

Determinants of Adolescent Fertility in South Sudan

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Received Date: 07 September 2021

Revised Date: 09 October 2021

Accepted Date: 18 October 2021

Abstract - *The problem of adolescent fertility remains to persevere and increase anxiety in South Sudan. This paper sought to identify the determinants of adolescent fertility in South Sudan utilizing primary data collected in Juba from 1st to 31st July 2020. The survey utilized two-stage sampling to select the households. An aggregate of 1050 adolescent girls aged 15-19 was interviewed. Data were analyzed utilizing cross-tabulation with chi-square in addition to binary logistic regression analysis. The chi-square test found that the age of adolescent girls, marital status, level of education, work status, access to media, and contraceptive use were significantly associated with adolescent fertility. The binary logistic regression analysis found marital status, level of education, wealth status, work status, access to media, and contraceptive use to be significantly associated with adolescent fertility.*

The paper recommends that the government and policy creators formulate and impose laws and strategies to ban early girl nuptial and develop applicable plans to embolden girl schooling with higher registration up to at least secondary schooling level to reduce adolescent fertility rate. Also, alike qualitative studies should be conducted at the nationwide level to rise the understanding of adolescent fertility and prepare strategies to reduce it.

Keywords - *determinants, adolescent fertility, South Sudan*

I. INTRODUCTION

Adolescence is an age of change from immaturity to maturity. Adolescent pregnancies are a worldwide problem in high, middle, and low-income nations, regularly driven by poverty and the absence of education and work chances (Rehana et al., 2016; UNICEF, 2013). They suffer from early nuptial, unintended pregnancies, unsafe abortions, and other severe generative health difficulties (Stella, 2004). Each year, a projected 21 million girls aged 15-19 years in developing nations turn pregnant, and about 12 million of them give birth (Darroch et al., 2016) as a minimum of 777,000 births happen to teenage girls younger than 15 years in developing nations (UNFPA, 2015).

Many factors contribute to teenage fertility. In numerous communities, girls are stressed to marry and bear kids early (WHO, 2013). In the least developed nations, a minimum of 39 percent of girls marry before they reach 18

years of age and 12 percent before 15 years (World Bank, 2017). Teenage childbirth is more frequent in developing nations, where almost ten percent of female teenagers give birth every year, compared to less than two percent in developed nations (Population Reference Bureau, 2013).

In South Sudan, adolescent pregnancy is the main defying impacting teenage females' health and their social, financial, and political enablement. Certainly, South Sudan is amongst the ten nations with the highest occurrence of early child nuptial (UNICEF, 2017), a situation frequently guiding to prompt pregnancy. One-third of the 15-19 year adolescent girls in the nation have initiated childbirth, and 96% of females of generative ages were not utilizing any contraceptive approach (The Sudan Household Health Survey, 2010).

Yet nothing is known about the determinants of adolescent fertility in South Sudan. As a result, the objective of this paper was to identify the determinants of adolescent fertility in South Sudan. Precisely, the paper sought to identify the association between adolescent fertility and some determinants.

II. REVIEW OF EMPIRICAL STUDIES

Wekwete et al. (2016) conducted a study to determine the factors contributing to teenage pregnancy in Zimbabwe. Logistic regression analysis found age, ethnicity, marital status, knowledge of pregnancy, and contraceptive use, religion, poverty, and community media were associated with adolescent pregnancy. The study recommends for enhancement scholastic chances for female teenagers to stay longer in school and pursue a university education.

Nwogwugwu(2013) conducted a study to find the socio-demographic factors of adolescent fertility in Zambia. A logistic regression model was used to find socio-demographic factors of adolescent fertility. The results showed that age, age at first nuptial, level of education, marital status, contraceptive use, and access to media were associated with adolescent fertility. The study concludes that plans should be introduced to raise the least age requisite for nuptial, increase access to contraceptive info and facilities. Furthermore, sexually active teenagers should be fortified to use contraceptives properly and reliably. Finally, female teenagers should be fortified to



accomplish secondary school and higher education; this will reduce the levels of adolescent fertility.

Chawhanda (2013) carried out a study to investigate proximate factors of teenage fertility in Zimbabwe in the period 2005 to 2011. A logistic regression model was utilized. The results indicated that marital status, contraceptive use, and sex were significant to augment adolescent fertility. Contraceptive use was positively associated with adolescent fertility. Thus, the study proposes that strategies and plans targeted at lessening fertility during adolescent years should be concentrated towards encouraging adolescent schooling further than the primary level. Moreover, sex learning in schools needs to be made obligatory, and limits on access to contraceptives by never wedded teenagers must be detached.

