

TRENDS, DRIVERS AND HEALTH RISKS OF ADOLESCENT FATHERHOOD IN SUB-SAHARAN AFRICA

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Abstract

The study examined the trends, determinants and health risks of adolescent fatherhood in countries where adolescent-girl pregnancy/motherhood are decried but with permissive male sexual latitude. Male-recode datasets of Demographic Health Survey (2000-2014) for Nigeria, Ethiopia and Zambia were used. The surveys were grouped into 3-Waves: Wave 1 (2000 and 2004); Wave 2 (2005 to 2009) and waves 3 (2010 to 2014). Ethiopia data consisted of 2000, 2005 and 2011 datasets; Nigeria's datasets included 2003, 2008 and 2013 while Zambia set of data featured 2002, 2007 and 2014. Wave-1 consists of 2000, 2002 and 2003 datasets; Wave-2 has 2005, 2007 and 2008 datasets while 2011, 2013 and 2014 data were used for Wave-3. These files in each wave were grouped together and then combined into a single file. All data were weighted to ensure representation and analyses were split by countries and by waves to show the trends across the years and for different countries. The study employed univariate, bivariate analysis and binary logistics that tested the log-odds of adolescent fatherhood with respect to selected sexual behaviour indices, individual and shared demographic variables. The results, among others, indicated that more than one out of every five adolescents has had two or more sexual partners. The likelihood of adolescent fatherhood is inversely related to condom use, but positively associated with increasing age at first cohabitation and higher number of multiple sexual partnerships (≥ 2) at odd-ratio of 1.673 and 1.769 in 2005/2009 and 2010/2014, respectively. Adolescents that have attained primary and tertiary education, and who are professionals and

skilled labourers were 0.379, 0.313, 0.213 and 0.403 times (respectively) less likely to father a child as adolescent. The positive association between rural place of residence and adolescent fatherhood in the past shifted to urban residents in 2010/2014. The study concludes that enlightenment on the use of condom and testing for STIs/HIV and AIDS should be intensified. Increasing access to higher formal education including job opportunities is crucial to interventions towards boys' vulnerability to fatherhood. The authors recommend support from policy-takers, governments and other stakeholders towards male adolescent access to higher education, skills acquisition, and campaigns against boys and girls cohabitations in the study locations and by extension sub-Saharan Africa in general.

Keywords: Adolescent fatherhood, sexual behaviour, trends, determinants, health risks

1. INTRODUCTION

The increasing waves of risky sexual behaviour among adolescents has been documented worldwide, especially with high level of pre-marital sex, non-use or rare-use of condom including multiple sexual partners in sub-Saharan countries (Bhatasara, Chevo, & Changadeya, 2013; Seme & Wirtu, 2008). The consequences of these behaviours are pregnancies, motherhood, fatherhood, STIs/HIV among other trajectories. While adolescent pregnancies and child motherhood have been decried over the years, not much attention has been placed on adolescent fatherhood and circumstances that are influencing this event, especially in sub-Saharan Africa. In this region, masculinity is supreme, sexuality landscape is relatively perforated with unchecked measures of sex outside marriage for men (Awusabo-Asare & Annim, 2008; Bingenheimer, 2010; Delius & Glaser, 2004; Ikpe, 2004). There is generally sexual latitude for men, perhaps because of the patriarchal system in this region. Specifically, in countries like Nigeria and Ghana, pregnancy in school terminates school attendance (Slap et al., 2003), but boy-fatherhood is often celebrated even within the family. While there are numerous studies on teen and adolescent pregnancy, and huge resources devoted to strategies to stem the incidence, there are complete reticent on issue related to boy fatherhood, not only among the researcher but in terms of public interventions.

