Socio-economic Factors Associated with Premarital child bearing and Adolescents' Age at first Motherhood

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Abstract

This paper focuses on adolescence sexual activity and child bearing before and after first marriage as well as socio – economic factors associated with their age at first childbearing. The paper observed a high rate of first premarital adolescent pregnancies among interviewed adolescent women in Tanzania. The paper furthermore found that premarital first pregnancies seem to be prevailing in most of the analysed sub-Sahara African countries in comparison with others in the developing countries. Literate adolescent women had a higher likelihood of having premarital sexual intercourse than illiterates. However, literacy raises age at first birth for adolescents. Literate adolescents, on the other hand, are more likely to be displeased with the timing of their first birth than illiterate adolescent women. The more years an adolescent attends school, the higher the age at first birth. An urban adolescent woman had a higher likelihood to experience premarital sexual intercourse than rural adolescents. Protestant unmarried adolescent women are less likely to experience sexual intercourse compared to Moslems. Moslem adolescents have the first birth earlier than Christians.

1. Introduction

Adolescents broadly defined, as the young population aged 10-19 years, is a vital population segment, making up 24.2 percent of the Tanzanian population and adolescents theoretically believed to be in the child bearing group (15-19 years), amount to 11 percent of all Tanzanian women.[2] Adolescence is an important period in any human being's life as this is the time of rapid growth both physically and mentally. This period of adolescence is characterised by high risk for early and unwanted sexual activity, forced marriage, and early pregnancies. The challenge to the policy-makers and to social forces influencing society is to provide adolescents with more control over their lives by either making contraceptives accessible to adolescents, or delay sexual activity, marriage, and child bearing until they are ready and willing.

Adolescent fertility in Tanzania has been ignored for a long time because of the assumption that fertility is confined to marriage. Maintaining this assumption means excluding the increasing magnitude of premarital and extramarital fertility. It should be noted that in Tanzania only 30 percent of ever-married women had their first sexual experience within their first marriage. The remaining 70 percent had sexual intercourse prior to their first marriage (Ngalinda, 1998). However, the actual level of premarital sexual activity may even be higher than the reported level because single women might feel that it is not acceptable to acknowledge that they are sexually active.

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[2] Bureau of Statistics (1992), Population Census, Basic Demographic and Socio-economic characteristics, page 7.

Child bearing in a crucial period of human development might have serious consequences on these young mothers. It can limit educational attainment, restrict the skills young women acquire for the work force, limit their capacity to support themselves financially, negatively affect their healthy, and reduce their quality of life. Moreover, their families may disown adolescents who gave birth before marriage since virginity is still considered important to a first marriage. Therefore, many are left with the responsibility of raising the children themselves that lead to prostitution among these abandoned adolescents. Besides these problems, schoolgirls are not allowed to continue attending school when they are pregnant. Therefore, many of them might perform illegal abortion, which can cost their life so as to remain in schools (Njau and Lema, 1988; Mashalaba, 1989; Meekers, 1990).

Even if pregnant schoolgirls could have been allowed to continue attending classes, this would not solve the problem as the ability of young mothers to support themselves and their children is affected by economic hardship of their parents and later employment opportunities available to them. These opportunities, in turn, are largely determined by the qualifications that young mothers bring to the market. It seems reasonable to assume that caring for young children will conflict with and possibly reduce a woman's investment of time and effort in primary school completion, college attendance, post-secondary training, and early work experience. If reductions in these early investments occur, they are likely to have profound, long-term consequences for the earnings and employability of the mother and, hence, for the economic wellbeing of both the mother and her children.

Economic hardships, urbanisation, and weakening of traditional structures that informed and regulated young people's sexual behaviour have been associated with adolescent sexual and reproductive health problems. The situation has worsened by the resistance of the society in accepting the introduction of reproductive health education component in the Tanzanian school curriculum. The reason for discouraging reproductive health education in schools was that such information might encourage promiscuity among adolescents rather than helping them to minimize the consequences of unprotected sexual activities (Kapinga et al., 1992; Leshabari et al., 1997; Lwihula, 1996).

However, one have to bear in mind that, not all adolescent sexual activities are consensual. Sexual abuse, incest, and rape are troubling realities in developing and developed countries alike. In Uganda, nearly half (49 percent) of all sexually active girls in primary school reported that they were forced to have sexual intercourse. Almost 22 percent anticipate receiving gifts or money in exchange for sex (Waite, and Moore, 1978). In the United States, 7 in 10 women who had sex before age 14, and 6 in 10 who had sex before they reach age 15, report having had sex involuntarily (AGI, 1994).

