986 - 0,999), opportunistic infections (HR = 7,734 , $CI :$ 1,477 - 40,503) and adherence (HR =0,247 , $CI : 0,$098 - 0,625) have significant with survival time. Estimation mixture Weibull parameter shows model contribution that 96, 37 % survival time from higher risk sub population. Further research is needed to determine the other survival modeling why such disparities of subpopulation hazard proportion.

Keywords : HIV/AIDS, Mixture Survival, Cox Proportional Hazard