Predictors of Non-Marital Sexual Activity and Pregnancy Experience among Young Females in Urban Kenya

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ABSTRACT

With the rising age of marriage in Kenya, non-marital sexual activity and unintended pregnancy rates are higher than ever recorded. This paper assesses the factors associated with sexual activity and pregnancy among unmarried females, ages 15 – 24, living in urban Kenya (weighted N=2264). Half of the unmarried females (56%) are sexually-experienced and 41% of sexually-experienced females had a previous pregnancy. Older age, less education, and slum residence are positively associated with sexual experience and/or pregnancy experience. Among sexually-experienced women, those who had ever been pregnant were significantly more likely to report early sexual debut and non-use of contraception at first sex compared to those who had never been pregnant (26% versus 15% and 11% versus 38%, respectively). Understanding the risk and protective factors in youth sexuality will contribute to programs and interventions focused on reinforcing positive sexual behaviors and ensuring that all pregnancies are intended among youth in Kenya.

Introduction

Many African countries are experiencing a rising age of marriage among the youth, especially in urban areas (Meekers, 1994; Blum, 2007; Boonstra, 2007). This rising age of marriage has led to an increased period of time between onset of puberty and first marriage. This period, however, coincides with adolescence characterized by sexual experimentations and engagement in risk behaviors (Bankole, 2007; Boonstra, 2007; Kabiru & Orpinas, 2009). Evidence suggests that many unmarried youths are sexually experienced and this may be contributing to the high rates of premarital pregnancy in sub-Saharan Africa (Gage & Meekers, 1994; Khan & Mishra, 2008). The evidence is consistent with what is observed in Kenya where one in five adolescents had ever been pregnant (Khan & Mishra, 2008). Unfortunately, many of these unmarried young women face a high unmet need for family planning further predisposing them to unintended pregnancy and risk of unsafe abortion (Blum, 2007). According to Shane & Mishra (2008), 40% of sexually-active unmarried young Kenyan women had an unmet need for family planning in 2003.

Some of the socioeconomic consequences of premarital sexual activity and pregnancy, especially for young women, include: decreased probability of completing education, decreased participation in the workforce, decreased economic empowerment, lower social standing, and increased dependency on social welfare programs (Blum, 2007; Gage & Meekers, 1994). In addition, these young women are at a higher risk for sexually transmitted infections including HIV infection, unsafe abortion, and other poor maternal and child health outcomes (Blum, 2007; Gage & Meekers, 1994). Hence, this study aims to examine the factors associated with sexual activity and pregnancy experience among never married young women, ages 15 – 24, living in urban Kenya. The rationale is that if we understand the factors associated with these behaviors, we can better plan and implement policies and programs targeted at improving the sexual and reproductive health of young people in Kenya. Understanding the factors that put these young people at risk of poor reproductive health outcomes will enable the Ministry of Health and other relevant key stakeholders to provide the services/resources that these individuals will need to have a better quality of life.

Conceptual framework

Using the conceptual framework developed by Adamchak and colleagues (2000) on the factors that influence youth reproductive health, we hypothesize that a young person's sexual and reproductive behavior is directly influenced by their decision to engage in that behavior, which in turn is affected by a myriad of factors such as interpersonal-level (peers, family, partners) factors, household-level factors (size, wealth, structure), community-level factors (social norms, policies, mass media), and institutional-level characteristics (e.g. availability of youth programs). With this framework in mind, a literature search revealed recent studies from sub-Saharan Africa that suggest that age, education, residence (urban/rural, slum/non-slum), religion, wealth/income level, family/household characteristics, and health-related knowledge are some of the factors that influence youth sexuality. In this study, we hope to examine how these factors affect sexual experience and pregnancy experience among young females in urban Kenya. We assess how socio-demographic and household characteristics together with knowledge-related factors affect young women's sexual and reproductive behaviors. We hypothesize that these groups of factors will have significant effect on the sexuality of female youths in urban Kenya.