In general practise, traditions and cultural conventions in Tanzania are weakening. The weakening of cultural conventions results in changes of the behaviour of people, often causing new problems and challenges for a society. Whereas in the past premarital virginity was an important cultural condition for young women to become married, this seems to be disappearing. Today, it seems to become important that a woman proves her fecundity prior to establishing a union (Ngalinda, 1998). More and more men engage into premarital sexual relationships with young women, whom they make believe that they would marry them in the future. Very often, if these women become pregnant, they are left alone and unmarried by their sexual partners, who do not want to take over the responsibility for the pregnant woman. Ever since premarital virginity has

been losing its importance, the number of women who have to bear their children without getting married to the father are on the increase (Ngalinda, 1998). On the other hand, pregnancy might be increasingly perceived by women as a means to pressure men to marry them.

2. *Data and Methodology*

The major source of data in this paper is the 1996 Tanzania Demographic and Health Surveys (TDHS). Efforts were also made to compare the findings based on TDHS with other sub-Saharan Africa countries that conducted the DHS III between 1993 and 1996. In addition, Brazil was selected to represent South America, Bangladesh to represent South Asia, the Dominican Republic to represent Central America/Caribbean, and Egypt to represent North Africa and the Middle East. The choice of these countries was to some extent due to the fact that these countries conducted DHS III and made the data available for scholarly analysis.

Data on age at first motherhood are based on retrospective reports and as such are susceptible to biases resulting from the failure to report first births (omission) and misreporting of the date of first birth (misplacement). However, the assessment of the quality of TDHS data did not detect any serious errors that would vitally affect the demographic analysis (Ngalinda, 1998).

Most of the characteristics used in the paper are duration variables measured in terms of the time elapsed before a particular event is experienced. For example, age at entry into sexual union is recorded as the time elapsed between the date of the birth of an individual adolescent woman and the date of the first sexual intercourse. However, for some individuals the time elapsed to the day of the interview may not have been sufficient for the event to occur. In these cases the information on duration has been censored by the interview. For censored information, classic life table methods are found to be the most suitable analytic methods (Ngalinda, 1998).

To show the distribution of these duration variables, the paper presents a series of quartiles T_x, the time elapsed before *x* percent of the persons concerned have experienced the event. The paper presents T_{10}, T_{25}, T_{50}, T_{75} and T_{90} as the time elapsed before 10, 25, 50, 75 and 90 percent of the persons have experienced the event. The trimean is a more sensitive measure of location and contains some information about the shape of the distribution (Rodriguez and Hobcraft, 1980). The trimean is the weighted average of the quartiles that give twice as much weight to the median as to the other two quartiles. As a measure of central tendency the trimean, which is defined as $((T_{25} + 2*T_{50} + T_{75})/4)$ will be used.

Logistic regression analysis will also be employed in this paper. Logistic regression is usually used when the response variable may be quantitative, categorical, or a mixture of the two. The general form of a multiple regression equation is $Y = \alpha + B1X1 + B2X2 + \ldots + BnXn$ where Y is the estimated value of the dependent variable. While α being the constant term, BI is the regression coefficients for each of the independent variables Xi (for i = 1,2,3,…,n).

In a study if an adolescent is sexually experienced, for example, the response variable might be experienced or not experienced at the time of the survey. In a situation like this, the standard multiple regression analysis becomes inappropriate, as the response and predictors cannot be related through a linear relationship. One important method that can be used in such a situation is logistic regression. Logistic regression has been widely used in a functional relationship where the response variable is categorical, often either a success or failure (Mturi, 1996).

3. Adolescents Child bearing

According to the 1996 TDHS data, Tanzanian adolescents engage in sexual practices early before they are 15 years. On average most of them start sexual intercourse, get married, and have their first birth between age 15 and 17 (Figure 1). But if we examine adolescents by using the life table approach, which is relevant for the evaluation of duration variables, we find that on average a Tanzanian adolescent first experience sexual intercourse when she is 15 years, first marry at 16 years and become a mother when she reaches 17 years (Table 1).

Figure 1: Percent distribution of adolescents by age at first sexual intercourse, marriage, and birth in single years

Source: calculated from 1996 TDHS

Table 1 further reveals that by the age of 15, about 10 percent of adolescents had their first live birth and about one-quarter have done so by the time they are 16 years old. In general, it is evident that adolescents are having sexual intercourse before marriage. But most of them have their first birth after marriage and the difference between these three events is one year each between the events. However, the timing of first sexual intercourse, marriage and birth is concentrated between age 15-17.