Among the boys worldwide, sexual knowledge and demonstration of risky sexual behaviour are becoming more rampant. For example, among the young men who have ever had sex, over 20% of them have multiple sexual partners in sub-Saharan Africa (Doyle, Mavedzenge, Plummer, & Ross, 2012; Hindin & Fatusi, 2009). A study in Ethiopia reported 55% out of 40 adolescents boys interviewed were already in sexual relationships (Bhatasara, Chevo, & Changadeya, 2013). Another study of 4218 students (aged 12-21 years) attending school in Nigeria, indicated that more than 34% had engaged in sexual intercourse (Slap et al., 2003). Majority of the adolescent boys today brag about their sexual prowess and strive to acquire sex skills than in pre-21st century (Bhatasara, Chevo, & Changadeya, 2013). In a study about teen fatherhood and economic implications in Nigeria, Amoo (2012) noted that 35% of the 200 teenagers interviewed have fathered at least a child or impregnated a girl. As noted also, the mean and median ages of sexual initiation for adolescent boy is as low as 14.8 and 15 years (Ringheim & Gribble, 2010; Slap et al., 2003), notwithstanding that virtually all adolescents are exposed to media and sexual information than pre-21 century.

Adolescent father is a young male still under 24 years of age who has fathered at least a child or responsible for the procreation of an offspring regardless of the age of the woman (Amoo, 2012a; Martinez, Chandra, Abma, Jones, & Mosher, 2006). Kiernan (1995) described a young father as a man who became a father before the age of 22 (Kiernan, 1997). Generally, the concept of fatherhood is complex especially in developing countries where uncertainty could easily surround paternity due especially to the prevalence of multiple sexual partnerships. In most surveys, the response to whether you have ever fathered a child is usually subjective since there are often no medical validations. It is also possible for men not to know (or may prefer not to acknowledge the fact) that they have even fathered a child (Posel & Devey, 2006). Another complexity could be in the social context where biological contribution to the conception of a child may not necessarily imply fatherhood (Chikovore, Makusha, & Richter, 2013; Makusha, Richter, & Chikovore, 2013), and also when the issues of step-fathers or foster-fathers are considered. Notwithstanding, in this study, adolescent fatherhood is conceptualised as a state when an underage male youth within the ages of 10 and 24 years becomes a father or an expectant father (Amoo, 2012b; Amoo et al., 2015; Martinez et al., 2006).

In most cases, sexual activities are male initiated or mostly influenced by men (Leslie & Dibden, 2004; Thornberry et al., 2000). Also, Africa run patriarchal and patrilineal systems where men take it all (Murray et al., 2016), and that men decision compartment and support are akin to women sexual outcomes (Amoo et

al., 2015; Murray et al., 2016). Thus, the solutions to myriads of sexuality problems might be a mirage if adequate attention is not given to the male factor. In sub-Saharan Africa, teen-girl pregnancy is often frowned at but there is relatively complete silence over teen-fatherhood or adolescent fathers. This study therefore attempted to provide answers to few boggling questions on teenage fatherhood. What are prevalence rate of adolescent fatherhood in countries of sub-Sahara Africa? What are the factors responsible? Continuous identification of the drivers of adolescents' fatherhood could help in the curbing the challenges of early fatherhood and early pregnancy. This study is crucial because there is father-factor in almost every aspect of demographic challenges worldwide. Baby-fathers could also impose limitations on both the child/mother care and their future.

2. METHODS AND MATERIALS

2.1 Research design

The study used male-recode datasets of Demographic Health Survey (2000-2014) for Nigeria, Ethiopia and Zambia. The surveys were grouped into 3-Waves: Wave 1 (2000 and 2004); Wave 2 (2005 to 2009) and waves 3 (2010 to 2014). Ethiopia data consisted of 2000, 2005 and 2011 datasets; Nigeria's datasets included 2003, 2008 and 2013 while Zambia set of data featured 2002, 2007 and 2014. Wave-1 consists of 2000, 2002 and 2003 datasets; Wave-2 has 2005, 2007 and 2008 datasets while 2011, 2013 and 2014 data were used for Wave-3. These files in each wave were grouped together and then combined into a single file. All data were weighted to ensure representation and analyses were split by countries and by waves to show the trends across the years and for different countries.