Nyarko (2012) wrote the paper to investigate the determinants of teenage fertility in Ghana, applying data from the 2008 Ghana Demographic and Health survey. A logistic regression model was utilized to find the factors that impact adolescent fertility. The results discovered that adolescent fertility was significantly affected by the level of education, employment status, wealth status, and contact with media. The paper concludes that deep efforts should be directed toward girl schooling and generative health awareness through efficient social upgrading.

Alemayehu et al. (2010) conducted a study to evaluate the level and find determinants of adolescent fertility in Ethiopia utilizing data from the Ethiopian Demographic Health Survey 2005 for teenagers aged 15 to 19 years. Logistic regression models identified that age, level of education, place of dwelling, work status, nuptial, and contraceptive use were associated with adolescent fertility. The study concludes that concentrated hard work is needed to enable teenagers to resist early nuptial, boost education and embolden the use of family planning aiming the rural teenagers.

Evelia (2003) carried out a study to examine the determinants of teenage fertility in Kenya utilizing data from the 1993 Kenya Demographic and Health Survey. Logistic regression analysis found age, marital status, level of education, work status, ethnicity, contraceptive use, and religion to be considerably linked with teenage fertility in Kenya. The study recommends the development of plans that delay and discourage early nuptial and to embolden girl education with greater enrolment and retaining levels, particularly up to at least secondary schooling level.

III. MATERIALS AND METHODS

Data for this study was originated from the survey conducted in Juba, July 2020. It covers three Payams of Juba County: Juba, Kator and Munuki. The data was gathered from 1050 female teenagers aged 15-19 years from 1st to 31st July 2020 by well-trained data gatherers who utilized a two-stage sample design for choosing houses for the data gathering because of the lack of demographic and health surveys in the Republic of South Sudan since the independence of the country from Sudan in 9th July 2011. Consent was obtained from the

Department of Research and Development in the Directorate of Science, Technology, and Innovation at the Ministry of Higher Education, Science and Technology.

The dependent variable for this study was adolescent fertility. Teenagers who had no child were coded 0, whereas those who had at least one child were coded 1. Eight independent variables were carefully chosen for this study with the purpose of identifying their effect on adolescent fertility. The age of a female teenager was coded by way of: 15–17, 18–19, whereas the level of schooling of a teenager was coded by way of no education, primary, secondary or more. The work status of teenagers was coded by way of working or not working, whereas the marital status of the adolescent was coded by way of never married, married, separated/divorced/widowed. Similarly, wealth status was coded by way of poor, medium, rich, whereas religion was coded by way of catholic, protestant, other religious beliefs, while access to media was yes, no and contraceptive use was yes, no.

The study utilized SPSS version 22 to analyze data. Cross-tabulations analysis was utilized to estimate proportions and rates of adolescent fertility amongst the independent variables. In addition, a binary logistic regression model was utilized to identify the independent variables associated with adolescent fertility. A binary logistic regression model was selected since the dependent variable is divided into two parts indicating whether or not a female ever had a child in age 15-19 years and provided the probability of fertility amongst the numerous categories of female teenagers.

IV. RESULTS

A. Adolescent Fertility Rates by Study Variables

Table 1 displays rates of fertility amongst adolescent girls aged 15-19 at the time of the study. Constructed on Chi-Square test. The results showed that the age of adolescent girls, marital status, level of education, work status, access to media, and contraceptive use were found to be statistically significantly connected with adolescent fertility.

The adolescent fertility rate was highest among adolescent girls aged 15-17 years, 140 births per 1,000 than amongst adolescent girls aged 18-19 years 3.67.5 births per 1,000. Also, the adolescent fertility rate was highest 112 births per 1,000 amongst Protestant adolescent girls tracked by Catholic adolescent girls 104.3 births per 1,000 and lowest 67.2 births per 1,000 amongst other religious beliefs adolescent girls. Similarly, the rate was highest at 163.5 births per 1,000 and, 138.7 births per 1,000 amongst married and separated/divorced/widowed adolescent girls, respectively, and the lowest 37.3 births per 1,000 amongst never married adolescent girls. Also, the adolescent fertility rate was highest at 245 births per 1,000 amongst adolescent girls with no education, followed by primary education 87.6 births per 1,000 and lower 38.5 births per 1,000 amongst those adolescent girls with at minimum secondary education. Besides, the rate of births was highest amongst the poor 104.3 per 1,000 and, 97.5 per

1,000 amongst the medium, and the lowest 24.4 per 1,000 amongst the rich families. Moreover, the rate was identified to be higher amongst non-working adolescent girls, 140.9 births per 1,000, and slightly lower amongst working adolescent girls 46.3 per 1,000.

