Fertility Intentions among HIV-positive and HIV-negative Mothers: Evidence from DHS 2013-14.

Authors

Million Phiri[1], David Mulemena[1] and Namuunda Mutombo (PhD) [2]

Lecturer of Demography, Department of Population Studies, School of Humanities and Social Sciences, University of Zambia, Lusaka-Zambia[1]

Tutor of Demography, Department of Population Studies, School of Humanities and Social Sciences, University of Zambia, Lusaka-Zambia[1]

Lecturer of Demography, Department of Population Studies, School of Humanities and Social Sciences, University of Zambia, Lusaka-Zambia[2]

Abstract

Study was done to examine fertility intentions among HIV positive and negative mothers in Zambia. HIV infection can be considered a strong predictor of fertility as it can influence one's fertility desire and intention for fewer children. With advent treatment, HIV-infected mothers are now living longer and healthier just like the HIV-negative mothers. Zambia is among the developing countries in the region with high fertility intention for children despite government efforts trying to reduce fertility rate. Study findings reveal that a considerable proportion of HIV-infected mothers still have high fertility intentions for children in future when compared to their HIV-negative counterparts. This finding has implications for prevention of vertical and horizontal transmission of HIV. For Zambia to realize SDGs, there is need for comprehensive expansion of strategies that support family planning and elimination of mother-to-child transmission and integration of HIV treatment care to HIV-positive mothers to meet diverse reproductive intentions.

Key Words*: Fertility Intention; HIV status; Zambia*

1. Introduction

The human devastation being shaped by the Human Immune Virus and Acquired Immune-Deficiency Syndrome [HIV/AIDS] in sub-Saharan Africa [SSA] and other regions, and the ripple effect that this epidemic is having on communities around the world presents one of the greatest challenges to global public health. Nearly 40 years after the first case, HIV has continued to spread world over and it is now firmly established as an important public health issue and can still be considered a strong predictor of fertility. In 2015, the World Health Organisation [WHO] reported that it is one of the most significant causes of illness and death in human life history and the burden is heaviest in SSA affecting mostly adult women of reproductive age (WHO, 2015). For instance, approximately 58% of adults are living with HIV and 53% of all deaths in the region are women (UNAIDS, 2013). In Zambia, for example, women (14.6%) than men (9.3%) are living with HIV and most of these women are still in their reproductive age (CSO el at., 2016). Since a larger proportion of these women are in the reproductive age (15-49), they risk infecting their new born babies and sexual partners and thus face difficult choices about childbearing.

Despite great strides to reducing fertility rate, Zambia is among the developing countries in the SSA region with high fertility intention for children. Further, with advent treatment, HIV-infected mothers are now living longer and healthier just like the HIV-negative mothers (Harries al.2007, Maire et al. 2009 & Kaida et al. 2011). However, the implication of treatment for HIV especially HIV-infected individuals, future fertility is generating growing interest in research (Kaida et al. 2011). This change has enormous implications for reproductive decisions and behaviors of HIV-infected individuals. Conversely, issues of fertility intention and childbearing have received relatively little attention among women living with HIV in Zambia is still scanty.

Therefore, this study assessed the fertility intentions among HIV-positive and HIV-negative women using evidence from Zambia Demographic Health Survey, 2013-14. This may help to update existing knowledge and also inform the healthy policy makers and programmes to come up with strategies that support family planning and elimination of mother-to-child transmission and integration of HIV treatment care to HIV-positive mothers to meet diverse reproductive intentions given the evidence on the demand for children among HIV-Positive women. Further, the study may also serve as a guide in designing possible interventions for people living with HIV in Zambia as well as enriching demographic literature on fertility intentions and HIV/AIDS in Zambia and sub-Saharan Africa.

2. Study Objective

The main objective of the study is to assess the fertility Intentions among HIV-positive and HIV-negative mothers (15-49) in Zambia using evidence from the 2013-14 Demographic and Health Survey.

3. Data and Methods

The study used secondary data from the 2013-14 Zambia Demographic and Health Survey [DHS] that had linkable information on HIV testing and fertility preferences. The nationally representative survey included a total of 16,411 women (15-49 years) and 14,993 men (15-59 years). This study only includes the 9,688 women of the reproductive age (15-49 years) with linkable information on HIV status [either positive or negative] and fertility preferences while women who did not know their HIV status, they were not eligible for this study. In terms of fertility preference, only those who reported having a child, wanting to have more children or don't want to more children were included in the study. However, because some of the eligible women do not have consent forms to provide

blood sample for testing, the file for reproductive data does not exactly match with HIV files (CSO, 2014). For this study, the non-matching were excluded from the analytical file during data analysis.

The key predictor variable for this study is the women's HIV status [positive or negative]. Analysis was done at three levels: descriptive, bivariate and multivariate regression analysis. At bivariate level, cross-tabulations with Chi-square tests were used to analyze the association between dependent variables and the selected independent variables. Multivariate binary logistic regression analysis was conducted to assess the influence of HIV status on fertility intention. All the analysis were carried out using STATA 14.0 software with 5% level of significance and using a 'svy' command to account for the complex DHS survey design.