Table 1: Adolescents' age at first sexual intercourse, marriage and birth

	T10	*T25*	*T50*	*T75*	*Trimean*	*N*
AFSI	12.8	14.2	15.4	16.5	15.3	707
AFM	14.0	15.0	16.2	17.3	16.2	442
AFB	14.8	15.8	16.9	17.9	16.8	361

Note: AFSI (Age at first sexual intercourse)
       AFM (Age at first marriage)
       AFB (Age at first birth)
Source: calculated from 1996 TDHS

Although Meekers (1993) by using DHS II data found a large variation in the timing of first sexual intercourse in sub-Saharan Africa, this paper found a higher uniformity of mean age at first sexual intercourse in the mid 90s ranging between 14.2 years in Comores and 16.2 years in Zimbabwe (Table 2).

Table 2: Mean age at first birth (trimean) by current age in sub-Saharan countries for all women.

Country	*Year*	*AFSI*	*AFM*	*AFB*
Benin	1996	15.3	16.2	16.9
Central African Republic	1994	14.9	15.1	16.2
Comores	1996	14.2	14.9	15.8
Côte d'Ivoire	1994	14.7	15.4	15.9
Ghana	1993	15.5	16.2	17.1
Kenya	1993	15.1	16.4	16.7
Mali	1995	15.0	15.0	16.2
Tanzania	**1996**	**15.2**	**16.2**	**17.2**
Uganda	1995	14.8	15.5	16.3
Zambia	1996	14.8	16.1	16.6
Zimbabwe	1994	16.2	16.4	16.8
Egypt	1995	-	16.2	16.9
Bangladesh	1996	-	13.9	15.7
Brazil	1996	16.2	17.9	20.4
Dominican Republic	1996	15.1	15.2	16.3

Source: from Ngalinda, 1998

However, most countries' mean age at first sexual intercourse is around 15 years. Every country follows the trend that sexual intercourse on average is first followed by marriage, and later by first birth. But the differences between mean age at first sexual intercourse and first marriage differ to some extent from 2 months to 1.3 years for Kenya and Zambia respectively, which shows that premarital sexual intercourse is a common practice among sub-Sahara African countries for all. This finding is supported by earlier beliefs that women in sub-Saharan Africa are more likely to be sexually

experienced before marriage than are those in Latin America and the Caribbean, and much more likely than those in Asia and Oceania (McCauley and Salter, 1995). However, Table 2 clearly shows that in general women in sub-Saharan Africa experience sexual intercourse and become mothers during adolescence.

4. Socio-economic Factors Associated with Premarital Childbearing[3]

Table 3 shows the results of the logistic regression model predicting the effect of background variables on the likelihood that an ever-married woman had intercourse before first marriage. Literacy, age, and the age at which a woman marries have the strongest correlates of the likelihood of having had premarital sexual intercourse. Religion has weak correlates. Exposure to the risk of premarital sexual intercourse increases with increasing age at which a woman first marries. Women who marry at a later age are significantly more likely to have engaged in premarital sexual relations than women who marry at a younger age. Literate women are 1.5 times more likely to have had premarital sexual intercourse than women who are illiterate: the effect is significant. This may be due the fact that formal education exposes adolescents to different values, and the school environment enables them to interact more with partners of the opposite sex (Bauni, 1990; Ocholla-Ayayo et al., 1990).

Urban residence has a positive effect on premarital sexual intercourse as urban residents are 1.2 times more likely to have had premarital sexual intercourse than their rural sisters; the effect is statistically significant. This finding can be attributed to the modernisation processes in urban areas which tends to disassociate people from traditional social controls. It is believed that the traditional social controls of adolescent sexual behaviour are less effective in urban areas than in rural areas (Adeokun, 1990).

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[3] Refer to all sampled women

Table 3: Odds ratio predicting the relative risk that an ever-married woman had premarital sexual intercourse

Variable	Odds Ratio
Literacy	
Literate	1.51***
Semiliterate	1.24*
Illiterate	RC
Religion	
Moslem	RC
Catholic	1.11
Protestant	.86
Others	1.07
Place of Residence	
Urban	1.23**
Rural	RC
Age at first Marriage	
<15	.34***
15-17	.43***
18-19	.51***
20-21	.55**
22-24	.66*
25+	RC

*** P< .001
** p< .01
*p< .05
Source: calculated from 1996 TDHS

The effect of background variables on the likelihood that an unmarried woman is sexually experienced (Table 4) shows that unmarried Protestant women are less likely to have had sexual experience than Moslems; the effect is statistically significant. Although the effect is not significant, Catholics are less likely to have had sexual experience than Moslems. Therefore unmarried Moslem women are more likely to have sexual experience than Christians. Unmarried literate women are less likely to experience sexual intercourse than illiterate women. Unmarried urban women are more likely to experience sexual intercourse before marriage than their rural counterparts; the relationship is highly significant. Urban women are 2.2 times more likely to experience sex than unmarried rural resident women.

