

Predisposing Factors Associated with Teenage Pregnancy in Lake Victoria Islands and Mountain Districts of Uganda

Richard Tuyiragize^{1,2*}, Abel Nzabona^{1,2}, John Bosco Asiimwe^{1,2}, Christian Kakuba^{1,2}, John Mushomi^{1,2} and Fred Maniragaba^{1,2}

¹School of Statistics and Planning, College of Business and Management Sciences, Makerere University, Kampala, Uganda

²Centre for Population and Applied Statistics, Makerere University, Kampala, Uganda

*Corresponding author

Richard Tuyiragize (PhD), Department of Planning and Applied Statistics, School of Statistics and Planning College of Business and Management Sciences, Makerere University, P.O.Box 7062, Kampala, Uganda.

Submitted: 02 Aug 2022; Accepted: 17 Jan 2023; Published: 20 Jan 2023

Citation: Tuyiragize, R., Nzabona, A., Asiimwe, J. B., Kakuba C., Mushomi, J., & Maniragaba, F. (2022). Predisposing Factors Associated with Teenage Pregnancy in Lake Victoria Islands and Mountain Districts of Uganda. *J Gynecol Reprod Med*, 7(1): 01-08.

Abstract

Background: There is a high teenage pregnancy rate in Lake Victoria Island and Mountain districts of Uganda. Teenage pregnancy leads to unsafe abortions, infant and maternal mortality, high rate of unemployment, and school drop-outs. This paper aims at establishing the factors influencing teenage pregnancy in Uganda Lake Victoria Island shoreline area and mountain districts.

Methods: The analysis focused on 405 girls aged 15–19 years, generated from the 2016 Uganda demographic and Health Survey. The chi-square test statistic was used to establish factors associated with teenage pregnancy. Unadjusted and adjusted binary logistic regression analysis were conducted on explanatory variables to establish the predictors of teenage pregnancy in the Lake Victoria Island districts and the mountain districts. Statistical significance was considered at 5% level.

Results: The findings show that teenage pregnancy rate was at 48% in the Lake Victoria Island districts and at 24% in the mountain districts. Predictors of teenage pregnancy include; aged 18 – 19 years (AOR=4.78, $p=0.000$, 95% CI 2.85 – 8.01), being in a female-headed household (AOR=0.46, $p=0.004$, 95% CI 0.25 – 0.85), being in a “working” occupation (AOR=2.22, $p=0.005$, 95% CI 1.28 – 3.85), belonging to the “rich” quintile (AOR=0.54, $p=0.03$, 95% CI 0.31 – 0.97) and knowledge of any family planning methods (AOR=18.37, $p=0.008$, 95% CI=2.17 – 155.5).

Conclusion: The factors associated with high teenage pregnancy in the Uganda Lake Victoria Island shoreline area and mountain districts include; age, sex of household head, occupation (not working), socio-economic status and knowledge of family planning methods. There is need for programs that promote contraceptive use among teenagers and household wealth creation projects, with special attention to dwellers in remote and hard-to-reach areas of the country.

Keywords: Teenagers, Pregnancy, Predisposing factors, Demography, Health survey, Uganda

Background

Teenage pregnancy is a major public health concern affecting more than 16 million girls and young women around the world [1]. Teenage pregnancy is associated with unsafe abortions, infant and maternal mortality, high rate of unemployment, and school drop-out [2]. With increased awareness of the reproductive health consequences of teenage pregnancy, researchers and policy makers have concluded that teenage pregnancy and childbearing is a serious problem [2-7].

According to Worldatlas sub-Saharan African countries have the highest teenage pregnancy rates in the world: with Niger leading with 203.6 births per 100,000 teenage women, followed by Mali (175.4) and Angola (166.7), while Uganda is ranked number 14 at 114.8 [8]. Early childbearing carries particular risks, including dropping out of school, abandoning babies and obtaining illegal abortion that may result into death. Lillian & Mumbango revealed that teenage pregnancy and childbearing is a serious social prob-

lem that is linked to the spread of HIV/AIDS, sexual abuse, neglect, and abortions as well as infant and maternal mortality [2]. Their results showed that teenage pregnancy was influenced by generation, region, highest educational level, socio-economic status and cultural factors. This finding is consistent with the studies conducted by other scholars [9-11].