4. Results

4.1 Bivariate Analysis

Table 1 below contains results of women's HIV status and the association between selected independent variables and the outcome variable without controlling for the effects of the respondents' selected characteristics in bivariate analysis. Overall, results show that a considerable proportion (46%) of the HIV-positive women has intentions for having children in future. Among the variables, results show that place of residence was not associated with fertility intention.

Table 1: Cross tabulation of fertility intentions by characteristics according to women's HIV status ,ZDHS 2013-14

	Fertility Intentions (%)				
	HIV-negative		HIV-positive		
Covariate/Factor	Want more children	Don't want	Want more children	Don't want	P-value
Age					
15-24	90.5	9.5	85.7	14.3	
25-34	70.5	29.5	58.2	41.8	0.000**
35-49	80.4	19.6	23.2	76.8	
Education Level					
No education	47.9	52.1	41.0	59.0	
Primary	56.0	44.0	42.8	57.2	
Secondary	69.6	30.4	50.1	49.9	0.000**
Higher/Tertiary	60.5	39.5	54.2	45.8	
Wealth quintile					
Poor	61.1	38.9	41.9	58.1	
Middle	55.8	44.2	44.6	55.4	
Rich	59.8	40.2	48.3	51.7	0.010**
Marital Status					
Never Married	85.7	14.3	59.9	40.1	
Currently Married	60.9	39.1	53.2	46.8	0.000**
Formerly Married	31.5	68.5	25.9	74.1	
Parity					
1-3	84.1	15.9	64.7	35.3	
4-6	47.3	52.7	27.5	72.5	
7+	15.7	84.3	12.1	87.9	0.000**
Employment status					
Working	55.1	44.9	50.8	49.2	
Not Working	66.3	33.7	43.3	56.7	0.000**
Place of Residence					
Urban	59.3	40.7	48.2	51.8	
Rural	59.7	40.3	42.6	57.4	0.378
Region					
Region1[Low HIV prevalent]	61.0	39.0	44.3	55.7	
Region 2 [Medium HIV prevalent]	58.7	41.3	44.8	55.2	0.036**
Region 3 [High HIV prevalent]	59.5	40.5	47.3	53.7	
Ethnicity					
Bemba	56.6	43.4	46.7	53.3	
Tonga	63.1	36.9	45.7	54.3	

Barotse		62.7	37.3	44.3	55.7	
Nyanja		60.1	39.9	46.0	54.0	0.001**
North-westerners		61.9	38.1	46.0	54.0	
Type of conceptive method						
Short-Acting		51.0	49.0	35.5	64.5	
Long-Acting		70.0	30.0	53.1	46.4	0.007**
Overall Total	**59.5**		**40.5**	**46.0**	**54.0**	

*Significance Level Codes:"***", "**" and "*" denote the ***** p<0.01, ** p<0.05, *p<0.1** significance levels respectively.*

4.2 Multivariate Binary logistic regression analysis

Table 2 contains results obtained from multivariate binary logistic analysis on fertility intentions and selected covariates. Results show that older women (25-49) are less likely to want more children after the knowledge of their HIV status than young women (15-24).

HIV-negatives with secondary education were more likely (2.4) to want more children compared to their HIV-positive counterparts. Further, HIV-negative women either from the middle [OR=0.85; 95%; CI: (0.69-1.03)] or rich [OR=0.4; 95% CI: (0.615-0.99)] group were less likely to want more children when compared to the poor group. Results reveal that, regardless of the HIV status, with 4-6 parity were 75% less likely to want more children than those with 1-3 parity. As expected, HIV-positive and HIV-negative women with parity 7 were 92% less likely to want more children as compared to their counterparts with 1-3 children. Generally, study results show that HIV-positive women have lower odds of wanting more children when compared to their HIV-negative women.

Table 2: Results from Logistic regression models of HIV status and Fertility Intention, ZDHS 2013-14