Table 4: Odds ratio predicting the relative risk that a never married woman is sexually experienced

Variable	Odds ratio
Literacy	
Literate	.66*
Semiliterate	.75
Illiterate	RC
Religion	
Moslems	RC
Catholics	.89
Protestants	.70*
Others	1.12
Place of Residence	
Urban	2.21***
Rural	RC

*** P< .001
** p< .01
*p< .05
Source: calculated from 1996 TDHS

Table 5 shows the result of a logistic regression model estimating the effect of background variables on the likelihood that a woman has a premarital birth. Due to the fact that the reference is the interval between age at marriage and age at first birth, this model excludes never married women. From the fact that adolescent contraceptive use has remained low in Tanzania (Ngalinda, 1998), these differentials in premarital sexual activity are reflected in the level of premarital child bearing.

Age at first marriage is the strongest correlate of premarital child bearing for those who eventually marry. Women who marry late are exposed to the risk of premarital pregnancy for a longer period of time than women who marry early and they are much more likely to have a child before marriage than women who marry at a younger age. For example, women who marry before attaining 15 years are 17 times less likely to have a first child before first marriage than those who marry at age 25 and more; the effect is highly significant statistically.

Premarital child bearing is more common among literate women than among those who are illiterate. But the effect on the likelihood of having a premarital birth is not significant after controlling for the other variables. This finding does not imply that education per se is the cause of this high level of premarital child bearing but that it is due to the fact that literate women also tend to marry later than illiterate women. Urban residence has a significantly positive effect on premarital child bearing. This finding is consistent with the literature that suggests that premarital child bearing is a modern phenomenon that increases with socio-economic development (Cherlin and Riley, 1986; Kulin, 1988).

Table 5: Odds ratio predicting that a woman had her first child before first marriage

Variable	Odds ratio
Literacy	
Literate	1.01
Semiliterate	1.18
Illiterate	RC
Religion	
Moslems	RC
Catholics	1.04
Protestants	.90
Others	.78*
Place of Residence	
Urban	1.05***
Rural	RC
Current age	
15-19	1.09**
20+	RC
Age at first Marriage	
<15	.06***
15-17	.10***
18-19	.19***
20-21	.26***
22-24	.43***
25+	RC

*** P< .001
** p< .01
*p< .05
Source: calculated from 1996 TDHS

Being Moslem have a positive effect on premarital child bearing compared to other denominations in Tanzania. However, the findings in this paper seem to suggest that premarital child bearing is a result of degradation of sexual morals as adolescents are now exercising less restrain than was the case in the past, especially educated ones. Meekers (1993) argues that what has changed is not adolescent sexual behaviour and child bearing itself, but rather the social context in which this occurs.

Cherlin and Riley (1986) was the first scholars to raise a question whether adolescent mothers want to give birth. The answer to this question can be reflected in the initial analyses of the DHS data, which suggested that more than 40 percent of adolescent births in Botswana, Ghana, Kenya, Liberia, and Togo were unwanted (Njogu and Martin, 1991). Ngalinda (1998) found a high proportion of adolescent women in Tanzania had unintended births (27 percent of all births to adolescents), either not wanted at the time the birth occurred or not wanted at all. Therefore one might assume that some of the adolescents faced with an unplanned pregnancy might turn to illegal abortion. Since young women often cannot pay the price of an abortion performed by a medically or paramedical trained person, they risk their lives using fatal methods. When the abortion is performed by an untrained person, or under unsanitary conditions, the procedure can result in illness, infection, infertility, and even death. Intakes of huge

amount of chroloquine tablets were often found to be the cause of death of pregnant adolescent women who wanted to terminate their pregnancies (Justesen, et al., 1992).

Table 6: Odds ratio predicting that a woman was unhappy with the timing of her first pregnancy

Variable	Odds ratio
Literacy	
Literate	7.31*
Semiliterate	5.23
Illiterate	RC
Religion	
Moslem	RC
Catholics	.07**
Protestants	.27
Others	.72*
Place of Residence	
Urban	.67***
Rural	RC
Age	
15-19	.69**
20+	RC
Conception Status	
Premarital	8.48**
Marital	RC

*** P< .001
** p< .01
*p< .05
Source: calculated from 1996 TDHS

Literate women are 7 times more likely to be displeased with their first pregnancies than illiterate women. It is interesting to note that Moslems have a greater likelihood of being displeased with the timing of their first pregnancy while Catholics are 14 times less likely to be displeased with the first pregnancies than Moslem women; the difference is statistically significant. Although not statistically significant, it seems than Protestant women are 4 times less likely to be unhappy with their first pregnancies than Moslems. On the other hand, those who are neither Christians nor Moslems are 1.4 times less likely to be unhappy with their first pregnancies than Moslems.