Teenage pregnancy is associated with various socioeconomic outcomes. Studies indicate that teens who become pregnant also tend to miss out on education. For example, young people who become parents while in their teens are much more likely than their classmates who postpone childbearing to have their education truncated [12]. Furthermore, the younger the parent at birth, the greater the educational setback. It is also likely that dropout rates will be high among girls who became pregnant during teenage.

Teenage mothers face psychosocial problems. Indeed, Kaye found that young adolescents reported anxiety and loss of self-esteem when they conceived [13]. They also indicated having difficulty in accessing financial, moral and material support from parents or partners and stigmatization by health workers when they sought care from health facilities. Despite all the challenges, teenage mothers hardly have appropriate maternity services particularly teenager-friendly antenatal services [14].

The low use of contraception has been associated with high fertility, which remains a public health concern that should be averted. In addition to the unwanted/ early/ teenage pregnancies, these young people are also at a high risk of HIV infection and infection from other STIs [15]. Researchers conclude that there is a need for an integrated approach to curb teenage pregnancy. Atuyambe et al. concluded that pregnant teenagers in Wakiso district lack basic needs like shelter, food and security [16]. They also face relational problems with families, partners and the community. Several social factors such as religious beliefs, idleness and economic factors have been identified as factors contributing to early pregnancy [17-23].

The government of Uganda has taken several measures to address teenage pregnancy. Some of the policies and strategies include the National Strategy to end Child Marriage and Teenage pregnancy [17]. This strategy was introduced in 2017 with the aim of providing guidance on the design and implementation of programmes that contribute to eliminating child marriage and teenage pregnancy. Others include the National Adolescent Health Policy, and the National Policy Guidelines and Service Standards for Sexual and Reproductive Health and Rights [24, 25]. In spite of government's

efforts, teenage pregnancy rates remains high [26, 27]. Due to insufficient funding most government policies are not fully operationalized [28].

According to UBOS [26], one out of four (24.8%) girls aged 15 – 19 years have either a child or were pregnant at the time of the survey. Of the 15 regions considered in the 2016 Uganda Demographic and Health Survey, the percentage of women who had begun child bearing was lowest in Kampala (17%), followed by Kigezi (16%), Ankole (19%) and South Central (20%). The percentage was comparatively higher in North Central (30%), Busoga (21%), Bukedi (30%), Bugisu (28%), Teso (31%), Karamoja (24%), Lango (28%), Acholi (24%), West Nile (22%), Bunyoro (29%) and Tooro (30%). The highest percentage was among the women in Island districts where the level was as high as 48%. The percentage for both Island and Mountain districts was 31%, which is well above the national average (24.8%). This relatively high percentage generated research interest and need to investigate factors influencing teenage pregnancy in the two areas. The areas also have poor accessibility owing to steep terrain and sub-optimal water transport network in the mountain and island districts respectively. These conditions make the areas hard-to-reach and could exacerbate difficulty in accessing pregnancy-related care. It is against this background that this study seeks to establish the factors influencing teenage pregnancy in Uganda Lake Victoria Island/shoreline area and mountain districts.

Methods

The manuscript uses secondary data extracted from the 2016 Uganda Demographic and Health Survey (UDHS) dataset [26]. The 2016 UDHS used a multistage cluster sampling, whereby at first stage, a random sample of enumeration areas (EA), which are primary sampling units, was chosen from the census sampling frame. From the selected EAs, households were systematically drawn. Respondents in the selected households were interviewed using structured questionnaires. The 2016 UDHS grouped the country into 15 sub regions, plus 3 special areas, (the Lake Victoria Island districts, the mountain districts and greater Kampala). The Lake Victoria Island districts and the mountain districts (Figure 1) have been selected for this study considering that they are remote and hard-to-reach areas as well as having high percentage of teenagers who have started childbearing in Uganda. The Islands and shoreline districts include: Kalangala, Mayuge, Buvuma, Namayingo, Rakai, Mukono and Wakiso while the mountains districts include Bundibugyo, Kasese, Ntoroko, Bukwo, Bulambuli, Kapchorwa, Kween, Kisoro, Sironko, Mbale and Kaabong.