2.2 Data and measurements

Generally, most available demographic variables were analysed including selected indicators of adolescents' sexual behaviour and parenthood were analysed. These include marital status, age at first cohabitation, age at first sex, number of spouses/sexual partners, number of children ever-fathered, frequency of sex, use of condoms and ever paid for sex, among others. The dependent variable is ever father at least a child, generated from the number of children ever fathered (0= never; one and above = 1). Selected demographic variables such as age of the respondent, education, religious affiliation and occupation were used as independent variables including current marital status. Current marital status variable measured as (1) never married, (2) married and, (3) others (e.g. separated, living alone). Other covariates used were selected indicators of sexual behaviour. These were as defined in the Integrated Demographic Health Survey Data Descriptions constitute the independent variables (Doyle et al., 2012; National Population Commission, 2014; National Population Commission, [Nigeria] and ICF International, 2013). These variables included age at first sex (age at which the man first experienced sexual intercourse) recoded as (≤ 18 years =1, 19-24=2, 25 years and above =3). Number of sexual partners was captured as 0 = none, 1 = only once and 2 and above =3; condom use: if the respondent reported using condom in the last sex (Yes =1 or No =0); transactional sex: whether the man has ever paid for sex ever paid for sex in the last 12 months (Yes or No).

2.3 Data analysis

The study employed univariate, bivariate and multivariate levels of analysis to explore the trends and patterns of adolescent fatherhood. The trends specifically investigated the movement or shift in the determinants of adolescent fatherhood while the patterns illustrate the regularity, form or otherwise in adolescents fatherhood and its determinants in the countries selected. The univariate segment features descriptive statistics which are presented in frequency tables with means and median statistics used where necessary. The bivariate provided simultaneous overview of association among two variables of sexual indicators. Specifically, these statistics are meant to present the background information about the respondents, show the trends in adolescent's sexual behaviour and fatherhood across the years study (2000-2014). At multivariate level, the binary logistic regression employed tested the log of odds of adolescent fatherhood with respect to demographic characteristics and selected indices of sexual indicators. It precisely measures the responsiveness of adolescent fatherhood to demographic and sexual indices of the adolescent in both 2005/2009 and 2010/2014.

3. RESULTS

3.1. Background information about respondents

The selected demographic variables analysed included education, religion and occupation. Ethiopia recorded highest percentage (36.0%) of adolescent who had no formal education. The proportion without formal education in Zambia is 4.0% lower than that of Nigeria (10.6%) as indicated in Table 1. The proportion

of adolescents with secondary education was 60.8%, 37.8% and 23.6% in Nigeria, Zambia and Ethiopia respectively. While the proportion of adolescent increased from primary to secondary education level in Nigeria, the opposite was the case for other two countries (Ethiopia and Zambia). The proportions in tertiary levels were as low as 1.4%, 1.2% and 6.2% in Ethiopia, Zambia and Nigeria respectively. Ethiopia and Zambia recorded a decline in 'no formal education' category in wave 2 and 3 while Nigeria consistently recorded increased in this category of adolescent.

The result also revealed that 5-20% of adolescent boys had fathered at least a child. In 2000/2004, 5.9%, 5.2% and 13.5% of boys were already fathers in Ethiopia, Nigeria and Zambia respectively. The proportion increased by 21.3% in Ethiopia but decreased by 7.5% and 13.4% in Nigeria and Zambia 2010/2014. Generally Zambia recorded the highest proportion of adolescent father (13.5%) as shown in Table 1. The number of male adolescents that married increased consistently in Ethiopia across the 3 waves, it increased in Nigeria between wave 1 and 2 and thereafter declined, Zambia witnessed a consistent decline from 15.0% to 11.5% in 2000-2004 and 2010-2014 respectively. For Zambia, the proportion of 'separated' among the adolescent decreased from 2.1%, to 1.4 and finally to 1.2% in wave 1, 2 and 3 respectively, while it remained stagnant at 0.4% in Nigeria since 2005. Ethiopia experienced almost a 70% reduction (from 2.4% to 1.4%) between 2000/2004 and 2005/2009 before it increased to 1.6% in the 2010/2014 wave (Table 1).