It seems that rural women have a greater likelihood of being displeased with their first pregnancies than their urban counterparts; the relation is statistically significant. Urban adolescent women are 1.5 times less likely to be unhappy with their first pregnancies than rural adolescents. It is not expected that younger adolescents are happier than older women. However, adolescent women are 1.4 times less likely to be unhappy with their first pregnancies than old women. This might be from a fact that the older a woman grow the more she sees about the consequences of early pregnancy. Women who conceive their first pregnancy before their first marriage are most likely to be displeased with the timing of the first birth. Moreover, they are 8 times more likely to be unhappy with their first pregnancies than married ones.

Table 7: Percentage of adolescents in sub-Saharan countries and selected developing countries by birth status

Country	Year	No births	Never Married	X	Y	Z	Premarital Conception	Premarital Births	Marital births	N
Benin	1996	80.6	1.4	0.5	3.9	13.7	5.8	1.9	17.6	1,075
Central African Republic	1994	71.6	6.2	0.4	3.0	18.7	9.6	6.6	21.7	1,288
Comores	1996	92.7	0.1	0.2	2.4	4.6	2.7	0.4	7.0	844
Côte d'Ivoire	1994	71.5	12.0	2.9	2.5	11.1	17.4	14.9	13.6	1,961
Ghana	1993	81.4	3.6	0.5	5.1	9.3	9.2	4.1	14.4	803
Kenya	1993	83.2	7.4	2.0	2.6	4.7	12.0	9.4	7.4	1,754
Mali	1995	66.4	4.4	0.8	6.1	22.4	11.3	5.2	28.5	1,883
Tanzania	**1996**	**79.2**	**5.9**	**1.4**	**2.5**	**11.1**	**9.8**	**7.3**	**13.6**	**1,732**
Uganda	1995	65.9	3.3	3.0	4.5	23.3	10.8	6.3	27.9	1,606
Zambia	1996	76.2	5.8	2.2	4.6	11.2	12.7	8.1	15.8	2,003
Zimbabwe	1994	85.3	2.9	1.0	3.6	7.3	7.4	3.8	10.9	1,472
Egypt*	1995	48.9	0.0	0.0	1.5	49.8	1.5	0.0	51.3	673
Bangladesh*	1996	49.6	0.0	0.0	0.5	49.8	0.5	0.0	50.3	1,416
Brazil	1996	85.7	2.7	1.3	3.7	6.7	7.6	3.9	10.4	2,464
Dominican Republic	1996	81.7	0.9	0.4	2.3	14.8	3.6	1.3	17.1	1,801

* ever married women only
X = first births occurred before first marriage for ever married women; Y = first births within marriage but less than 9 months after first marriage; Z = first birth of 9 months or more after the first marriage.
Source: calculated from DHS III

A comparison between the Tanzanian situation and other countries in sub-Saharan Africa that conducted DHS III could be useful in clarifying this issue. The percentage of sub-Sahara African adolescents who have not yet experienced a live birth varies between countries. It ranges from 65.9 percent in Uganda to 92.7 percent in Comores. These figures mean that in sub-Saharan Africa countries at the time of survey almost one in five female adolescents were already mothers. The percentage of unmarried adolescents in sub-Saharan Africa with at least one live birth ranges from 0.1 percent in Comores to 12.0 percent for all adolescents in Côte d'Ivoire. Other countries with more than 5 percent of never married adolescents with experience of a live birth include Kenya (7.4 percent), the Central African Republic (6.2 percent), Tanzania (5.9 percent), and Zambia (5.8 percent). Only 3.3 percent adolescents experienced births and were still not married at the time of the survey. Women, who had their first birth out of wedlock but eventually got married later, range from 0.2 percent in Comores to 3 percent in Uganda. This means that in most sub-Saharan Africa countries premarital virginity is no longer a strong precondition for a first marriage as a woman would be able to get married even with a child especially in countries like Uganda. However, the share of women in sub-Saharan Africa who conceive outside marriage ranges between 2.7 percent in Comores to 17.4 percent in Côte d'Ivoire. Adolescent premarital births in sub-Saharan Africa ranges between 3.8 percent of all adolescents in Zimbabwe to 14.9 in Côte d'Ivoire. Comores and Benin have the lowest percentages (0.4 and 1.4 percent respectively).