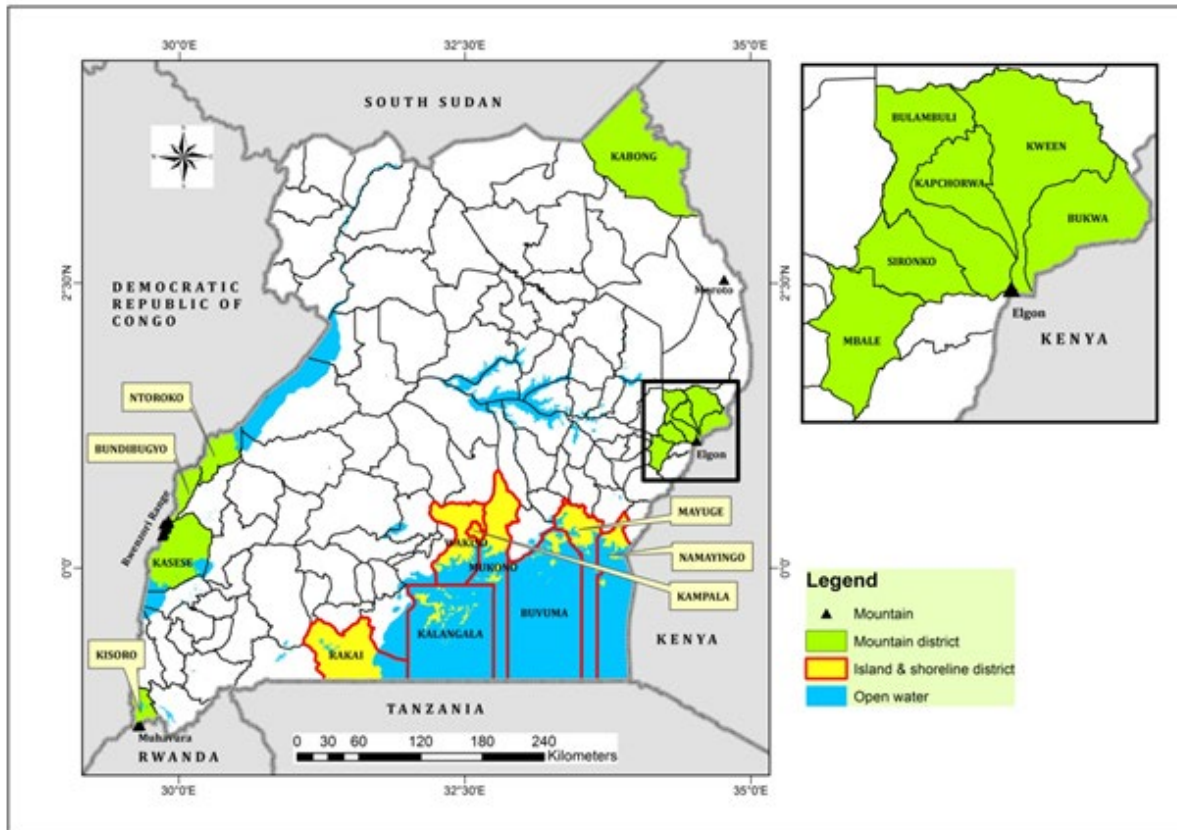


Figure 1: Study regions (Lake Victoria Island/Shoreline and Mountain Districts)

Data for this study was extracted from the 2016 UDHS household and woman’s questionnaires, resulting into a sample of 405 respondents. The women’s questionnaire collects information from eligible women aged 15 – 49 years in each of the sampled households about their characteristics including; birth history, fertility, family planning and nutrition. The household questionnaire collects information on household characteristics such as assets, toilet facilities, type of dwelling and source of drinking water which are used to generate the household socio-economic “wealth” index using the relevant data reduction techniques.