Table 1. Selected Socio-demographic characteristics of Adolescents as at 2014

Selected variables	2000-2004			2005-2009			2010-2014		
	Ethiopia	Nigeria	Zambia	Ethiopia	Nigeria	Zambia	Ethiopia	Nigeria	Zambia
Residence									
Urban	29.1	45.6	33.0	29.9	33.6	48.2	30.2	41.5	49.2
Rural	70.9	54.4	67.0	70.1	66.4	51.8	69.8	58.5	50.8
Education									
No formal Education	35.8	10.6	4.0	24.3	14.7	2.3	14.8	15.0	1.7
Primary Education	40.0	22.4	58.7	40.9	14.5	44.8	61.6	11.8	34.9
Secondary Education	23.0	60.9	36.3	32.2	64.3	50.7	14.5	66	60.4
Higher Education	1.2	6.2	1.0	2.7	6.5	2.2	9.1	7.2	3.0
Religion									
Christianity	48.5	33.3	97.3	50.5	55.1	98	45.7	52.9	98.5
Islam	12.6	21.8	0.4	15.3	43.6	0.4	16.0	46.1	0.5
Others (Traditional)	38.9	44.9	2.3	34.2	1.3	1.7	38.3	0.9	0.9
Wealth Status									
Poor wealth status	na	33.7	na	32.6	36.2	27.7	32.1	32.8	30.5
Middle wealth status	na	18.8	na	13.6	21.5	19.5	15.8	22.4	21.7
Rich wealth status	na	47.5	na	53.8	42.3	52.9	52.1	44.8	47.8
Marital status									
Never in union	87.7	92.5	85.3	86.9	91.3	87.3	86.1	93.5	89.5
Married/Living with partner	10.1	6.6	12.9	11.8	8.3	11.5	12.4	6.1	9.5
Others (e.g. separated)	2.2	0.9	1.8	1.3	0.4	1.2	1.5	0.4	1.0
Children fathered									
No Child	94.1	92.8	86.5	92.3	94.6	87.1	92.6	94.3	88.1
≥ 1 child	5.9	7.2	13.5	7.7	5.3	12.9	7.5	6.7	11.9
Occupation									
Unemployed	10.8	27.3	26.7	1.7	15.2	18.9	8.5	20.7	18.7
Professional	4.6	11.0	4.0	4.0	7.2	2.5	5.9	9.3	5.1
Clerical/Services/Sales	9.3	14.1	0.5	10.2	13.2	13.5	12.0	14.5	15.8
Farming	64.6	28.5	45.5	62.3	38.8	38.8	60.0	27.0	41.7
Skilled manual	8.2	15.2	21.8	5.8	22.4	19.8	10.8	24.0	14.3
Unskilled manual	2.5	3.9	1.4	4.0	3.2	3.7	2.8	4.5	4.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from NDHS 2000-2014

The data on occupation indicated that larger proportions of the adolescent (60% in Ethiopia and above 40% in Zambia) were concentrated in farming job with the exception of Nigeria. Unemployment increased from 10.8% to 13.7% between 2000/2004 and 2005/2009 in Ethiopia and later reduced by 5.2% in 2010/2014. The urban and rural distribution of adolescent population covered in the survey was almost 30:70 (urban/rural) in Ethiopia and Zambia but Nigeria revealed 46:54 ratios in 2000/2004 wave. While Ethiopia maintained the same ratio across the waves, Nigeria and Zambia tended toward 40:60 urban/rural distributions in the last two waves as shown in Table 1.

