Global Scientific JOURNALS

GSJ: Volume 10, Issue 3, March 2022, Online: ISSN 2320-9186
www.globalscientificjournal.com

THE RISK FACTORS OF EARLY FIRST SEXUAL INTERCOURSE IN YOUNG RWANDAN WOMEN

Authors: Jean Pierre Bucyanayandi[1], Frederic Ntirenganya[2]

1. MoH/Kibuye Referral Hospital
2. MoH/Rwanda Medical Supply Ltd

Corresponding author: bujepie@gmail.com, fredo@aims.ac.za

Abstract

Background: In Rwanda, sex before marriage is still a taboo in general public. Several factors may be associated to early sexual intercourse among young females which in turn lead to sexually transmitted infections, unwanted pregnancies and mental issues that seriously affect adult life. This study aims to determine the risk factors of early sexual intercourse in young Rwandan women aged 15 to 49 years old.

Methods: A secondary analysis was done on data from Rwanda DHS 2019-2020 using STATA 13 statistical software package. We defined early sexual intercourse as anyone having sex at 17 years old or below. Logistic regression models were applied to establish relationship between the age of first sexual intercourse and several other variables of the study with significance level of 0.05.

Results: Respondents were 10,590 women. Twenty-five percent had their first sexual intercourse at age of 17 and below, of whom 19.1% from rural area. The place of residence (p-value = 0.000), education level (p-value = 0.000), wealth index (p-value = 0.000), region (p-value = 0.03) and ever tested for AIDS (p-value = 0.000) are significantly associated with age at first sexual intercourse since their p-values are less than 0.05 significance level. It was also found that

the women who had not heard about AIDS and not heard of sexually transmitted infection (STI) were more likely to have early sexual intercourse with (p-value = 0.000 < 0.05).

Conclusion: The place of residence, education level, wealth index and knowledge about HIV are the factors found to be associated with early sexual intercourse. Measures and policies are needed to improve the living conditions and decrease the rates of early sexual intercourse and associated consequences.

Keywords: Risk factor, Sexual intercourse, Rwandan women

Introduction

The timing of the first sexual intercourse is one of the big debate subjects in different communities; the age at which one is considered mature enough varies widely around the world. A lot has been elaborated on effects of early initiation of sexual intercourse as high risk of sexually transmitted infections and unwanted pregnancies (K.Rejane at al 2017, Q.Ma at al, 2009) to serious mental outcomes at adult age (K.Symons at al, 2014) and other diseases (Kugler at al, 2018) .

Some authors elaborated on the risk factors for early sexual intercourse, showing not attending school, peer pressure and poor parenting as major risk factors (Abebe at al, 2019, Pettifer at al 2009, Opre, 2020), while others pointed to pornography exposure, smoking, poor parent-child communication (Blum 2005, Lee at al, 2018, Kuzman at al, 2007).

Different authors and organizations highlight the importance of waiting till the more mature age both for biological, social and psychological reasons, to promote better adult life especially for females (Kugler at al 2018).

The early sexual initiation is associated with different social and family aspects including relationship with parents, guidance by an adults (Royuela at al, 2015). Little is known about these risk factors in sub-Saharan Africa especially Eastern Africa, the aim of this study is to find out factors that may be pushing young girls into early sexual intercourse.

Methods

1. Data

The used data in this study were obtained from the 2019-20 Demographic Health Survey (DHS). DHS 2019-20 has information about age of first intercourse among Rwandan women, province, type of place of residence (rural and urban), highest education level, gender, age and wealth index, etc. Demographic and Health Surveys (DHS) are nationally-representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of

population, health, and nutrition. The total number of respondents is 10,950 women aged between 15 to 49 years old. Data analysis was done in STATA 13 statistical software package.

2. Statistical Model

The dependent variable under study is dichotomous which is coded as a binary variable. This response variable can be modeled by logistic regression models. The logistic regression model is used to model dichotomous or binary outcome variables. In the logistic regression model, the inverse standard normal distribution of the probability is modeled as a linear combination of the predictors.

Logistic regression model:

Logistic Regression is a type of predictive model that can be used when the target variable is a categorical variable with two categories. A logistic regression model does not involve decision trees and is more akin to nonlinear regression such as fitting a polynomial to a set of data values. Logistic regression can be used only with two types of target variables: A categorical target variable that has exactly two categories (i.e., a binary or dichotomous variable) and A continuous target variable that has values in the range 0.0 to 1.0 representing probability values or proportions.