The outcome variable was derived from the questions that asked respondents aged 15-19 years, their age at first birth or whether they were pregnant at the time of the Uganda Demographic and Health Survey. Teenage pregnancy was dichotomized as 1 for “Reported teenage pregnancy” and 0 for “No reported teenage pregnancy”. The explanatory variables were current age in years, education level (None, Primary, Secondary or Higher), place of residence (urban or rural), sex of household head (male or female), marital status (never married, married, divorced or separated), occupation/employment (re-coded as working or not working). Others include social economic status (wealth index) and knowledge of any contraception method (Yes or No). The wealth index was computed using principal component analysis and coded into five quintiles: poorest, poorer, middle, richer and richest [26]. For this

manuscript, wealth index was re-coded into poor (for poorest and poorer), middle, and rich (for richer and richest). Knowledge of any method was classified into modern, traditional and folkloric methods. Data analysis involved a description of the background characteristics of the study respondents using frequency distributions. The chi-square test statistic was used at bivariate level to establish factors associated with teenage pregnancy in the Lake Victoria Island districts and the mountain districts (Table 1). And since the outcome variable was dichotomous, a binary (unadjusted and adjusted) logistic regression analysis was conducted on explanatory variables to establish the predictors of teenage pregnancy (Table 2). All the analyzed data were weighted using the UDHS sampling weights to account for the design effect and clustering. The predictors were determined at 5% level of significance.

Results

Characteristics of respondents

Table 1 shows the characteristics of the 405 respondents. Majority of the teenagers were below 18 years (66.0%) and about 17.1% had their first birth at less than 15 years. The percentage of teenagers with primary or no education (69.2%) more than doubled those with secondary or higher education. Majority of the teenagers (77.1%) were living in the rural areas, with their parents (47.5%), while one in three (33.4%) teenagers came from female-headed households, and were never married (77.2%).

Table 1: Association between the prevalence of teenage pregnancy by background characteristics

Background characteristics	Number (%)	Reported teenage pregnancy	
		No	Yes
Age in years (n=405)		$\chi^2 = 47.8$ p=0.000	
15 – 17	268(66.0)	82.9	17.1
18 – 19	137(34.0)	55.2	44.8
Special areas (n=405)		$\chi^2 = 13.6$ p=0.000	
Lake Victoria Island shoreline districts	38 (9.3)	51.7	48.3
Mountain districts	367 (90.7)	75.7	24.3
Residence (n=405)		$\chi^2 = 6.43$ p=0.040	
Urban	93 (22.9)	82.3	17.7
Rural	312(77.1)	70.9	29.1
Education level (n=404)		$\chi^2 = 10.4$ p=0.039	
None	16(4.0)	66.2	33.8
Primary	264(65.2)	69.6	30.4
Secondary +	124(30.8)	82.2	17.8
Sex of household head (n=404)		$\chi^2 = 14.8$ p=0.000	
Male	269(66.6)	68.3	31.7
Female	135(33.4)	83.8	16.2
Marital status (n=405)		$\chi^2 = 294$ p=0.000	
Never married	312(77.2)	91.1	8.9
Married	81(20.0)	8.8	91.2
Ever married	12(2.8)	15.9	84.1
Occupation (n=404)		$\chi^2 = 19.9$ p=0.001	
Working	196(48.5)	81.7	18.3
Not working	208(51.5)	64.8	35.2
Wealth index (n=405)		$\chi^2 = 11.8$ p=0.016	
Poorest	132(32.6)	64.3	35.7
Middle	108(26.7)	76.0	24.0
Rich	165(40.6)	79.2	20.8
Knowledge of any one FP method (n=404)		$\chi^2 = 5.57$ p=0.000	
Knows FP methods	392(97.0)	72.6	27.4
Knows nothing	12(3.0)	98.3	1.7

There were only 20.2% of the teenagers in the richest wealth quintile. With regard to religious affiliation, 34.9% of the teenagers were Catholics, while 33.5% were Anglicans and the majorities were not using contraception (87.9%). Whereas 97.0% of the teenagers had knowledge of at least one family planning method.