3.2 Sexual behaviour among adolescents across SSA (2000-2014)

The analysis of age at first sex revealed that 24.4%, 36.4% and 70.0% have had sexual experienced before they attained their 20th birthday in Ethiopia, Nigeria and Zambia respectively (Table 2). This proportion has steadily been on the decline. The proportion, however, increases progressively in Ethiopia and Nigeria and Zambia as ages increases. The results also revealed relatively 50% of the adolescents who had cohabited did so within their first 19 years of life, across the three countries surveyed. However, as the proportion shows a downward trend among adolescent aged 19 and below, it increased among those aged 20-24 in Nigeria. The statistic remained relatively the same in Zambia (Table 2). Relatively, 7-10% has experienced union turnover; 34.1%, 45.8% and 75.4% were sexually active in Ethiopia, Nigeria and Zambia in the 2000/2004 survey period against 28.4%, 41.5% and 64.6% of the next survey period and 29.1%, 35.3% and 65.2% in the last period (2010/2014) respectively. Knowledge of modern methods was overwhelming. However, the proportion that have tested for HIV range from 3.3% to 6.8% between 2000 and 2004 in Ethiopia (Table 2). Condom use in the last sex increased from 8.9% (Ethiopia), 17.5% (Nigeria) and 18.2% (Zambia) in 2000/2004, to 9.1% (Ethiopia), 20.5% (Nigeria) and 24.7% (Zambia) in 2010/2014 (Table 2). Relatively, 5% had ever paid for sex. There was increase in proportion of cohabiters among the adolescent aged 20-24 and more than one-third have more than one sexual. The proportions that have experienced genital discharge range between 0.2% in Ethiopia to 4.0% in Zambia. The reduction in genital discharge and ulcer was not general for the three countries. STIs consistently reduced across the three countries though Zambia is most affected from 2000/2004 to 2010/2014 survey period.

Table 2. Sexual behaviour among adolescent in SSA (2000-2014)

Sexual behaviour indices	2000-2004			2005-2009			2010-2014		
	Ethio	Nig	Zam	Ethio	Nig	Zam	Ethio	Nig	Zam
Age at 1st Sex									
Never had sex	65.9	54.3	24.7	71.7	58.6	35.4	71.0	64.8	34.8
≤ 19 years	24.4	36.4	70.0	18.4	31.8	58.5	15.8	25.9	59.5
20-24 years	9.7	9.4	5.2	9.8	9.7	6.1	13.3	9.3	5.7
Ever & age at 1st Cohabitation									
≤ 19 years	53.3	59.7	43.0	64.1	53.7	43.8	59.1	52.9	44
20-24 years	46.7	40.3	57.0	35.9	46.3	56.2	40.9	47.1	56
Recent sexual activity									
Never had sex	65.9	54.3	24.7	71.7	58.6	35.4	71.0	64.8	34.8
Active in last 4 weeks	14.3	19.8	29.8	12.9	17.1	24.2	13.3	14.3	25.7
Not active in last 4 weeks	19.8	26.0	45.4	15.5	24.4	40.4	15.8	21	39.5
Sexual partner minus wife									
Only one partner	85.3	74.2	66.5	92.4	80.4	72.6	92.0	78.8	71.9
2 or more partners	14.7	25.8	33.6	7.6	19.6	27.4	8.0	21.1	28.4
Number of Union									
Only one	86.1	92.5	89.3	Na	92.9	91.2	89.9	89.9	94.3
2 times or more	13.9	7.5	10.7	Na	7.1	8.8	10.1	10.1	5.7
Contraceptives Knowledge									
Know no Methods	20.9	11.4	4.6	11.0	14.7	2.4	2.8	10.7	1.2
Modern methods	78.6	88.3	95.4	88.8	85	97.6	97.1	88.8	98.7
Other methods	0.5	0.3	100	0.1	0.3	100	0.1	0.5	0.1
Ever heard STIs									
No	9.1	4.4	2.2	4.2	8.9	0.7	1.9	7.4	0.5
Yes	90.9	95.6	97.8	95.8	91.1	99.3	98.1	92.6	99.5
Ever heard AIDS									
No	10.2	4.7	3.0	5.0	9.7	0.8	2.0	8.0	0.8
Yes	89.8	95.3	97.0	95.0	90.3	99.2	98.0	92.0	99.2

