# Predisposing factors of teenage pregnancy in the Uganda Lake Victoria Island and Mountain districts

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## Abstract

**Introduction:** There is a high teenage pregnancy in Lake Victoria Island and Mountain districts of Uganda. Teenage pregnancy is highly associated with abortions, infant and maternal mortality, high rate of unemployment, school failure and drop-outs and limited future career opportunities. This paper identifies and explains 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. Odds ratios with 95% confidence interval and p-values were computed using appropriate logistic regression models to determine the presence and strength of associations between the teenage pregnancy and independent variables.

**Results:** Age, residence, secondary or higher education level, female-headed households, marital status (married), occupation, wealth index(rich quintile), and knowledge of ovulation cycle were found to have statistically significant associations with teenage pregnancy.

**Conclusion:** Increased age, rural residence, occupation(not working), and knowledge of ovulation cycle were statistically significant predisposing factors of teenage pregnancy in Uganda Lake Victoria Island shoreline area and mountain districts. Teenagers in these study areas should be provided with sexual education as well as teenage-friendly health services at health facilities that include a wide range of options, as well as medically accurate counselling and information could mitigate teenage pregnancy.

**Keywords:**
Teenage pregnancy, predisposing factors, Uganda

## Introduction

Teenage pregnancy and childbirth to women less than 20 years old continues to be a major global public health concern, affecting more than 16 million girls and young women worldwide(WHO, 2014). Teenage pregnancy is highly associated with abortions, infant and maternal mortality, high rate of unemployment, school failure and drop-outs and limited future career opportunities. As a result of increased awareness of the socioeconomic consequences of teenage pregnancy, researchers and policy makers have concluded that teenage pregnancy and childbearing is a serious problem (Gebregzabher,

39  Hailu, & Assefa, 2018; Lillian & Mumbango, 2015; Gyan, 2013; Yakubu & Salisu, 2018; Ayanaw
40  Habitu, Yalew, & Azale Bisetegn, 2018; Omoro et al., 2017).

41  According to the findings of the Uganda Demographic and Health Survey (UDHS)  (UBOS, 2016),
42  one out four (25%) girls aged 15 – 19 years have either a child or are pregnant, representing a 1%
43  increase in teenage pregnancy rates over the previous 2011 survey,(UBOS, 2011). The highest
44  prevalence of teenage pregnancy is in Lake Victoria Island districts at 48%,(UBOS, 2016). This shows
45  that teenage pregnancy remains a major issue in the Lake Victoria Island districts.  The low use of
46  contraception has been associated with high fertility, which remains a public health concern that
47  should be averted.

48  According to UDHS (2011) approximately 35% of girls drop out of school because of early marriage
49  and 23% do so because of early pregnancy. Early childbearing carries particular risks, including
50  dropping out of school, abandoning babies and obtaining illegal abortion that may result into death.
51  Lillian & Mumbango (2015) revealed that teenage pregnancy and childbearing is a serious social
52  problem that is linked to the spread of HIV/ AIDS, sexual abuse, neglect, and abortions as well as
53  infant and maternal mortality. Their results showed that teenage pregnancy was influenced by
54  generation, region, highest educational level, socio-economic status and cultural factors. Kabagenyi,
55  Habaasa & Rutaremwa (2016) conducted a study to examine what influences teenager's use of
56  contraception among teenagers in Uganda. Their findings show that the key predictors were age at
57  first birth, history of previous birth, current age, place of residence, education and socioeconomic
58  status. The conclusion was great need to address barriers to use of contraception among young people.
59  Use of contraception and improving access to the services is highly recommended to avert some of
60  the unplanned births among these females(Babirye, Akulume, Kisakye, & Kiwanuka, 2018; Murphy-
61  Erby, Stauss, & Estupinian, 2013).