Prevalence of Teenage Pregnancy

Table 1 also shows the association between the prevalence of teenage pregnancy and background characteristics of respondents in the Lake Victoria Island and Mountain districts. Teenage pregnancy was high among teens aged 18 years and above (44.8%) compared to those under 18 years (p=0.000). Teenage pregnancy in Lake Victoria Island districts was twice (48.7%) that of Mountain

districts (24.3%), as well as twice the national figure of 25% [26]. It is also indicated that teenage pregnancy was higher for teenagers in rural areas than urban ones, and the association was statistically significant (p=0.040).

The prevalence of teenage pregnancy decreased with increasing education level, and the association was statistically significant (p=0.039). Teenage pregnancy in male headed households (31.7%) was significantly higher (p=0.000) than in female headed households (16.2%). Teenage pregnancy in married (91.2%) and ever married (84.1%) teens was significantly different (p=0.000) from those who were never married (8.9%).

Teenage pregnancy is significantly associated with occupation of the teens ($p=0.001$). The teenage pregnancy rate among the non-working teens was almost double (35.2%) that of their working counterparts (18.3%). The results further indicate that teenage pregnancy decreased with increase in wealth index. In addition, there were statistically significant associations between knowledge of some family planning methods ($p=0.000$) and teenage pregnancy.

Predictors of Teenage Pregnancy

Table 2 shows the predictors of teenage pregnancy. We used binary logistic regression analysis to establish the predictors of teenage pregnancy. The adjusted analysis results, after controlling for age and education level, indicate that older (18 – 19 years) teens were four times ($AOR=4.78$, $p=0.000$, $95\% CI=2.85 – 8.01$) more likely to experience teenage pregnancy than the younger (15 – 17 years) teens. Table 2 further shows that teens from mountain districts had less odds of experiencing teenage pregnancy ($AOR=0.35$, $p=0.000$, $95\% CI=0.21 – 0.60$) compared to those from Island districts.

Table 2: Multivariate logistic regression analysis showing predictors of teenage pregnancy

Background Characteristics	Unadjusted Analysis			Adjusted Analysis		
	Odds Ratio	95% CI	P values	Odds Ratio	95% CI	P values
Teenager's age						
15 – 17 years	1.00			1.00		
18 – 19 years	3.92**	2.31 – 6.64	0.000	4.78**	2.85 – 8.01	0.000
Special areas						
Island districtsR	1.00			1.00		
Mountain districts	0.34**	0.20 – 0.59	0.000	0.35**	0.21 – 0.60	0.000
Residence						
Urban R	1.00			1.00		
Rural	1.91**	1.02 – 3.57	0.043	1.77	0.98 – 3.20	0.060
Education level						
None R	1.00			1.00		
Primary	0.86	0.30 – 2.42	0.767	1.17	0.24 – 5.71	0.840
Secondary +	0.41**	0.16 – 1.04	0.061	0.40	0.11 – 1.42	0.150
Sex of household head						
Male R	1.00			1.00		
Female	0.42**	0.25 – 0.70	0.000	0.46**	0.25 – 0.85	0.004
Marital status						
Never married R	1.00			1.00		
Married	65.70**	25.50 – 169.30	0.000	50.4**	19.23–132.2	0.000
Ever married	55.55**	8.81 – 350.70	0.000	52.6**	7.58 – 357.1	0.000
Occupation						
Working R	1.00			1.00		
Not working	2.43**	1.43 – 4.11	0.001	2.22**	1.28 – 3.85	0.005
Wealth Index						
Poor R	1.00			1.00		
Middle	0.57	0.31 – 1.00	0.065	0.62	0.35 – 1.09	0.090
Rich	0.47**	0.28 – 0.78	0.004	0.54**	0.31 – 0.94	0.003
Knowledge of any family planning method						
Knows nothing R	1.00			1.00		
Knows FP methods	21.91**	2.69 – 178.3	0.004	18.37**	2.17 – 155.5	0.008