If we concentrate on adolescents who gave birth only, premarital pregnancies seem to be a problem in sub-Saharan Africa countries. Almost more than half of all adolescents' first pregnancies occurring in sub-Saharan Africa countries are among unmarried adolescents. For example 72 percent of all first adolescent pregnancies in Kenya were conceived outside marriage and premarital birth amounts to 56 percent of all adolescent births. However, most of these premarital births (44 percent) were among adolescents who were still single at the time of the survey.

Table 8: Percentage distribution of first births by adolescents' marital status at the time of the birth in sub-Saharan countries (including Egypt, Brazil, Bangladesh and Dominican Republic)

Country	Year	Never married	X	Y	Z	Premarital conception	Premarital births	N
Benin	1996	7.2	2.4	20.1	70.3	29.7	9.6	209
Central African Republic	1994	21.9	1.4	10.7	65.8	33.9	23.2	366
Comores	1996	1.6	3.2	32.3	62.9	37.1	4.8	62
Côte d'Ivoire	1994	42.0	10.2	8.8	39.0	61.0	52.2	559
Ghana	1993	19.5	2.7	27.5	50.3	49.7	22.1	149
Kenya	1993	44.1	11.9	15.6	28.1	71.5	55.9	295
Mali	1995	13.1	2.4	18.2	66.5	33.6	15.5	633
Tanzania	**1996**	**28.3**	**6.6**	**12.2**	**53.2**	**47.1**	**34.9**	**361**
Uganda	1995	9.7	8.8	13.3	68.4	31.8	18.4	548
Zambia	1996	24.5	9.4	19.3	47.0	53.2	34.0	477
Zimbabwe	1994	19.4	6.5	24.4	49.3	50.2	25.8	217
Egypt	1995	0.0	0.0	2.9	97.4	2.9	0.0	344
Bangladesh	1996	0.0	0.0	1.0	98.9	1.0	0.0	713
Brazil	1996	18.7	8.8	25.8	46.7	53.3	27.5	353
Dominican Republic	1996	4.8	2.1	12.7	80.6	19.7	7.0	330

X = first births occurred before first marriage for ever married women; Y = first births within marriage but less than 9 months after first marriage; Z = first birth occurred 9 or more months after the first marriage.

Source: calculated from DHS III

Countries with severe problems of adolescent premarital first births (more than 25 percent) in sub-Saharan Africa include Kenya (56 percent), Côte d'Ivoire (52 percent), Tanzania (35 percent), Zambia (34 percent), and Zimbabwe (26 percent). This means that more than one in four adolescent mothers is single. Comores have the lowest percentage of adolescent premarital first births, 5 percent, and Benin, 10 percent. From the data we might conclude that among every four first born children of adolescents in sub-Sahara African, one will have unmarried mother.

However it is interesting to note that in sub-Saharan Africa for those adolescents who conceive out of wedlock more than half give birth before their first marriage (Côte d'Ivoire, Kenya, Tanzania etc). However, in a few countries like Comores, Benin, Ghana, and Mali more than half of those who conceive before marriage, eventually marry before the first birth.

5. *Socio-economic Factors Associated with Adolescents' Age at first Motherhood*

Adolescents in rural areas have a lower mean age at first birth than those in urban areas. But this urban-rural difference is being attributed by many factors, e.g. education. However, it is believed that women's mean age at first birth may be rooted in the behaviour acquired during childhood. Adolescent women who grew up in Dar es Salaam had the lowest mean age at first birth. According to Table 9, adolescents who grew up in Dar es Salaam, give birth 0.9 years earlier than those who grew up in regional towns. We expected adolescents who grew up in Dar es Salaam to have the highest mean age at first birth as they live in a more modern environment than others, and have better access to mass media and contraceptives (although not officially allowed). On the other hand social control might be the lowest in Dar es Salaam.

In the Tanzanian context, the head of a household as a rule, is an adult man no matter if he is the bread earner or not. If there is no adult male resident, a woman might be the head of the household. Female-headed households are usually single-parent households. Adolescents from households headed by females have a lower mean age at first birth than adolescents from male-headed households. This might reflect that adolescents from single parents engage in unprotected sexual activities very early compared to their counterparts from families of married couples. It seems single parents do not have time to guide and advise their daughters.

It can be seen from Table 9 that adolescents with no education have a lower mean age at child bearing than those with complete primary or secondary education. The mean age at child bearing is 0.7 years below the average for the sample of adolescents. On the other hand, completing primary education raises the age at first child bearing by 0.1 years above the sample mean. Attendance of secondary school raises the age at first child bearing by almost one year. This confirms the hypothesis that the higher the level of education, the higher the age at first child bearing. However, the low level of education is not the cause of early child bearing. Rather the coincidence of the two is usually a characteristic of living in impoverished and rural environments. It seems that adolescents with incomplete primary education have the same mean age at first birth as those who did not go to school. This can be expected since they probably left school before they reached their puberty. The reason why adolescents who have attended secondary school, give first birth later can be easily understood. In Tanzania schools do not allow visible pregnant women or mothers to continue with their education. Furthermore, the possible reason, why those, who have completed primary education, give birth earlier than those with secondary education and above might be due to the absence of occupation or further education after seven years in school. Then most of primary school leavers either get married or engage in unprotected sexual activities that result in early premarital births.