62  According to UDHS(2016), the Eastern and East Central regions showed the highest rates of teenage
63  pregnancy in Uganda with 30.1% and 31.6% respectively which is higher than the national figure. This
64  is as a result of unsafe sexual practices. In addition to the unwanted/ early/ teenage pregnancies, these
65  young people are also at a high risk of HIV infection and infection from other STIs (Lwihula,
66  Outwater, & Nyamuryekung'e, 2006). There is need for an integrated approach to curb teenage
67  pregnancy. Atuyambe et al (2008) concluded that pregnant teenagers in Wakiso district (Including
68  Lake Victoria shoreline areas) lack basic needs like shelter, food and security. They also face relational
69  problems with families, partners and the community. Several social factors such as religious beliefs,
70  idleness and economic factors have been identified as factors contributing to early pregnancy and
71  marriage (Gideon, 2013; Amoran, 2012; Donoghue, 1992; UNICEF, 2015; Jewkes, Vundule, Maforah,
72  & Jordaan, 2001; Kaye, 2008; Mollborn, 2010) .

73  There is, therefore, a need to sensitize the community and school personnel about adolescent
74  reproductive health issues. In addition, adolescent friendly services need to be established or
75  strengthened. Continuous in-service training for health workers with emphasis on counseling skills
76  for young people is urgently needed. This paper identifies and explains the factors influencing teenage
77  pregnancy in Uganda Lake Victoria Island shoreline area and mountain districts.

78
79  **Materials and Methods**

80  The paper uses secondary data extracted from the 2016 Uganda Demographic and Health Survey
81  (UDHS) dataset. The 2016 UDHS special areas include the Islands and shoreline districts(Kalangala,
82  Mayuge, Buvuma, Namayingo, Rakai, Mukono and Wakiso) and mountains districts (Bundibugyo,
83  Kasese, Ntoroko, Bukwo, Bulambuli, Kapchorwa, Kween, Kisoro, Sironko, Mbale, and Kaabong).
84
85  The UDHS used a multistage cluster sampling, whereby at first stage, a random sample of enumeration
86  areas (EA), which are primary sampling units, was chosen from the census sampling frame. From the
87  selected EAs, households were systematically drawn. Only women of reproductive age (15–49 years),
88  in the selected households, were interviewed using a face-to-face questionnaire.

89  The questionnaire included variables on individual bio demographic factors, household characteristics,
90  and sexual history. In our study, the main variable of interest was age at first birth or pregnancy of a
91  woman. If yes, it was coded 1 and 0 otherwise, for women in the reproductive age-group. The
92  explanatory variables included current age, education level, residence ,household head (male or
93  female), relationship to household head, marital status, religion, occupation/employment, social
94  economic status (wealth index), knowledge of any contraception method, and knowledge of fertile
95  period.

96  Data analysis was conducted at three stages to explore the predisposing factors of teenage pregnancy
97  in Uganda Lake Victoria Island shoreline area and mountain districts. There was generation of
98  descriptive statistics of demographic and socio-economic variables. Some independent variables were
99  cross tabulated with teenage pregnancy to establish any potential associations. At the multivariate stage
100 binary logistic regression was used, and both unadjusted and adjusted logistic regression findings
101 presented. All the data were weighted to account for clustering and design effect. STATA 15 was used
102 for the analyses.

103 **Results**
104 Characteristics of respondents
105 Majority of the teenagers were below 18 years (66.0%) and about 14.7% had their first birth at less
106 than 15 years (Table 1). The percentage of teenagers with primary or no education (69.2%) more than
107 doubled those with secondary or higher education. This implies that educating teenagers may have a
108 significant effect in mitigating against teenage pregnancy. Majority of the teenagers (77.1%) were living
109 in the rural areas, with their parents (47.5%), while one in three (33.4%) teenagers came from female-
110 headed households, and were never married (77.2%).
111
112 There were only 20.2% of the teenagers in the richest wealth quintile. Asked about their religious
113 affiliation, 34.9% of the teenagers were Catholics, while 33.5% were Anglicans and the majorities were
114 not using contraception (87.9%). Whereas 97.0% of the teenagers had knowledge of family planning
115 methods, 60.3% did not know the fertile period (ovulation cycle).
116