		HIV STATUS					
		HIV-positive			HIV-negative		
Covariate	**Category**	**Exp(*β*)**	**Sig.**	**C.I for Exp(β)**	**Exp(*β*)**	**Sig.**	**C.I for Exp(β)**
Age	**15-24 (RC)**						
	25-34	0.361	0.001**	[0.19-0.65]	0.678	0.003**	[0.52-0.88]
	35-49	0.109	0.000**	[0.05-0.21]	0.155	0.000**	[0.11-0.22]
Residence	**Urban (RC)**						
	Rural	1.141	0.506	[0.77-1.68]	1.408	0.001**	[1.16-1.71]
Education	**No education (RC)**						
	Primary	1.273	0.238	[0.85-1.96]	1.283	0.001**	[1.11-1.48]
	Secondary	1.773	0.006**	[1.18-2.66]	2.418	0.000**	[2.06-2.84]
	Higher	1.912	0.021**	[1.10-3.32]	1.832	0.000**	[1.42-2.37]
Wealth quintile	**Poor (RC)**						
	Middle	0.981	0.935	[0.35-1.20]	0.845	0.092	[0.69-1.02]
	Rich	1.036	0.888	[0.41-1.37]	0.781	0.043**	[0.61-0.99]
Marital status	**Never married (RC)**						
	Married	1.809	0.034**	[1.04-3.13]	1.416	0.008**	[0.76-1.83]
	Separated/Divorced	0.627	0.096	[0.36-1.08]	0.362	0.000**	[0.26-0.49]
Parity	**1-3 (RC)**						
	4-6	0.254	0.000**	[0.18-0.35]	0.229	0.000**	[0.18-0.28]
	7+	0.081	0.000**	[0.04-0.16]	0.075	0.000**	[0.05-0.09]
Employment	**Working (RC)**						
	Not working	0.654	0.000**	[0.55-0.77]	0.407	0.000**	[0.37-0.45]
Region	**Region 1[Low HIV prevalent](RC)**						
	Region 2[Medium HIV prevalent]	0.765	0.226	[0.49 -1.18]	0.843	0.092	[0.69-1.02]
	Region 3 [High HIV prevalent]	0.784	0.242	[0.52-1.17]	0.782	0.047**	[0.60-0.92]
Ethnicity	**Bemba (RC)**						
	Tonga	0.877	0.572	[0.55-1.38]	1.199	0.121	[0.95-1.51]
	Barotse	1.266	0.346	[0.77-2.07]	1.009	0.950	[0.74-1.37]
	Nyanja	1.285	0.247	[0.83-1.96]	0.954	0.684	[0.76-1.19]
	North-Westerners	0.719	0.193	[0.43-1.18]	1.403	0.006**	[1.10-1.78]
Type of contraceptive method	**Short-Acting (RC)**						
	Long-Acting	0.423	0.000**	[0.27-0.64]	0.427	0.000**	[0.35-0.52]
Constant		**3.909**	**0.000****	**[2.61-5.41]**	**4.801**	**0.000****	**[1.31-5.46]**

*Significance Level Codes:"***", "**" and "*" denote the ***** p<0.01, ** p<0.05, *p<0.1** significance levels respectively; **RC**= Reference Category & **C.I**=Confidence Interval*

5. Conclusion

This study has assessed the fertility intentions of HIV-positive and HIV-negative women in Zambia. Although most HIV prevention programmes seem to focus on prevention of pregnancy among HIV-positive women, this study has demonstrated that the intention to have children among HIV-positive women cannot be disregarded and ignored. Based on the findings of this study, the major predictors of fertility intentions among HIV-positive women include; age, education level, marital status, parity and type of contraceptive method in Zambia. The study may have confirmed to some extent that availability of ART and other treatments can still raise hopes for individuals living with HIV and they can believe to have a normal birth. Despite some limitations, the study has also provided better understanding of fertility intentions of HIV infected women and updated the existing knowledge on the factors associated with fertility intentions among HIV-positive women and those that may change their contraceptive behavior. Therefore, for Zambia to realize SDGs, there is need for comprehensive expansion of strategies that support family planning and elimination of mother-to-child transmission and integration of HIV treatment care to HIV-positive mothers to meet diverse reproductive intentions given the evidence on the demand for children among HIV-Positive women.

References

Andia I, Kaida A, Maier M, et al. *Highly active antiretroviral therapy and increased use of contraceptives among HIV positive women during expanding access to antiretroviral therapy in Mbarara,Uganda*.2009;99 (2):340 7.http://dx.doi.org/10.2105/AJPH.2007.129528.

Central Statistical Office [Zambia], Ministry of Health [Zambia], Tropical Diseases Research Centre [Zambia] *et al.* 2013. *Zambia Demographic and Health Survey 2013-14*. Calverton, Maryland, USA: Zambian CSO and Macro International Inc

Harries, J., Cooper, D., Myer, L, Bracken, H., Zwegenthal, V., and Orner, P. (2007) "*Policy maker and health care provider perspectives on reproductive decision-making amongst HIV-infected individuals in South Africa*." BMC Public Health, 7: 282.

Kaida A, Laher F, Strathdee SA, Janssen PA, Money D, Hogg RS, Gray G: *Childbearing intentions of HIV-positive women of reproductive age in Soweto, South Africa: the influence of expanding access to HAART in an HIV hyper endemic setting*. Am J Public Health 2011, 101(2):350–358.

Maier M, Andia I, Emenyonu N, Guzman D, Kaida A, Pepper L, Hogg R, Bangsberg DR: *Antiretroviral therapy is associated with increased fertility desire, but not pregnancy or live birth, among HIV positive women in an early HIV treatment program in rural Uganda.* AIDS Behav 2009, 13(1):28–37.

UNAIDS: *Report on HIV Epidemic in Eastern and Southern Africa*. Geneva: Regional Report UNAIDS; 2013