ABSTRACT

Background: In exploring the relationship between migration and HIV/AIDS, a focus of earlier studies was on the role of the mobile population in the geographical spread of the disease. There has been a shift in this perception and the focus now is on the implications of being a migrant. A body of literature has developed on the risk of migrants contracting HIV, but only a few studies have examined the AIDS/TB mortality risk as a consequence of migration, with the results showing that migrants have higher chance of dying of AIDS/TB compared to their non-migrant counterparts. However, these studies mainly looked at the impact of migration on mortality due to AIDS/TB and did not make provision for the presence of other causes of death. Therefore, this study is geared towards investigating migration as it relates to death caused by AIDS/TB, longitudinally, and in the presence of other causes such as non-communicable diseases, other infectious diseases, and external causes of death, in rural South Africa. Specifically, the study addressed the following questions: (i) What is the risk of dying from AIDS/TB among migrants in rural South Africa in the presence of other causes of death? (ii) How does this relationship compare with the relationship between migration and other causes of death? (3) What are possible predictors of the relationship between migration and AIDS/TB in the presence of other causes of death?

Method: This research project is part of a longitudinal study of the inhabitants of the Agincourt sub-district, situated in the rural north-eastern part of South

Africa. The study utilises the Agincourt Health and Demographic Surveillance System data spanning 12 years, starting from 1st January, 2000 to 31st December, 2011. The main target group for the study is individuals aged 20 to 69 years at the date of analysis. The selected individuals are divided into the following categories: (i) the return migrants who returned after spending a period of time outside the study area; (ii) the in-migrants who moved into the study location for the first time, and (iii) the permanent residents (non-migrants). A six month residence threshold period is used to distinguish participants from ordinary visitors. The migration status categorical variable was further expanded from three to five categories with in-migrant and return migrant categories being split to accommodate short and long-term durations of exposure. In the year 2000, the baseline year, a total of 25,621 individuals who met the entry criteria were recruited into the study.

For data analysis, a Fine and Gray model is used, which is a variant of a Cox proportional hazard model, to estimate the competing risk of dying among the selected participants by sex. The causes of death (CoD) variable was categorised into the following broad categories: “AIDS/TB”, “Non-Communicable Disease”, “External cause” and “Other infectious disease”, with indeterminate causes coded as missing. The five categories of migration serve as the independent variable, with permanent residence acting as the reference group, while the broad Cause of Death categories are the main dependent

variables. Other dependent variables are: period, nationality, education and socio-economic status.

Results: This first set of results aims to address the question on the risk of AIDS/TB mortality among migrants in rural South Africa in the presence of other causes of death. The findings are that male and female short-term return migrants have significantly higher relative risk of dying of AIDS/TB death when compared to their non-migrants counterparts with sub-hazard ratio (SHR) of 4.87 (95% CI 4.17-5.72; P<0.001) and 5.44 (95% CI 4.64-6.38; P<0.001)) reported for both gender group respectively. For male and female long-term return migrants, their SHR was 1.80 (95% CI 1.43-2.26; P<0.001) and 2.06 (95% CI 1.57-2.70; P<0.001) respectively. The results did not reveal significant results for the in-migrants.

The second set of results aims to address the second research question, which is, how does the relationship between migration and mortality caused by AIDS/TB in rural South Africa in the context of other causes of death compare with the relationship between migration and causes different from AIDS/TB. The results show that Short-term return migrants have higher mortality than non-migrants, whatever the four causes of mortality. For instance, the competing risk of death due to AIDS/TB for short-term return migrants compared to non-migrants showed a lower SHR for external cause of death,

namely 8.78 (95% CI 5.86-13.16; P<0.05) vis-à-vis non-migrants. This implies that the difference in the relative risk of mortality between migrants and non-migrants is even higher for external causes than for AIDS/TB. The same is applicable to the risk of death from other infectious diseases for females, which has a SHR of 4.97 (95% CI 2.50-9.89; P<0.05) in the competing risk model. The relative risk of death due to AIDS/TB for male is 4.87 (95% CI 4.14-5.72 P<0.001) while that of female is 5.44 (95% CI 4.64-6.38; P<0.001); respectively.

With regards to the question on the possible predictors of the relationship between migration and AIDS/TB in the presence of other causes of death, it is shown that period is one of the predictors of the relationship between migration and AIDS/TB mortality. And, it is relevant to the study participants who died as a result of AIDS/TB, NCDs and other infectious diseases. In general, the risk dwindles in the latter period when the antiretroviral drugs become available for AIDS/TB. Nationality is also a determinant of the relationship and it is applicable to those who lost their lives due AIDS/TB (female only), NCDs and other infections (female). In all, the Mozambican nationals are less likely to die in comparison with the South Africans. Educational status is a predictor and it relevance cuts across virtually all the causes of death. The dominant pattern that is revealed in this context is that the higher the level of education, the lower the risk of death due to any of the causes. The predictive impact of SES can only

be felt among the respondents whose death was due to AIDS/TB and NCDs (female only).

Conclusion: With circular labour migration in South Africa showing no evidence of declining and with the attendant mortality risks due to AIDS/TB and other causes, and needs to be carefully considered - in policies aiming to control mortality in South Africa. Disease-induced migration creates burdens not only for the left-behind families in terms of their means of livelihood through loss of remittances, but also for the burden on health care facilities in the rural area. With short-term labour migrants being a high risk group, the success of intervention programmes addressing the problem of HIV infection and the resultant mortality implication, such as 'treatment as prevention' programmes, can only be guaranteed by recognising the risks incumbent on this group of people and the influence of the larger communities.

Keywords: Return migrants, AIDS, TB, HIV, South Africa; competing risk; HIV, AIDS, TB, rural and South Africa

PLAGIARISM DECLARATION

I, Sulaimon Atolagbe Afolabi, declare that this thesis is my own original work. It is being submitted for the degree of Doctor of Philosophy in Demography and Population Studies of the University of the Witwatersrand, Johannesburg. To the best of my knowledge, it has not been submitted before in part or in full for any degree or examination at this or any other University.