While Protestants' mean age at child bearing is 0.1 years above average (16.8 years), other religious groups have a mean age at first birth below the average. Notably, among them are Moslems with 16.7 years and Catholic adolescents with 17.0 years. Perhaps the high mean age at first child bearing observed among Protestants is due to the fact that most followers of Christian religions spend longer periods in school than Moslems.

Table 9: Socio-economic factors associated with adolescents' age at first child bearing in Tanzania

Variable	T10	T25	T50	Trimean	T75	T90
Place of residence						
Urban	15.1	16.1	17.1	17.1	17.9	18.7
Rural	14.7	15.8	16.9	16.9	17.9	18.7
Child Place of Residence						
Dar es Salaam	13.9	15.4	16.6	16.6	17.7	18.6
Other Urban	16.0	16.7	17.5	17.5	18.2	18.8
Rural	14.8	15.8	16.9	16.9	17.9	18.7
Head of Household						
Male	14.9	15.9	17.0	17.0	17.9	18.7
Female	14.5	15.7	16.9	16.8	17.8	18.6
Education						
None	14.2	15.4	16.5	16.5	17.6	18.5
Primary incomplete	14.4	15.3	16.4	16.4	17.4	18.2
Primary complete	15.3	16.3	17.3	17.3	18.1	18.8
Secondary +	17.1	17.4	18.0	18.0	18.6	18.9
Religion						
Moslem	14.7	15.7	16.7	16.7	17.7	18.6
Catholic	15.0	15.9	17.0	17.0	17.9	18.7
Protestant	15.1	16.2	17.3	17.3	18.2	18.8
Other	13.6	15.6	16.6	16.6	17.5	18.3
Marital						
Never married	14.8	15.8	16.9	16.9	17.8	18.6
Married	14.9	15.9	17.0	17.0	18.0	18.8
Widow	-			-		
Divorced	14.4	15.5	16.8	16.7	17.7	-
Not living together	15.0	15.8	17.0	16.9	17.6	18.0
Polygyny						
Monogamous	14.9	15.8	16.9	16.9	18.0	18.8
Polygamous	14.9	15.9	17.1	17.0	17.9	18.5

Source: calculated from 1996 TDHS

It can be observed from Table 9 that women with no education and those who did not complete their seven years of schooling also had lower mean of age at first birth than those who completed their primary or secondary education and above. The mean for those with secondary education and above is 1.1 years above the sample mean. Those without education had 0.4 years below the sample average. On the other hand, completing primary education raises the age at first birth by 0.7 years compared to those who did not attend any formal education. Attending secondary schools or above raises age at first birth by 1.5 years for Tanzanian adolescents. This confirms the hypothesis that the higher the level of education, the higher the age at first birth. Adolescents from rural areas had their first child bearing experience earlier than their counterparts in urban areas, except Dar es Salaam adolescent women. Since modernisation usually starts in urban areas before spreading its influence gradually into the rural areas, in a transitional society such as Tanzania, one would expect the patterns of early child bearing to be more pronounced in rural areas than in Dar es Salaam.

Protestants have higher mean age at first birth than others (Catholics and Moslems), Moslems seem to have the lowest mean age at first birth (16.7 years). The variations may be attributed to the fact that most of the Christians spend longer periods in school than Moslems. This is in line with the finding that most of adolescent respondents (30.8 percent) who did not attend any form of formal education were Moslems.

Table 9 shows that each of the background characteristics including education, age at first intercourse, religion, place of residence, and current age tend to influence adolescent age at first birth. In the following part, the relationship between a combination of all these variables and age at first birth will be determined in a more complex way.

Table 10: Regression result (unstandardised coefficients) of the relationship between adolescent's age at first birth and some selected socio-economic variables

Variable	Name	Unst. coef.	Std. err.
Current age	Age (continuous)	0.548***	0.066
Education	None		
	Primary incomplete	0.183	0.180
	Completed primary	0.440**	0.151
	Secondary +	0.862*	0.488
Age at first sexual intercourse	At union	0.774***	0.191
	<15		
	15-17	0.550***	0.161
	18-19	1.408***	0.244
Religion	Moslems	-0.097*	0.146
	Catholics		
	Protestants	0.282*	0.155
Place of residence	Urban	-0.082	0.157
	Rural		
Constant		5.985***	1.166

R sq (adjusted) =36.1 percent
Durbin-Watson = 2.143
*** p<.001
** p<.01
p<.05
Source: calculated from 1996 TDHS

The relationship between current age and age at first birth as found earlier on was confirmed in the regression analysis. Current age is found to be positively related to age at child bearing: An increase in two years of age leads to a rise of one year in first birth of an adolescent; the relationship is significant.