Methods

This study uses data collected by the Measurement, Learning & Evaluation (MLE) project in 2010. The MLE project is the evaluation component of the Urban Reproductive Health Initiative (URHI), a Bill & Melinda Gates Foundation funded project. The Kenya URHI, implemented by Jhpiego—an international health organization affiliated with The Johns Hopkins University in Baltimore, aims to increase contraceptive prevalence in five urban sites—Nairobi, Mombasa, Kisumu, Machakos, and Kakamega. In each site, a multi-stage sampling design was used to select a representative sample of reproductive-aged women (15 – 49 years) at the household level. A total of 8,932 women were surveyed. In this study, the sample was restricted to young women, ages 15 – 24 years, who had never been married, were not pregnant at the time of survey, and did not have missing data on any of the key variables (weighted N=2264).

As aforementioned, the goal of this study was to determine the factors associated with sexual experience and pregnancy experience among never-married young females in urban Kenya. Hence, there are two outcomes, both of which are binary measures: a) history of sexual experience; and b) history of pregnancy experience regardless of the outcome of the pregnancy. To assess the factors associated with sexual experience, we included covariates identified from previous studies and the Adamchak et al. framework. These variables were grouped into socio-demographic characteristics, household characteristics, and knowledge-related factors. The sociodemographic factors include: age (15 – 19 years, 20 – 24 years); education (primary or less, secondary, higher education); religion (Christian, Moslem, Traditional/Others); religiosity (strongly religious, somewhat/not religious); and employment status (employed, unemployed). The household characteristics include: location (slum, non-slum); size (1-3, 4-6, 7+ persons); wealth index (poorest, poor, middle, rich, richest); owns a TV and/or radio (yes, no); gender of head of household (male, female); marital status of head of household (married, unmarried), and duration of residence in the household (1 year or less, 2-5 years, 6+ year, always same). The knowledge-related factors include sources of health information such as from mass media, health personnel, community events (outreach, school, religious events), and interpersonal sources (e.g. friends, siblings, parents, relatives). Also included in the knowledge-related factors are knowledge of contraceptive methods (spontaneous, probed/no knowledge); belief of family planning myths (low, high score); and perception of family planning service provision (poor, good). Women were asked to rate their agreement with eight statements (myths) about family planning. These statements reflects the common myths about the negative effects of family planning on women such as that they cause infertility, cancer, other health problems, harmful to babies, decrease libido, and lead to promiscuity. Women were classified to have a high family planning myth score if they agreed to at least five of the statements.

Similarly, the determinants of pregnancy among never-married sexually-experienced young women (weighted N=1259) were assessed by examining the association of relevant covariates identified in the literature. These factors were grouped in socio-demographic characteristics, household characteristics, and knowledge-related factors together with reproductive behavioral factors. The reproductive behavioral factors include: early sexual debut (at ≤15 years, 16+ years); and contraceptive use at sexual debut (yes, no). Descriptive statistics and multivariate logistic regression models were performed using Stata statistical software version 12, adjusting for clustering of women within sampling units, and using the survey weights. Several regression models were run based on the levels of factors and a final model

including all the factors was also run. Result of all the models are shown but only that of the final model is described in the results section. Ethical approval for the study protocol and informed consent process was obtained from the University of North Carolina at Chapel Hill Institutional Review Board and from the Ministry of Health National Ethics Committee in Kenya.

Results/Discussion

The characteristics of the young women included in this study are shown in Table 1. The mean age of the sample is 20 years (SD: 2.6). Approximately two-thirds of the sample are aged 20 – 24 years and had at least secondary education. Majority are Christians (84%) and are strongly religious (56%). About 17% of the respondents live in households located in slum areas. Approximately 45% of the respondents live in households where the head of household is female and 40% live in households where the head is unmarried. Majority (62%) of the respondents live in households with more than three other people and more than half of them (55%) had lived in the household for a year or less. The respondents reported multiple sources of health information with 82% reporting that they get their health information from the media (radio, TV, newspaper, social media etc.). This is consistent with previous findings from studies in Burkina Faso and Ghana where they found that mass media was the most common source of sexual and reproductive health information (Bankole et al., 2007). The other sources of health information are: health personnel (41%); community events (26%); and interpersonal sources (49%). Less than one percent of the respondents reported no source of health information. Knowledge of modern contraceptive methods is high among the respondents as many (85%) spontaneously mentioned the different types of family planning methods. This is consistent with what was previously found for young women in sub-Saharan Africa (Shane & Mishra, 2008). However, more than half (54%) of the respondents had a high score on their agreement to the statements on family planning myths.