R = Reference category ** significant coefficient at 5% level

Table 2 further shows that sex of household head was a predictor of teenage pregnancy. Teens from households headed by a female were less likely (AOR=0.46, $p=0.004$, 95% CI=0.25 – 0.85) to experience teenage pregnancy than their counterparts from male headed households. Marital status was a statistically significant predictor of teenage pregnancy. Married (AOR = 50.4, $p=0.000$, 95% CI= 19.23 – 132.20) or ever married (AOR=52.6, $p=0.000$, 95% CI=7.81 – 357.1) teens and very high odds compared to the never married teens. Furthermore, in comparison with working teens, those who are not working were more likely (AOR=2.22, $p=0.005$, 95% CI= 1.28 – 3.85) to experience teenage pregnancy.

The adjusted analysis results also show that the socio-economic status of a teen was a predictor of teenage pregnancy. There were reduced odds of experiencing teenage pregnancy among teens with increasing wealth index. Teens who belonged to the rich quintile were less likely (AOR=0.54, $p=0.003$, 95% CI=0.31 – 0.94) to experience teenage pregnancy than their counterparts belonging to the poor category. In addition, an unexpected finding is that teenagers with knowledge of some family planning methods were more likely (AOR=18.37, $p=0.008$, 95% CI = 2.17 – 155.5) to experience teenage pregnancy.

Discussion

The main objective of this study is to establish the factors associated with teenage pregnancy in the Uganda Lake Victoria Island shoreline and Mountain districts. Teenage pregnancy in the Uganda Lake Victoria Island shoreline districts was 48.3% and 24.3% in the Mountain districts [26]. Overall, teenage pregnancy in these special areas was 31.0%, which is well over the national figure of 24.8%. This finding is consistent with studies in other countries which show high teenage prevalence ranging from 20% to 50% [2, 5, 6, 19, 22, 29]. The continued involvement in sexual activities puts teenagers at a risk of HIV/AIDS. This could be explained by peer pressure influence or lack of Information Education and Communication (IEC) materials to promote safe sex.

Being an older teen (18-19 years) increased the odds of teenage pregnancy in comparison with being younger (15 – 17 years). This finding is in line with other studies [18, 29, 30]. As teens get older, there is a likelihood of teens becoming more curious of their sexual and reproductive health changes, which leads to getting involved in sexual activities. Some studies have indicated that teens with inadequate sexual reproductive education are more likely to experience teenage pregnancy [3]. As expected, marital status was also a significant predictor of teenage pregnancy. Results suggest that married or ever married status increases the teen's likelihood of being pregnant or having borne a child. Teenagers who are or were in a marital relationship are exposed to reproductive health changes due to the marriage factor, as also observed by Rutaremwa [18].

Teens from female headed households were less likely to be exposed to teenage pregnancy compared to teens from male headed households. Girls tend to be much closer to female household

heads than male's household heads. Female household heads may easily discuss sexual reproductive health (SRH) issues with teenage girls than male household heads, a situation that would probably reduce the likelihood of early sexual relations and pregnancy. By contrast, the rapport between teenage girls and male household heads could be poorer and hence less discussion on SRH issues. The limited sexual reproductive health information could contribute to teens engaging in early sexual activities that lead to teenage pregnancy. However, Ellis et al. observed that greater exposure to father absence was strongly associated with elevated risk for early sexual activity and adolescent pregnancy [31].

Wealth status was a significant predictor of teenage pregnancy. Teens from rich households had reduced odds compared to those from the poor ones. Teens from rich households are perceived to have access to desired basic childhood necessities like education and knowledge about sexual health care. Availability of resources is an important factor towards access to health care services. In the same vein, in Nigeria, Amoran observed that students are exposed to teenage pregnancy because of low socio-economic status of the households [19].

Results indicate that the odds of teenage pregnancy were higher among teens with knowledge of any family planning methods. This suggests that teens with knowledge of how to prevent unwanted pregnancy were more likely to experience teenage pregnancy than their counterparts without any knowledge of family planning methods. It implies that most teenagers were not using contraceptives to prevent unwanted pregnancy, as observed in other studies [10]. Yakubu et al. has observed that teens in sub-Saharan Africa are not empowered with comprehensive sexuality education on how to access and use contraceptives to prevent teenage pregnancy [5].