The results in Table 10 show that education raises the age at first birth. Adolescent women who completed primary education have a higher age at first birth compared to those with no education; the difference is statistically significant. Secondary education raises adolescents' age at first birth; the difference is statistically significance.

Age at first intercourse is positively related to age at first birth; the relationship is highly significant. A point to note is that women who experience their first sexual intercourse

within marriage give birth later than those who experience sexual intercourse outside marriage and before attaining age 15. Late experiences in sexual intercourse explain much the difference in adolescent age at first birth. Education on the other hand plays a significant role.

The results of the regression as shown above support the hypothesis that Christians generally had their first births later than Moslems. A Moslem adolescent tends to have a birth earlier than a Catholic adolescent. Being a Protestant tends to increase the age at first birth compared to Catholic adolescents. The relation is significant. The type of the place of residence is not significantly related to age at first birth for adolescents.

6. Conclusion

The consequences of early child bearing range from terminating their education, which results in lowering their social status, and it sometimes leads to the death of the young mother as their reproductive organs are not mature yet. Furthermore, children born out-of-wedlock especially to adolescent mothers are generally severely disadvantaged because their mothers tend to be illiterate, poor, and in a poorer health condition than others. We have observed that adolescents in Tanzania engage in sexual activities at early ages. In the average, adolescent experiences first sexual intercourse when there are 15 years. Data from DHS III also showed that mean age at first sexual intercourse ranges from 14.2 years to 16.2 years in sub-Saharan Africa countries.

Mean age at first marriage ranges from 14.9 years to 16.4 years. Mean age at first birth in Tanzania was found to be 2 years more than age at first sexual intercourse. In other sub-Saharan Africa countries, the difference was found to be between 0.6 years to 1.6 years. In Brazil it is 4.2 years after first sexual intercourse.

We have observed a high rate of premarital adolescent pregnancies, 47 percent of all adolescent women in Tanzania. Some 12.2 percent of adolescents who became pregnant out of wedlock got married before the birth of their first child. 6.6 percent got married after the birth of their first child and the remaining 28.3 were still not married at the time of the survey. The paper found that premarital first pregnancies were prevailing in most sub-Saharan Africa countries. For example this paper found that, in Kenya 72 percent of all adolescent births were conceived as premarital pregnancies although 15.6 percent got married before the birth. This paper found premarital births to be a serious problem among unmarried adolescent in sub-Saharan Africa. In all adolescent births in Kenya, 44 percent of all young mothers (15-19) were singles at the time of the survey, 42 percent in Côte d'Ivoire, 28 percent in Tanzania, and 25 percent in Zambia.

In this paper we found that literate women had a higher likelihood of having a premarital sexual intercourse than illiterates. This is due to the fact that marriage is delayed for literate women, so they have a long time before being married. However a single literate woman is less likely to experience sexual intercourse than an illiterate single woman. Literacy raises age at first birth for adolescents. Literate adolescents on the other hand are more likely to be displeased with the timing of their first birth than illiterate adolescent women. The more years an adolescent attends school, the higher the age at first birth.

An urban woman had a higher likelihood of experiencing premarital intercourse than a rural woman. Altogether single urban women are more likely to experience sexual intercourse than their rural counterparts. However, urban adolescents are less likely to be displeased with the timing of the first birth.

Protestant single women are less likely to experience sexual intercourse compared to Moslems. Moslem adolescents are more likely to experience premarital birth than Christians. Moslem adolescents are more likely to be displeased with the timing of the first child than Christians.

The findings of this paper conflicts with men's expectation that women are to prove their fertility before marriage (Dynowski-Smith, 1989; Ocholla-Ayayo et al., 1990). Evidence from this paper show that women do not share this sentiment. In actual fact, unmarried women are expected by their parents and others not to have sex before marriage. On the other hand, scholars suggest that women who become pregnant before marriage might use pregnancy to urge the father to marry her before the birth of the child (Karanja, 1987; Obbo, 1987). A change in the initial expectations might lead to a different answer at the time of the interview (as such the index pregnancy might be planned or wanted at the time of conception but change its status after the birth of the child due to many factors).

7. References

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