More than half (56%) of the respondents are sexually-experienced and 19% of them had an early sexual debut (at ≤15 years of age). Only about a quarter (27%) of the sexually-experienced females used a contraceptive method during their first sexual intercourse. Figure 1 shows the comparison between sexually-experienced respondents with and without a history of pregnancy (weighted N=1259). It can be seen that those with a history of pregnancy were more likely to have had an early sexual debut (26% vs. 15%) and less likely to have used a contraceptive method at first sex (11% vs. 38%) compared to those who had never been pregnant. The multivariate regression models estimating the factors associated with sexual experience showed that sociodemographic factors such as age and education were significant predictors. Older females were more than twice as likely to report sexual experience compared to younger females (OR: 2.6; 95% CI: 1.8 – 4.0). Respondents with secondary education were approximately 40% less likely to report sexual experience compared to those with primary or less education as shown in Table 2. Living in a slum area is positively associated with sexual experience (OR: 1.6; 95% CI: 1.1 – 2.3). Women who got their health information from health personnel were 50% more likely to report sexual experience compared to those who did not ($p<0.05$). This could be due to the fact that they seek health services once they become sexually active. On the other hand, those who got their health information from community events were 50% less likely to report sexual experience compared to those who did not ($p<0.05$).

Some of the predictors of non-marital pregnancy are: age, education, source of health information, and contraceptive use at first sexual activity as shown in Table 3. Women aged 20 – 24 are approximately four times as likely to report a previous pregnancy compared to those aged 15 – 19 (OR: 3.7; 95% CI: 2.1 – 6.4). Additionally, those with secondary or higher education are less likely to report previous pregnancy compared to those with primary or less education ($p<0.05$). Getting health information from the health personnel is associated with reporting a previous pregnancy (OR: 2.6; 95% CI: 1.6 – 4.2) while getting information from community events seems to be a protective factor (OR: 0.5: 95% CI: 0.3 – 0.8). This could be because those who go to facilities have the need for reproductive services (probably already pregnant) compared to those who do not. It may be that those who have not had contacts with the health facility, and as such have not received information from health personnel, are more likely to get their health information from community events such as outreach programs. As expected, young females who practiced contraception at sexual debut were less likely to report a pregnancy (OR: 0.3; 95% CI: 0.2 – 0.6). It is possible that these women have cultivated the habit of using contraceptive methods more consistently and hence, are being protected from unwanted pregnancy.

A limitation of this study is the fact that the data was collected via a cross-sectional survey therefore causality cannot be inferred. Future studies should assess these associations using a longitudinal data to eliminate any form of endogeneity, which will help in estimating causality. Also, there is a potential for recall bias in this study especially in trying to recall behaviors that happened in the past such as whether contraception was practiced at first sexual encounter or not. But since the mean age of sexually experienced respondents is 20 years and the mean age at first sex is17 years (data not shown), the mean recall period is about three years. The recall bias is therefore minimal if present. The finding that receiving health information from community events is associated with lower odds of non-marital sexual experience and pregnancy is encouraging and should motivate outreach program planners/officials that their efforts are contributing to positive changes among young women. The finding that use of contraceptive method at first sex is protective of having a non-marital pregnancy should encourage program planners and policy makers to continue to educate the young people on the need to practice contraception.