The adolescent fertility rate was highest amongst adolescent girls who have no access to media 155.6 births

per 1,000 than those who have access to media 40.2 births per 1,000. Furthermore, the adolescent fertility rate was about 141.7 births per 1,000 highest amongst adolescent girls who were not using contraceptives and the lowest 31.3 births per 1,000 amongst those who were using contraceptives.

Table 1: Rates of Adolescent Fertility by Study Variables

Variables	Adolescent Fertility			N	Value of Chi-square	Sign.
	No Child(%)	At least one Child (%)	AFR (1,000)			
Age of adolescent girls						
15-17	381 (86.00)	62 (14.0)	140	443	15.177	0.000
18-19	566 (93.25)	41 (6.75)	67.5	607		
Religion					3.732	0.155
Catholic	378 (89.57)	44 (10.43)	104.3	422		
Protestant	333 (88.80)	42 (11.20)	112	375		
Other religious beliefs	236 (93.28)	17 (6.72)	67.2	253		
Marital Status					42.304	0.000
Never Married	491(96.27)	19 (3.73)	37.3	510		
Married	307 (83.65)	60 (16.35)	163.5	367		
Separated/Divorced/widowed	149 (86.13)	24 (13.87)	138.7	173		
Level of Education					66.052	0.000
No education	151 (75.5)	49 (24.5)	245	200		
Primary	396 (91.24)	38 (8.76)	87.6	434		
Secondary +	400 (96.15)	16 (3.85)	38.5	416		
Wealth Status					2.752	0.253
Poor	481 (89.57)	56 (10.43)	104.3	537		
Medium	426 (90.25)	46 (9.75)	97.5	472		
Rich	40 (97.56)	1 (2.44)	24.4	41		
Work Status					26.286	0.000
Working	453 (95.37)	22 (4.63)	46.3	475		
Not Working	494 (85.91)	81 (14.09)	140.9	575		
Access to Media					39.542	0.000
Yes	502 (95.98)	21 (4.02)	40.2	523		
No	445 (84.44)	82 (15.56)	155.6	527		
Contraceptive Use					34.579	0.000
Yes	402 (96.87)	13 (3.13)	31.3	415		
No	545 (85.83)	90 (14.17)	141.7	635		

Notes: AFR = Adolescent Fertility Rate

B. Determinants of Adolescent Fertility

Table 2 shows the determinants of adolescent fertility constructed on a binary logistic regression model. The model displayed that marital status, level of education, wealth status, labor status, access to media, and contraceptive use were found to be statistically significantly associated with adolescent fertility.

The chances ratio of fertility was 357.661 times highest for adolescent girls who were married and 169.567 times highest for adolescent girls who were separated/divorced/widowed compared with adolescent girls who were never married.

Besides, the chances ratio of fertility was 0.398 times lower for adolescent girls who have reached primary education and 0.170 times lower for adolescent girls who have reached secondary education or higher compared with adolescent girls who have no education. Adolescent girls who have reached primary education, in addition to those who have reached secondary education or higher, were less expected to give birth to one or more kids compared with those who have no education. As a result, the possibility of adolescent fertility lessened with the escalation in the education level of adolescent girls. The normal result is that adolescent girls with no education were more at risk to give birth, maybe due to a lack of awareness of sexy and reproductive health questions regarding their bodies.

Likewise, the chances ratio of adolescent fertility was 143.359 times highest for adolescent girls who were not working compared with adolescent girls who were

working. As a result, the work status of adolescent girls has a major effect on adolescent fertility. Adolescent girls who were not working were more to be expected to give birth compared with those who were working.

Moreover, the chances ratio of adolescent fertility was 30.387 times higher for adolescent girls who come from poor families and 25.111 times higher for adolescent girls who come from medium rank families compared with adolescent girls who come from rich families. Adolescent girls who come from poor families, in addition to those who come from medium-rank families, were more expected to give birth compared with adolescent girls who come from rich families. As a result, the possibility of prompt childbirth decreased with the escalation in the wealth status of adolescent girls. Adolescent girls come from poor families more at risk to prompt childbearing.