Conclusions

Increased age, sex of household head, occupation, socio-economic status and knowledge of family planning methods were found to be statistically significant predisposing factors of teenage pregnancy in Uganda Lake Victoria Island shoreline and mountain districts. There is need for programs that promote contraceptive use among teenagers and household wealth creation projects, with special attention to dwellers in remote and hard-to-reach areas of the country.

Abbreviations

UDHS: Uganda Demographic Health Survey
STI: Sexually Transmitted Infections
UBOS: Uganda Bureau of Statistics
EA: Enumeration Area
AOR: Adjusted Odds Ratio
SRH: Sexual Reproductive Health
IEC: Information Education and Communication
CI: Confidence Interval
AIDS: Acquired Immune Deficiency Syndrome
HIV: Human Immunodeficiency Virus

FP: Family Planning

ICF: International Classification of Functioning Disability and Health

Funding

We received financial support from the College of Business and Management Sciences, Makerere University. The College played no part in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

Acknowledgements

We acknowledge the financial support provided by the College of Business and Management Sciences, Makerere University, and ICF for availing us the UDHS data.

References

1. World Health Organization. (2014). Adolescent pregnancy fact sheet. Geneva: World Health Organization.
2. Lillian, P., & Mumbango, T. (2015). Statistical modelling of adolescent pregnancy in Namibia. *J Nurs Care*, 4(04), 2167-1168.
3. Ayele, B. G. K., Gebregzabher, T. G., Hailu, T. T., & Assefa, B. A. (2018). Determinants of teenage pregnancy in Degua Tembien District, Tigray, Northern Ethiopia: A community-based case-control study. *PloS one*, 13(7), e0200898.
4. Ayanaw Habitu, Y., Yalew, A., & Azale Bisetegn, T. (2018). Prevalence and factors associated with teenage pregnancy, Northeast Ethiopia, 2017: a cross-sectional study. *Journal of pregnancy*, 2018.
5. Yakubu, I., & Salisu, W. J. (2018). Determinants of adolescent pregnancy in sub-Saharan Africa: a systematic review. *Reproductive health*, 15(1), 1-11.
6. Omoro, T., Gray, S. C., Otieno, G., Mbede, C., Phillips-Howard, P. A., Hayes, T., ... & Gust, D. A. (2018). Teen pregnancy in rural western Kenya: a public health issue. *International Journal of Adolescence and Youth*, 23(4), 399-408.
7. Gyan, C. (2013). The effects of teenage pregnancy on the educational attainment of girls at Chorkor, a suburb of Accra. *Journal of Educational and Social Research*, 3(3), 53.
8. Worldatlas. 'Highest Teen Pregnancy Rates Worldwide.' 2015.
9. Babiry, S., Akulume, M., Kisakye, A. N., & Kiwanuka, S. N. (2018). Clients and Providers' Perceptions on the Quality and Provision of Contraceptive Services to Youths at Community Level in Rural Uganda: A Qualitative Study. *Int J Reprod Fertil Sex Health*, 5(2), 118-125.
10. Kabagenyi, A., Habaasa, G., & Rutaremwa, G. (2016). Low contraceptive use among young females in Uganda: does birth history and age at birth have an influence? Analysis of 2011 Demographic and Health Survey. *Journal of contraceptive studies*, 1(1).
11. Murphy-Erby, Y., Stauss, K., & Estupinian, E. F. (2013). A participant-informed model for preventing teen pregnancy in a rural Latino community. *Journal of Family Social Work*, 16(1), 70-85.
12. Card, J. J., & Wise, L. L. (1978). Teenage mothers and teenage fathers: The impact of early childbearing on the parents' personal and professional lives. *Family planning perspectives*, 10(4), 199-205.