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Tables and Figure

Table 1: Descriptive characteristics of never married females aged 15 – 24 years in urban Kenya

Characteristics	Weighted Column Percentage
Sociodemographic factors	
Age in years (Mean=20.1; SD=2.6)	
15 – 19	38.2
20 – 24	61.8
Education	
Primary or less	37.5
Secondary	43.6
Higher	18.9
Religion	
Catholic	20.3
Other Christians	64.0
Muslim/Others	15.7
Religiosity	
Somewhat/Not religious	44.4
Strongly religious	55.6
Employment Status	
Employed	44.6
Not employed/Student	55.4
Household factors	
City	
Nairobi	71.3
Mombassa	20.7
Kisumu	5.0
Machakos	1.6
Kakamega	1.4
Location	
Non-slum / Formal settlement	82.9
Slum / Informal settlement	17.1
Number of people living in household	
1 – 3 persons	38.3
4 – 6 persons	40.6
7 or more persons	21.1
Wealth index	
Poorest	15.0
Poor	20.4
Middle	15.1
Rich	19.4
Richest	30.1

Owns TV and/or Radio	
Yes	87.3
No	12.7
Gender of head of household	
Male	54.8
Female	45.2
Marital status of head of household	
Married or living with partner	59.6
Not married or living with partner	40.4
Duration of residence at household	
1 year or less	55.1
2 – 5 years	23.9
6+ years	12.3
Always same	8.7
Knowledge-related factors	
Sources of health information	
Media sources	81.7
Health personnel sources	40.6
Community sources	25.7
Interpersonal sources	48.8
No health information source	0.8
Knowledge of contraceptive methods	
Spontaneous	84.8
Probed	10.7
No knowledge	4.5
Belief of FP myths	
Low Belief (score less than 5)	45.9
High Belief (score of 5 or more)	54.1
Perception of FP service provision	
Poor (score of 1 – 3)	35.0
Good (score of zero)	65.0
Reproductive behaviors	
History of sexual activity	
Yes	55.6
No	44.4
Age at sexual debut Ɨ (Mean: 17.6; SD: 2.6)	
Early (≤15 years)	19.2
Late	80.8
Contraceptive use at sexual debut Ɨ	
Yes	26.6
No	73.4
Total (Weighted N)	**2264 (100%)**

SD: Standard deviation
Ɨ Among sexually experienced, weighted N=1259

Figure 1: Percentage of sexually-experienced females, ages 15 - 24, in urban Kenya