Ever been tested for HIV									
No	96.7	91.8	93.2	92.3	91.5	83.7	62.4	89.7	52.9
Yes	3.3	8.2	6.8	7.7	8.5	16.3	37.6	10.3	47.1
Ever paid for sex									
No	95.4	95.1	80.8	98.7	na	Na	98.1	97.7	91.4
Yes	4.6	4.9	19.2	1.3	na	Na	1.9	2.3	8.6
Use condom in last sex									
Not used	91.8	82.5	81.8	92.3	83.4	77.3	90.9	79.5	75.3
Used	8.2	17.5	18.2	7.7	16.6	22.7	9.1	20.5	24.7
Had genital discharge									
No	99.2	97.8	96	99.8	98.7	98.0	99.2	99	98
Yes	0.8	2.2	4.0	0.2	1.3	2.0	0.8	1.0	2.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from NDHS 2000-2014. ** Ethio = Ethiopia, Nig = Nigeria and Zam = Zambia

The multivariate binary logistic results indicated that age is statistically significant in the likelihood of becoming an adolescent father in both 2005/2009 and 2010/2014. Adolescents aged 20-24 are 0.117 and 0.222 times less likely to be adolescent father in 2005/2009 and 2010/2014 respectively compared to those in the younger age group (≤ 19 years). The probability of adolescent fatherhood decreases with increase in level of education in 2005/2009. Adolescent boy with lower levels of education (primary/secondary) are 1.413 and 1.781 times more likely to be adolescent father especially in the 2005/2009 (r is positive). The result indicated that adolescent with primary, secondary and tertiary are 0.379, 0.357 and 0.313 times less likely to be adolescent fathers compared to those with no formal education (the reference category). The impact of profession occupation as well as farming in the likelihood of adolescent fatherhood is statistically significant in 2010/2014.

Adolescents from the rural areas are 1.206 times more likely to be adolescent fathers compared to urban residents. Adolescents from middle and rich wealth families are 0.785 and 0.496 times less likely to be adolescent father compared to those from the poor wealth families (Table 3). Those who cohabited at age 20-24 are 3.589 times more likely to experience fatherhood (as adolescents) in 2005/2009 compared to those who experienced the same at lower age. Age at cohabitation is statistically significant at both waves. Multiple sexual partnerships is positively associated with adolescent fatherhood all-round the waves analysed. Adolescents with sexual partner (> 1) are 1.673 (2005/2009) and 1.769 (2010/2014) times more likely to be father compared to those with one or no sexual partners.

Table 3. Binary logistic regression illustrating interconnections between selected variables and adolescent fatherhood

Selected variables	(2005-2009)	(2010-2014)
Age group	β, Exp(B).	β, Exp(B).
≤ 19 years (RC)		
20-24	-2.15 (0.117)**	-2.18 (0.222) **
Education		
No Education (RC)		
Primary Education	0.35 (1.413)	-0.47 (0.379)
Secondary Education	0.58 (1.781)	0.15 (0.357)
Higher Education	-1.29 (0.275)	-0.55 (0.313)
Occupation		
Unemployed (RC)		
Professional	-1.55 (0.213)	-1.06 (0.389) **
Clerical/Services/Sales	0.64 (1.894)	-0.15 (0.510)
Farming/unskilled	0.35 (1.418)	0.65 (0.251) **
Skilled manual	-0.91 (0.403)	-0.45 (0.294)
Religion		
Christianity (RC)		

Islam	-0.55 (0.575)	-0.36 (0.179) **
Others (Traditional)	-1.61 (0.201) **	-0.43 (0.180) **
Residence		
Urban (RC)		
Rural	0.19 (1.206)	-0.285 (0.184)
Wealth status		
Poor wealth status (RC)		
Middle wealth status	-0.24 (0.785)	0.41 (0.168) **
Rich wealth status	-0.70 (0.496) **	0.28 (0.175)
Used Condom		
No (RC)		
Yes	-0.61 (0.547)	-0.24 (0.248)
Age at first sex		
≤ 19 years (RC)		
20-24 years	-0.30 (0.743)	0.31 (0.198)
Age at first cohabitation		
≤ 19 years (RC)		
20-24 years	1.28 (3.589) **	1.56 (0.136) **
Lifetime sexual partners		
Only one partner (RC)		
2 or more partners	0.52 (1.673)	0.571(1.769)**
Condom use		
Not used (RC)		
Used Condom	-1.01 (0.363) **	-0.07 (0.238)
Constant	3.416 (30.442)	1.29 (0.640)