3

117 **Table 1: Characteristics of respondents**

| Background characteristics | Number | Percentage |
|---|---|---|
| **Age in years** | | |
| 15 | 86 | 21.0 |
| 16 | 92 | 22.8 |
| 17 | 90 | 22.2 |
| 18 | 82 | 20.4 |
| 19 | 55 | 13.6 |
| **Age at first birth** | | |
| Less than 15 years | 13 | 14.7 |
| 15 – 19 years | 75 | 85.3 |
| **Special areas** | | |
| Lake Victoria Island shoreline area districts | 38 | 9.3 |
| Mountain districts | 367 | 90.7 |
| **Residence** | | |
| Urban | 93 | 22.9 |
| Rural | 312 | 77.1 |
| **Education level** | | |
| None | 16 | 4.0 |
| Primary | 264 | 65.2 |
| Secondary + | 124 | 30.8 |
| **Sex of household head** | | |
| Male | 269 | 66.6 |
| Female | 135 | 33.4 |
| **Marital status** | | |
| Never married | 312 | 77.2 |
| Married | 81 | 20.0 |
| Ever married | 12 | 2.8 |
| **Religion** | | |
| Anglican | 136 | 33.5 |
| Catholic | 141 | 34.9 |
| Moslem | 56 | 13.8 |
| Other | 72 | 17.8 |
| **Occupation** | | |
| Working | 196 | 48.5 |
| Not working | 208 | 51.5 |
| **Wealth index** | | |
| Poorest | 42 | 10.5 |
| Poorer | 90 | 22.1 |
| Middle | 108 | 26.7 |
| Richer | 83 | 20.4 |
| Richest | 82 | 20.2 |
| **Knowledge of any FP method** | | |
| Knows FP methods | 392 | 97.0 |
| Knows nothing | 12 | 3.0 |

118

4

119     **Table 1: Continued**

| Knowledge of fertile period (ovulation cycle) | | |
|---|---|---|
| During periods | 20 | 4.9 |
| After periods | 160 | 39.7 |
| Middle of periods | 42 | 10.3 |
| Before periods | 43 | 10.6 |
| Any time | 31 | 7.7 |
| Don't know | 109 | 26.8 |

120

121     Prevalence of teenage pregnancy

122     Teenage pregnancy in Lake Victoria Island districts was twice (48.7%) that of Mountain districts
123     (24.3%), as well as twice the national figure of 25%. Table 2 indicates that teenage pregnancy was
124     higher for teenagers in rural areas than urban ones, and the association was statistically significant
125     (p=0.040).

126

127     The prevalence of teenage pregnancy decreased with increasing education level, and the association
128     was statistically significant (p=0.039). Teenage pregnancy in male headed households (31.7%) was
129     statistically significantly different (p=0.000) from female headed households.16.2%). There was twice
130     teenage pregnancy rate in male headed households compared to the female headed households.
131     Teenage pregnancy in married (91.2%) and ever married (84.1%) teens was statistically significantly
132     different (p=0.000) from those who were never married (8.9%).

133

134     Teenage pregnancy is statistically significantly associated with occupation of the teens (p=0.001).
135     There was almost twice teenage pregnancy rate in the not working teens (35.2%) compared to the
136     working class (18.3%). The results further indicate that teenage pregnancy decreased with increase in
137     wealth index.

138

139     There were statistically significant associations between knowledge of family planning methods
140     (p=0.000) and teenage pregnancy. In addition, there was a higher teenage pregnancy in teens who had
141     knowledge of ovulation cycle (36.2%) compared to those who had no knowledge at all (20.2%), and
142     the difference was statistically significant (p=0.005).