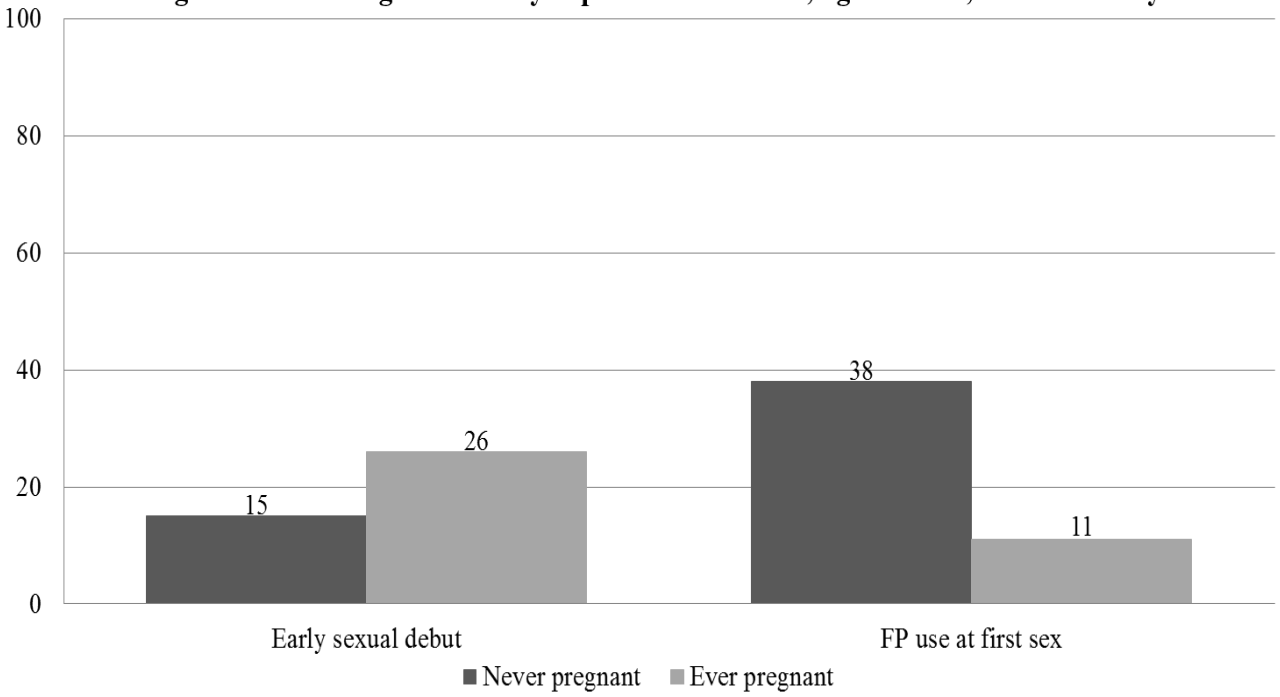

Table 2: Predictors of sexual experience among never-married females aged 15 – 24 years in urban Kenya, (Wt. N=2264)

	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
Sociodemographic factors				
20 – 24 year olds (ref=15 – 19)	3.2 (2.2 – 4.7)*	---	---	2.6 (1.8 – 4.0)*
Primary education (ref)				
Secondary	0.6 (0.3 – 1.2)	---	---	0.6 (0.4 – 0.9)*
Higher	0.8 (0.4 – 1.5)	---	---	0.8 (0.4 – 1.5)
Strongly religious (ref=somewhat/not religious)	0.5 (0.4 – 0.8)*	---	---	0.6 (0.4 – 0.8)*
Employed (ref=Not employed/Student)	1.4 (0.8 – 2.4)	---	---	1.3 (0.8 – 2.0)
Household factors				
Slum / Informal settlement (ref=non-slum)	---	1.5 (1.1 – 2.2)*	---	1.6 (1.1 – 2.3)*
Owns TV and/or Radio (ref=no)	---	0.5 (0.2 – 1.1)	---	0.5 (0.3 – 1.0)
Female head of household (ref=male)	---	0.7 (0.4 – 1.2)	---	0.6 (0.3 – 1.1)
Head of household is not married (ref=married)	---	1.2 (0.6 – 2.2)	---	1.0 (0.6 – 2.0)
Number of people living in household (ref=1-3 persons)				
4 – 6 persons	---	0.6 (0.4 – 0.9)*	---	0.7 (0.4 – 1.1)
7 or more persons	---	0.4 (0.3 – 0.8)*	---	0.6 (0.3 – 0.9)*
Wealth index (ref=poorest)				
Poor	---	0.6 (0.4 – 1.1)	---	0.6 (0.4 – 1.2)
Middle	---	0.8 (0.4 – 1.6)	---	1.0 (0.5 – 2.1)
Rich	---	0.6 (0.3 – 1.3)	---	0.7 (0.3 – 1.6)
Richest	---	0.7 (0.4 – 1.3)	---	0.7 (0.3 – 1.5)
Duration of residence at household (ref=1 year or less)				
2 – 5 years	---	0.9 (0.5 – 1.5)	---	1.0 (0.6 – 1.6)
6+ years	---	0.5 (0.3 – 0.8)*	---	0.6 (0.3 – 0.9)*
Always same	---	0.4 (0.2 – 0.7)*	---	0.7 (0.4 – 1.3)
Knowledge-related factors				
Health information from media sources (ref=not)	---	---	0.8 (0.5 – 1.4)	0.7 (0.4 – 1.1)
Health information from health personnel sources (ref=not)	---	---	1.7 (1.2 – 2.5)*	1.5 (1.1 – 2.1)*
Health information from community sources (ref=not)	---	---	0.4 (0.2 – 0.6)*	0.5 (0.3 – 0.8)*
Health information from interpersonal sources (ref=not)	---	---	1.4 (1.1 – 1.9)*	1.4 (1.0 – 1.9)
Probed/no knowledge of contraceptive methods (ref=spontaneous)	---	---	0.2 (0.1 – 0.4)*	0.3 (0.1 – 0.5)*
High belief of FP myths (ref=low belief)	---	---	1.2 (0.8 – 1.7)	1.2 (0.8 – 1.7)
Good perception of FP service provision (ref=poor score)	---	---	1.5 (0.9 – 2.7)	1.5 (0.9 – 2.5)