The Logistic Model Formula

The logistic model formula computes the probability of the selected response as a function of the values of the predictor variables. If a predictor variable is a categorical variable with two values, then one of the values is assigned the value 1 and the other is assigned the value 0.

If a predictor variable is a categorical variable with more than two categories, then a separate dummy variable is generated to represent each of the categories except for one which is excluded. The value of the dummy variable is 1 if the variable has that category, and the value is 0 if the variable has any other category; hence, no more than one dummy variable will be 1. If the variable has the value of the excluded category, then all of the dummy variables generated for the variable are 0. In summary, the logistic formula has each continuous predictor variable, each dichotomous predictor variable with a value of 0 or 1, and a dummy variable for every category of predictor variables with more than two categories less one category. The form of the logistic model formula is: $P = 1/(1+\exp(-(B0 + B1*X1 + B2*X2 + ... + Bk*Xk)))$

Where B0 is a constant and Bi are coefficients of the predictor variables (or dummy variables in the case of multi-category predictor variables). The computed value, P, is a probability in the range 0 to 1. The logistic regression model is fitted for each of the independent variables.

Results

The summary statistics of independent variables is shown in table 1 below. The potential risk factors selected are illustrated in table 2.

Table 1. Summary statistics of independent variables

Covariate	Categories	Age at first sex	
		17 and below Number (%)	Over 17 Number (%)
Residence	Urban	645(6.1%)	1879(17.7%)
	Rural	2026(19.1%)	6040(57.0%)
Education level	No Education	420(4.0%)	869(8.2%)
	Primary	1722(16.3%)	4991(47.1%)
	Secondary	505(4.8%)	1558(14.7%)
	Higher	24(0.2%)	501(4.7%)
Wealth Index	Poorest	714(6.7%)	1574(14.9%)
	Poorer	511(4.8%)	1472(13.9%)
	Middle	491(4.6%)	1455(13.7%)
	Richer	461(4.4%)	1590(15.0%)
	Richest	493(4.7%)	1828(17.3%)
Region	Kigali	354(3.3%)	1042(9.8%)
	South	569(5.4%)	1970(18.6%)
	West	590(5.6%)	1772(16.7%)
	North	358(3.4%)	1308(12.4%)
	East	800(7.6%)	1827(17.3%)
Ever heard of AIDS	Yes	2664(25.2%)	7915(74.7%)
	No	7(0.1%)	4(0.04%)
Ever tested for AIDS	Yes	2342(22.1%)	7537(71.2%)

	No	329(3.1%)	382(3.6%)
Ever heard of STI	Yes	2666(25.2%)	7916(74.7%)
	No	5(0.05%)	3(0.03%)

Table 2. Results of Logistic Regression Model

Variables			
		Odds Ratio	**P-Value**
Residence	Urban	0(-)	
	Rural	1.507887	0.000
Education level	No Education	0(-)	
	Primary	1.351059	0.000
	Secondary	1.449393	0.000
	Higher	10.553490	0.000
Wealth Index	Poorest	0(-)	
	Poorer	1.236749	0.002
	Middle	1.287013	0.000
	Richer	1.607867	0.000
	Richest	1.575000	0.000
Region	Kigali	0(-)	
	South	1.319286	0.003
	West	1.169409	0.084
	North	1.264380	0.016
	East	0.812142	0.017
Ever head of AIDS	No	0(-)	
	Yes	2.358301	0.511
Ever tested for AIDS	No	0(-)	

	Yes	2.709060	0.000
Ever heard of STI	No	0(-)	
	Yes	0.854996	0.920

The summary statistics of independent variables is shown in table 1. The total number of respondents is 10,590 women in DHS 2019-20. 25% of the women in Rwanda had their first sexual intercourse at age of 17 and below. The teenagers who had sexual intercourse at young age (17 or below) residing in rural area is 2,026(19.1%), 18.6% from southern province had their first sex at above 17years. The results from the logistic regression model are illustrated in table 2. These findings of model with multiple independent variables show that place of residence, education level, wealth index, region and ever tested for AIDS are significantly associated with age at first sexual intercourse as the p-value from the model results is less than 0.05 significant levels. It was also found that the women who had sexual intercourse at age 17 or below had not heard about AIDS and not heard of sexually transmitted infection (STI) compared to Rwandan women who have had their first sexual intercourse above 17 years old. The women who had their first sexual intercourse at earlier age are most likely not being educated in comparison to those who had their first sexual intercourse at older age ($p= 0.000< 0.005$ significance level). The woman who lives in rural area is at risk of having early sexual intercourse at tender age compared to women staying in urban area (p-value $0.000 < 0.05$).