143

5

144     Table 2: Prevalence of teenage pregnancy by background characteristics

| Background characteristics | No pregnancy | Pregnancy | Total |
|---|---|---|---|
| **Residence** | | | |
| Urban | 82.3 | 17.7 | 93 |
| Rural | 70.9 | 29.1 | 312 |
| $\chi^2 = 6.43$ | | p=0.040 | |
| **Special areas** | | | |
| Lake Victoria Island shoreline area districts | 51.7 | 48.3 | 38 |
| Mountain districts | 75.7 | 24.3 | 367 |
| $\chi^2 = 13.6$ | | p=0.000 | |
| **Education level** | | | |
| None | 66.2 | 33.8 | 16 |
| Primary | 69.6 | 30.4 | 264 |
| Secondary + | 82.2 | 17.8 | 125 |
| $\chi^2 = 10.4$ | | p=0.039 | |
| **Sex of household head** | | | |
| Male | 68.3 | 31.7 | 270 |
| Female | 83.8 | 16.2 | 135 |
| $\chi^2 = 14.8$ | | p=0.000 | |
| **Marital status** | | | |
| Never married | 91.1 | 8.9 | 312 |
| Married | 8.8 | 91.2 | 81 |
| Ever married | 15.9 | 84.1 | 12 |
| $\chi^2 = 294$ | | p=0.000 | |
| **Occupation** | | | |
| Working | 81.7 | 18.3 | 208 |
| Not working | 64.8 | 35.2 | 197 |
| $\chi^2 = 19.9$ | | p=0.001 | |
| **Wealth Index** | | | |
| Poor | 64.3 | 35.7 | 132 |
| Middle | 76.0 | 24.0 | 108 |
| Rich | 79.2 | 20.8 | 165 |
| $\chi^2 = 11.8$ | | p=0.016 | |
| **Knowledge of any FP method** | | | |
| Knows FP methods | 72.6 | 27.4 | 392 |
| Knows nothing | 98.3 | 1.7 | 13 |
| $\chi^2 = 5.57$ | | p=0.000 | |
| **Knowledge of fertile period (ovulation cycle)** | | | |
| Don't know | 79.8 | 20.2 | 244 |
| Know (After periods) | 63.8 | 36.2 | 161 |
| $\chi^2 = 17.1$ | | p=0.005 | |

145

146     Predictors of teenage pregnancy

147     The variables with significant associations with teenage pregnancy were included in the binary

148     logistic regression model, and the results are presented in Table 3.

149

6

150    Table 3: Predictors of teenage pregnancy

| Background Characteristics | Odds Ratio | 95% Confidence Interval |
|---|---|---|
| **Teenager's age** | | |
| Current age | 2.00** | 1.65 – 2.43 |
| **Special areas** | | |
| Lake Victoria Island shoreline area districts[R] | 1.00 | |
| Mountain districts | 0.34** | 0.20 – 0.59 |
| **Residence** | | |
| Urban [R] | 1.00 | |
| Rural | 1.91** | 1.02 – 3.57 |
| **Education level** | | |
| None [R] | 1.00 | |
| Primary | 0.86 | 0.30 – 2.42 |
| Secondary + | 0.41** | 0.16 – 1.04 |
| **Sex of household head** | | |
| Male [R] | 1.00 | |
| Female | 0.42** | 0.25 – 0.70 |
| **Marital status** | | |
| Never married [R] | 1.00 | |
| Married | 65.70** | 25.50 – 169.30 |
| Ever married | 55.55** | 8.81 – 350.70 |
| **Occupation** | | |
| Working [R] | 1.00 | |
| Not working | 2.43** | 1.43 – 4.11 |
| **Wealth Index** | | |
| Poor [R] | 1.00 | |
| Middle | 0.57 | 0.31 – 1.00 |
| Rich | 0.47** | 0.28 – 0.78 |
| **Knowledge of fertile period (ovulation cycle)** | | |
| Don't know [R] | 1.00 | |
| Know (After periods) | 2.24** | 1.27 – 3.97 |

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

152    The logistic regression analysis results indicate that older teens were twice (OR=2.00, 95% CI =1.65
153    – 2.43) more likely to experience teenage pregnancy than the younger teens. This finding is consistent
154    with the study conducted by (Kurth et al., 2010). Similarly, teens who lived in rural areas were almost
155    twice (OR=1.91, 95% CI=1.02 – 3.57) more likely to experience teenage pregnancy than those who
156    lived in urban areas. Also, teens from mountain districts had less odds. With regard to education level,
157    compared to teens with no education, the risk of teenage pregnancy reduced among teens with primary
158    education (OR=0.86, 95% CI=1.30 – 2.42), and reduced further among teens with secondary or higher
159    education level (OR=0.41, 95% CI=0.16 – 0.70).

160

161    Table 3 further shows that sex of household head was a predictor of teenage pregnancy. Teens from
162    households headed by a female were less likely (OR=0.42, 95% CI=0.25 – 0.70) to experience teenage
163    pregnancy than their counterparts from male headed households. Marital status was a statistically
164    significant predictor of teenage pregnancy. Married (OR = 65.70, CI= 25.50 – 169.30) or ever married
165    (OR=55.55, CI=8.81 – 350.70) teens and very high odds compared to the never married teens.