Source: Computed using DHS Datasets (2000-2014) from four countries **P≤0.05

4. DISCUSSION

The study provided a 14 year wide-ranging empirical analysis of the trends and patterns of adolescent fatherhood in four sub-Saharan Africa countries. The findings signaled male adolescents' likelihood of becoming a father. The insights from the study identified key determinants of fatherhood among the adolescents in Nigeria, Ethiopia and Zambia as distinct from country-specific study (Amoo, 2012; Kaufman et al., 2001; Leslie & Dibden, 2004; Luke, 2005; Rwenge, 2000; Thornberry et al., 2000; Wusu & Amoo, 2014). It has also added to be body of knowledge on the areas of adolescent sexual behaviour. Preponderance of baby-fathers is inimical to the child's health, education, and total wellbeing or welfare (Fletcher & Wolfe, 2012; Murray et al., 2016; National Fatherhood Initiative, 2016). Considering the high proportion of adolescents in sub-Saharan Africa counties, it is exigent that programmes and campaigns are put in place to curb the rate of pregnancy among the girls and reduce vulnerability of male adolescents to early fatherhood. However, the cultural permissiveness of multiple sexual partnership or prevailing sexual latitude especially regarding the male sexual lifestyle in sub-Saharan Africa (Awusabo-Asare & Annim, 2008; Bingenheimer, 2010; Leclerc-Madlala, 2008) could erode impact of education considering the supremacy of culture on social behaviour especially on marriages and sexual relationship.

The decline in the proportion of male adolescent with multiples sexual partnership ≥ 2 as well as increase in condom use between the periods studied could be due to increasing sexuality education or exposure to media in the region. The change in the impact of primary education in 2010/2015 could be due to massive drive towards free basic education for girls in most parts of sub-Saharan Africa (African Union, 2015a, 2015b; Department of Internal Relations and Cooperation, 2014; Panday et al., 2009)

5. LIMITATIONS

The concept of fatherhood is complex especially in developing countries. In most survey, the response is usually subjective because there are often no medical validations. Uncertainty is mostly surrounding paternity and in environment with multiple sexual partnerships, it is possible for men not to know or may prefer not to acknowledge the fact that they have even father a child. Besides, biological contribution to the conception of a child may not necessarily imply fatherhood in the social context. However, the adopted age

range is located in various international definitions of adolescent.

6. CONCLUSION AND RECOMMENDATIONS

The study provided empirical findings on interconnections between adolescent fatherhood and demographic variables as well as indices of male adolescent sexual behaviour in the countries selected. The study found that the positive association between rural place of residence and adolescent fatherhood in the past (2005/2009) could not be sustained in this present time and that attention also should be focused on the urban male adolescent as well. The study also highlighted decrease in practice of multiple sexual partnerships, condom use and overwhelming knowledge on STIs, HIV and AIDS among the adolescents studied. The study concludes that the significant negative association between primary and tertiary education and adolescent fatherhood could be maximised for policy formulation and implementation. Since adolescents in skilled manual and professional jobs are negatively associated with adolescent fatherhood, it could imply that adolescent empowerment may help in reducing their vulnerability to fatherhood and the risks involved. The findings from this study could be explored for policy and programmes advocacy against adolescent fatherhood and adolescent empowerment. The authors therefore recommend support from policy-takers, governments and other stakeholders towards male adolescent access to both primary and tertiary education. Social workers and health personnel could also explore the opportunity for intense rural and urban campaign against the rising levels of cohabitations notwithstanding the age of adolescent involved.

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CONFLICT OF INTEREST

We have no conflicts of interest.

ETHICAL CONSIDERATION

The data used in this study were secondary data collated by MEASURES DHS, ICF Macro, Calverton, Maryland, USA. The data were made available with the respondents identifiers completely removed. The survey exercises and the data were approved by Institutional Review Board of ICF Macro and also by country-specific ethics-related committees. International standards of data collections were duly employed and all participants gave informed consent before their participation. Information collected was also accorded the right confidentiality. For this study, the lead author registered and applied for the use of the data and adequate permission was given before the data were downloaded and analysed.

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