Discussion

The factors associated to first sexual intercourse at early age has been investigated such as place of residence, education level, wealth index, and region, ever heard of AIDS, ever tested for AIDS and ever heard of STI (Royuela at al, 2015 & Kugler at al 2014). From the logistic regression model, the findings show that place of residence, education level, wealth index, and region and ever tested for AIDS are factors associated to first tender age sexual intercourse. The majority of women in Rwanda with early sexual intercourse came from rural area; this might happen because urban areas are more developed compared to rural areas. Not being educated has been associated with having their first sexual intercourse at tender age in comparison to those who had been educated at advanced levels (Opre, 2020 & Kuzman at al, 2007). Lack of education predisposes young girls to be tempted to have sexual intercourse at an early age, exchanging to some material possessions (Royuela at al, 2015).

Limitation

Though this study has been based on nationwide data, it has limitations by the fact that these data were only from females; the risk factors for males were not analyzed. The study comparing factors associated to early first sexual intercourse on male and female should be conducted.

Conclusion and Recommendation

Risk factors identified in our study are almost all socioeconomic groups. Efforts to improve the social economic status of families, especially supporting young girls to have good education can bring significant changes in the lifestyle and sexuality of young women. Other researches covering male gender and both genders risk factors for sexual activities at a tender age need to be done.

References

[1] K. Rejane, O. Gomes, and D. C. De Oliveira, "Impact of first sexual intercourse on the sexual and reproductive life of young people in a capital city of the Brazilian Northeast," pp. 4083–4094,2017.

[2] Q. Ma *et al.*, "Early initiation of sexual activity : a risk factor for sexually transmitted diseases , HIV infection , and unwanted pregnancy among university students in China," vol. 8, pp. 1–8, 2009.

[3] K. Symons, H. Vermeersch, and M. Van Houtte, "The Emotional Experiences of Early First Intercourse : A Multi-Method Study," 2014.

[4] K. C. Kugler, S. A. Vasilenko, N. M. Butera, L. Donna, and C. Hill, "adult health : A causal inference approach," vol. 37, no. 5, pp. 1–14, 2018.

[5] E. Abebe, A. Addis, A. Asmamaw, A. Addisu, and B. Ayanaw, "Factors associated with early sexual initiation among preparatory and high school youths in Woldia town , northeast Ethiopia : a cross-sectional study," *BMC Public Health*, pp. 1–8, 2019.

[6] A. Pettifor, K. O'Brien, C. MacPhail, W. C. Miller, and H. Rees, "Early coital debut and associated HIV risk factors among young women and men in South Africa," *Int. Fam. Plan. Perspect.*, vol. 35, no. 2, pp. 82–90, 2009.

[7] Opre, "Factors Influencing Youth Sexual Activity: Conceptual Models for Sexual Risk Avoidance and Cessation," *Moratorio HM*, no. December, 2020.

[8] R. W. Blum, "Risk and protective factors affecting adolescent reproductive health in developing countries," *World Heal. Organ.*, pp. 155–7, 2005.

[9] R. L. T. Lee, A. Yuen Loke, T. T. M. Hung, and H. Sobel, "A systematic review on identifying risk factors associated with early sexual debut and coerced sex among adolescents and young people in communities," *J. Clin. Nurs.*, vol. 27, no. 3–4, pp. 478–501, 2018.

[10] M. Kuzman, I. P. Šimetin, and I. P. Franelić, "Early sexual intercourse and risk factors in Croatian adolescents," *Coll. Antropol.*, vol. 31, no. SUPPL. 2, pp. 121–130, 2007.

[11] P. Royuela Ruiz, L. Rodríguez Molinero, J. M. Marugán De Miguelsanz, V. Carbajosa Rodríguez, and P. R. Ruiz, "Risk factors for early sexual debut in adolescents," *Rev. Pediatría Atención Primaria*, vol. 17, pp. 127–163, 2015.