166  Furthermore, in comparison with working teens, those who are not working were more likely
167  (OR=2.54, 95% CI= 1.43 – 4.11) to experience teenage pregnancy.
168
169  Results show that the socio-economic status of a teen was a predictor of teenage pregnancy. There
170  were reduced odds of experiencing teenage pregnancy among teens with increasing wealth index.
171  Teens who belonged to the rich quintile were less likely (OR=0.47, 95% CI=0.28 – 0.78) to experience
172  teenage pregnancy than their counterparts belonging to the poor category. With regard to knowledge
173  of the ovulation cycle, compared to teens who do not know, teens who know the ovulation cycle had
174  over twice (OR=2.24, 95% CI=1.27 – 3.97) the risk of experiencing teenage pregnancy.
175
176  **Discussion**

177  Teenage pregnancy in the Uganda Lake Victoria Island districts was 48.3% and 24.3% in the Mountain
178  districts. Overall, teenage pregnancy in these special areas was 26%, which is slightly over the national
179  figure of 24.8%. This finding is consistent with studies in other countries which show high teenage
180  prevalence ranging from 20% to 50% (Manzi, Ogwang, Akankwatsa, Wokali, & Obba, 2018; Yakubu
181  & Salisu, 2018) Omoro et al., 2017; Amoran, 2012;Lillian & Mumbango, 2015; Jewkes et al., 2001).
182  This reflects a pattern of sexual activity which puts teenagers at a risk of HIV/AIDS. This could be
183  attributed to poverty, peer pressure influence or lack of Information Education and Communication
184  (IEC) materials to promote safe sex.
185
186  As observed by Omoro et al (2017), this study shows that teenagers who lived in rural areas were more
187  likely to have teenage pregnancy compared to their counterparts in the urban settings. This is because
188  teenagers from the rural areas are less educated and have limited access to sexual health services than
189  their urban counterparts. This is an issue of concern given that UBOS (2016) reports that 85% of
190  Uganda's youth live in rural areas. Providers of rural health care services should make facilities youth
191  friendly. Policies should be designed to promote youth involvement in safe sex activities.
192
193  Results indicate that teens with primary, secondary or higher education were less likely to have teenage
194  pregnancy compared to those with no formal education. This could be due to lack of school fees and
195  scholastic materials, as well as lack of transport to and from school as similarly  observed by Omoro
196  et al (2017). Education plays an important role in empowering teens with information and knowledge
197  about safe sex, as reported in other studies(Cook, 2010; Gyan, 2013; Omoro et al., 2017; Stanger-Hall
198  & Hall, 2011; Westway, Barratt, & Seeley, 2009).
199
200  Teens from female headed households were less likely to be exposed to teenage pregnancy compared
201  to teens from male headed households. This could be due to lack of information communication
202  about sexual reproductive health from the male heads of households. And as a result teens engage in
203  early sexual activities that lead to teenage pregnancy. Girls tend to be much closer to female household
204  heads than males household heads. Female household heads may easily discuss sexual reproductive
205  health (SRH) issues with teenage girls than male household heads, a situation that would probably
206  reduce the likelihood of early sexual relations and pregnancy. By contrast, the rapport between teenage
207  girls and male household heads could be poorer and hence less discussion on SRH issues. However,
208  Ellis et al (2003) observed that greater exposure to father absence was strongly associated with elevated
209  risk for early sexual activity and adolescent pregnancy.
210
211  Wealth status was a significant predictor of teenage pregnancy. Teens from rich wealth quintile had
212  reduced odds compared to those from the poor quintile. Teens from rich households are perceived

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213    to have access to desired basic childhood necessities like education and knowledge about sexual health
214    care. However, in Nigeria, Amoran (2012) observed that students are exposed to teenage pregnancy
215    because of low socio-economic status of the households.
216

**Conclusions**

217    
218    Increased age, rural residence, secondary or higher education level, occupation, and socio-economic
219    status were found to be statistically significant predisposing factors of teenage pregnancy in Uganda
220    Lake Victoria Island shoreline area and mountain districts. We recommend that teenagers should be
221    provided with sexual education for them to learn about the changes they go through and their sexual
222    reproductive health rights. Other measures such as promoting household wealth creation and ensuring
223    girls keep in school by providing them with scholastic materials and other school requirements. Also,
224    provision of teenage-friendly health services at health facilities that include a wide range of options,
225    as well as medically accurate counselling and information could mitigate teenage pregnancy.
226

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