13. Kaye, D. K. (2008). Negotiating the transition from adolescence to motherhood: Coping with prenatal and parenting stress in teenage mothers in Mulago hospital, Uganda. *BMC Public Health*, 8(1), 1-6.
14. Rukundo, G. Z., Abaasa, C., Natukunda, P. B., Ashabahebwa, B. H., & Allain, D. (2015). Antenatal services for pregnant teenagers in Mbarara Municipality, Southwestern Uganda: health workers and community leaders' views. *BMC pregnancy and childbirth*, 15(1), 1-5.
15. Lwihula, G. K., Outwater, A., & Nyamuryekung'e, K. (2006). Sexually transmitted diseases in Mwanza, Tanzania: risk, beliefs, health care seeking behaviour, and responses. *East African Journal of Public Health*, 3(1), 1-7.
16. Atuyambe, L., Mirembe, F., Tumwesigye, N. M., Annika, J., Kirumira, E. K., & Foxelid, E. (2008). Adolescent and adult first time mothers' health seeking practices during pregnancy and early motherhood in Wakiso district, central Uganda. *Reproductive health*, 5(1), 1-11.
17. UNICEF. THE NATIONAL STRATEGY TO END CHILD MARRIAGE AND TEENAGE PREGNANCY 2014/2015 – 2019/2020. A society free from child marriage and teenage pregnancy. 2015.
18. Gideon, R. (2013). Factors associated with adolescent pregnancy and fertility in Uganda: analysis of the 2011 demographic and health survey data. *American Journal of Sociological Research*, 3(2), 30-5.
19. Amoran, O. E. (2012). A comparative analysis of predictors of teenage pregnancy and its prevention in a rural town in Western Nigeria. *International journal for equity in health*, 11(1), 1-7.
20. Mollborn, S. (2010). Predictors and consequences of adolescents' norms against teenage pregnancy. *The Sociological Quarterly*, 51(2), 303-328.
21. Kaye, D. K. (2008). Negotiating the transition from adolescence to motherhood: Coping with prenatal and parenting stress in teenage mothers in Mulago hospital, Uganda. *BMC Public Health*, 8(1), 1-6.
22. Jewkes, R., Vundule, C., Maforah, F., & Jordaan, E. (2001). Relationship dynamics and teenage pregnancy in South Africa. *Social science & medicine*, 52(5), 733-744.
23. Donoghue, E. (1992). Sociopsychological correlates of teenage pregnancy in the United States Virgin Islands. *International Journal of Mental Health*, 21(4), 39-49.
24. Uganda Ministry of Health. National Adolescent Health Policy. Kampala, Uganda; 2004.
25. Uganda Ministry of Health. National Policy Guidelines and Service Standards for Sexual and Reproductive Health and Rights. Kampala, Uganda; 2006.
26. Demographic, U. (2016). health survey (UDHS) 2011. Uganda Bureau of Statistics Kampala, Uganda.
27. UDHS, I. (2011). Uganda demographic and health survey. Uganda Bureau of Statistics, Kampala Uganda.

28. Uganda Ministry of Health. Health Sector Development Plan 2015/2016 to 2019/2020. Kampala, Uganda; 2015.
29. Manzi, F., Ogwang, J., Akankwatsa, A., Wokali, O. C., Obba, F., Bumba, A., ... & Gavamukulya, Y. (2018). Factors associated with teenage pregnancy and its effects in Kibuku Town Council, Kibuku District, Eastern Uganda: A cross sectional study. *Primary Health Care: Open Access*, 8(2), 1-6.
30. Kurth, F., Belard, S., Mombo-Ngoma, G., Schuster, K., Adegnika, A. A., Bouyou-Akotet, M. K., ... & Ramharter, M. (2010). Adolescence as risk factor for adverse pregnancy outcome in Central Africa—a cross-sectional study. *PloS one*, 5(12), e14367.
31. Ellis, B. J., Bates, J. E., Dodge, K. A., Fergusson, D. M., John Horwood, L., Pettit, G. S., & Woodward, L. (2003). Does father absence place daughters at special risk for early sexual activity and teenage pregnancy?. *Child development*, 74(3), 801-821

Copyright: ©2023 Richard Tuyiragize, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.