* Statistically significant at $p<0.05$

Table 3: Predictors of pregnancy among never married, sexually-active females aged 15 – 24 years in urban Kenya, (Wt. N=1259)

	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)	Model 5 OR (95% CI)
Sociodemographic factors					
20 – 24 year olds (ref=15 – 19)	4.3 (2.5 – 7.3)*	---	---	---	3.7 (2.1 – 6.4)*
Primary education (ref)					
Secondary	0.3 (0.1 – 0.4)*	---	---	---	0.3 (0.2 – 0.6)*
Higher	0.1 (0.02 – 0.2)*	---	---	---	0.1 (0.04 – 0.4)*
Strongly religious (ref=somewhat/not religious)	1.1 (0.7 – 1.9)	---	---	---	1.0 (0.6 – 1.8)
Employed (ref=Not employed/Student)	0.7 (0.4 – 1.1)	---	---	---	0.9 (0.6 – 1.6)
Household factors					
Slum / Informal settlement (ref=non-slum)	---	0.8 (0.5 – 1.2)	---	---	0.9 (0.6 – 1.3)
Owns TV and/or Radio (ref=no)	---	1.1 (0.6 – 2.2)	---	---	1.6 (0.7 – 3.7)
Female head of household (ref=male)	---	1.0 (0.4 – 2.4)	---	---	1.0 (0.4 – 2.6)
Head of household is not married (ref=married)	---	0.5 (0.3 – 1.1)	---	---	0.6 (0.2 – 1.3)
Number of people living in household (ref=1-3 persons)					
4 – 6 persons	---	1.1 (0.5 – 2.2)	---	---	1.0 (0.5 – 2.0)
7 or more persons	---	1.4 (0.7 – 2.7)	---	---	1.5 (0.8 – 3.0)
Wealth index (ref=poorest)					
Poor	---	2.0 (1.1 – 3.8)*	---	---	1.9 (1.0 – 3.8)
Middle	---	1.3 (0.7 – 2.5)	---	---	1.8 (0.9 – 3.6)
Rich	---	0.4 (0.2 – 0.8)*	---	---	0.5 (0.2 – 1.1)
Richest	---	0.3 (0.1 – 0.6)*	---	---	0.5 (0.2 – 1.1)
Duration of residence at household (ref=1 year or less)					
2 – 5 years	---	0.6 (0.4 – 1.2)	---	---	0.7 (0.3 – 1.2)
6+ years	---	0.8 (0.4 – 1.5)	---	---	1.1 (0.6 – 2.3)
Always same	---	0.8 (0.4 – 1.7)	---	---	1.6 (0.7 – 3.8)
Knowledge-related factors					
Health information from media sources (ref=not)	---	---	0.8 (0.5 – 1.4)	---	1.3 (0.6 – 2.5)
Health information from health personnel sources (ref=not)	---	---	2.6 (1.7 – 4.1)*	---	2.6 (1.6 – 4.2)*
Health information from community sources (ref=not)	---	---	0.5 (0.3 – 0.9)*	---	0.5 (0.3 – 0.8)*
Health information from interpersonal sources (ref=not)	---	---	1.6 (0.9 – 2.7)	---	1.4 (0.9 – 2.4)
Probed/no knowledge of contraceptive methods (ref=spontaneous)	---	---	1.2 (0.5 – 2.8)	---	1.0 (0.4 – 2.5)
High belief of FP myths (ref=low belief)	---	---	0.9 (0.6 – 1.4)	---	1.3 (0.9 – 2.0)
Good perception of FP service provision (ref=poor score)	---	---	1.4 (0.9 – 2.3)	---	1.6 (0.9 – 2.6)
Reproductive behaviors					
Early sexual debut (ref=no)	---	---	---	1.8 (1.1 – 2.8)*	1.7 (0.9 – 3.1)
Contraceptive use at sexual debut (ref=no)	---	---	---	0.2 (0.1 – 0.4)*	0.3 (0.2 – 0.6)*

* Statistically significant at $p<0.05$