Furthermore, the chances of adolescent fertility were 2.613 times higher for adolescent girls who were no access to media compared with adolescent girls who were access to media. Adolescent girls who were no access to media were more expected to give birth compared with adolescent girls who were access to media. Surely, adolescent girls who were no access to media were more at risk to prompt childbearing, maybe due to lack of information about their sexy and reproductive health issues.

Finally, the chances of adolescent fertility were 2.832 times higher for adolescent girls who reported no contraceptive use compared with adolescent girls who reported contraceptive use. Adolescent girls who testified no contraceptive use were more expected to give birth to one or more kids compared with those who testified contraceptive use.

Table 2: Results of Binary Logistic Regression for Determinants of Adolescent Fertility

Variables	B	Sig.	Exp(B)	95.0% CI for Exp(B)	
				Lower	Upper
Age of adolescent girls(RC = 18-19)					
15-17	0.164	0.679	1.178	0.542	2.559
Religion(RC = Other religious beliefs)					
Catholic	0.573	0.215	1.773	0.717	4.382
Protestant	0.210	0.656	1.234	0.490	3.109
Marital Status(RC = Never Married)					
Married	5.880	0.000	357.661	105.445	1213.155
Separated/Divorced/widowed	5.133	0.000	169.567	46.603	616.979
Level of Education(RC = No education)					
Primary	- 0.922	0.011	0.398	0.195	0.811
Secondary +	-1.771	0.000	0.170	0.071	0.406
Wealth Status (RC = Rich)					
Poor	3.414	0.032	30.387	1.333	692.875

Medium	3.223	0.043	25.111	1.099	573.571
Work Status(RC = Working)					
Not Working	4.965	0.000	143.359	42.166	487.398
Access to Media (RC = Yes)					
No	0.960	0.008	2.613	1.290	5.292
Contraceptive Use(RC = Yes)					
No	1.041	0.009	2.832	1.300	6.166

Notes: RC = Reference category; Sig. = Significant; CI = Confidence Interval

V. DISCUSSION

From the findings, the study found that marital status was significantly linked with adolescent fertility in South Sudan. This finding is consistent with previous studies by (Wekwete et al., 2016; Nwogwugwu, 2013; Chawhanda, 2013; Evelia, 2003), who found that marital status was significantly connected with adolescent fertility.

Similarly, the study found that level of education was significantly associated with adolescent fertility in South Sudan. This finding is consistent with earlier studies by (Nwogwugwu 2013; Nyarko, 2012; Evelia, 2003), who established that the level of education was considerably associated with adolescent fertility.

Moreover, the study found that wealth status was significantly connected was adolescent fertility in South Sudan. This finding is agreed with studies by (Wekwete et al., 2016; Nyarko, 2012), who discovered that wealth status was statistically significantly associated with adolescent fertility.

Also, the study identified that work status was considerably associated with adolescent fertility in South Sudan. This finding also is concurred with studies by (Nyarko 2012; Alemayehu et al., 2010; Evelia, 2003), who found that work status was linked with adolescent fertility.

In the same way, the study found that access to media was statistically significantly connected with adolescent fertility in South Sudan. This finding also is in line with studies by (Wekwete et al., 2016; Nwogwugwu, 2013; Nyarko, 2012), who found that access to media was allied with adolescent fertility.

Lastly, the study found that contraceptive use was significantly linked with adolescent fertility in South Sudan. This finding also is consistent with studies by (Wekwete et al., 2016; Chawhanda, 2013; Nwogwugwu, 2013; Alemayehu et al., 2010; Evelia, 2003) who found that contraceptive use was connected with adolescent fertility.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusion

The paper sought to identify the determinants of adolescent fertility in South Sudan. According to the chi-square test findings, the whole variables were statistically significant at 0.05 level of significance, except religion and wealth status, which were not statistically significantly linked with adolescent fertility. The binary logistic regression findings established marital status, wealth status, work status, access to media, and contraceptive use to have a significant positive effect on adolescent fertility. Only, level of education was found to have a significant negative effect on adolescent fertility. The study concluded that the determinants of adolescent fertility were marital status, level of education, wealth status, and work status, access to media, and contraceptives use.

B. Recommendations

The paper recommends that the government and policy creators should formulate and impose laws and strategies to ban early marriage to reduce the adolescent fertility rate in South Sudan. The paper also recommends the development of appropriate plans at the nationwide level to promote girl schooling with higher registration up to at least secondary education level and embolden the free utilization of family planning services. Also, alike qualitative studies should be conducted at the nationwide level to rise the understanding of adolescent fertility and prepare strategies to reduce it.

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