

## ORIGINAL RESEARCH ARTICLE

# Experiences of adolescent pregnancy among Maasai in Kenya: Implications for prevention

DOI: 10.29063/ajrh2022/v26i6.5

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## Abstract

Adolescent fertility rates are high in Kenya and increase the likelihood of maternal and infant morbidity and mortality. The objectives were to (1) explore the prevalence of unintended pregnancy among Maasai adolescent mothers, (2) understand the context in which pregnancy is occurring, and (3) suggest community-based strategies to prevent adolescent pregnancy. In in-depth, individual, qualitative interviews with Maasai females that gave birth during adolescence, pregnancy was unintended in 100% of cases. Our results suggest a desire among this population to prevent pregnancy and the need for contraception. Our recommendations include comprehensive sex education that targets very young adolescents, implementation of mechanisms to strive toward universal primary education, and the provision of resources and skills to adolescents that they need to practice safer sex. (*Afr J Reprod Health* 2022; 26[6]:36-44).

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**Keywords:** Adolescent medicine; contraception; education; pregnancy; reproductive health

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## Résumé

Les taux de fécondité des adolescentes sont élevés au Kenya et augmentent la probabilité de morbidité et de mortalité maternelles et infantiles. Les objectifs étaient (1) d'explorer la prévalence des grossesses non désirées chez les mères adolescentes Maasai, (2) de comprendre le contexte dans lequel la grossesse se produit et (3) de suggérer des stratégies communautaires pour prévenir la grossesse chez les adolescentes. Lors d'entretiens approfondis, individuels et qualitatifs avec des femmes Maasai qui ont accouché pendant l'adolescence, la grossesse était involontaire dans 100% des cas. Nos résultats suggèrent le désir de cette population d'éviter une grossesse et le besoin de contraception. Nos recommandations comprennent une éducation sexuelle complète qui cible les très jeunes adolescents, la mise en œuvre de mécanismes visant à tendre vers une éducation primaire universelle et la fourniture de ressources et de compétences aux adolescents dont ils ont besoin pour pratiquer des rapports sexuels protégés. (*Afr J Reprod Health* 2022; 26[6]:36-44).

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**Mots-clés:** Médecine de l'adolescence; La contraception; éducation; grossesse; la santé reproductive

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## Introduction

Adolescent pregnancy is defined as pregnancy among girls aged 10-19 years<sup>1</sup>. Globally, about 16 million adolescent girls between the ages of 15 and 19 give birth each year<sup>2</sup>. This accounts for approximately 11% of total births worldwide, 95% of which are occurring in developing countries<sup>2</sup>. The World Health Organization (WHO) has outlined factors that contribute to adolescent pregnancy: adolescent girls may be under pressure or forced to marry early, may lack access to education opportunities and have not learned how to prevent pregnancy, may be unable to obtain family

planning services and therefore lack contraceptives, or are unable to refuse unwanted sex or to resist coercive sexual interactions<sup>2</sup>.

Adolescent pregnancy and childbirth can have adverse consequences for both mothers and their infants<sup>3</sup>. Globally, the leading cause of death for girls ages 15-19 is complications associated with pregnancy and childbirth<sup>4</sup>. Compared to women in their twenties, girls between the ages of 15-19 are twice as likely to die during pregnancy and childbirth and girls under the age of 15 years are five times more likely to die<sup>5</sup>. In fact, pregnancy is the most dangerous health event for women in Sub-Saharan Africa<sup>6</sup>. The lifetime risk of death due to

pregnancy in this region is about 1 in 16<sup>6</sup>. Adolescent pregnancy is associated with low birth weight babies that are predisposed to poor development<sup>1</sup>. Adolescent pregnancy is an impediment to the attainment of a complete education. It may threaten economic prospects and employment opportunities<sup>7</sup>. Therefore, adolescent mothers may pass on to their children a legacy of poor health, insufficient education, and subsistence living, leading to the intergenerational transmission of poverty<sup>8</sup>.

Data suggest that pregnancy among adolescent girls will have the greatest increase in sub-Saharan Africa over the next 20 years, with Kenya among the countries with the highest projected increase of 2.3 million adolescent pregnancies<sup>9</sup>. Nearly 40% of Kenyan girls will have given birth by age 19<sup>10</sup>. In Kenya, as many as 10,000 girls dropout of school each year due to pregnancy<sup>7</sup>. The average girl in Kenya will have sex for the first time at age 16<sup>11</sup>. Of sexually active adolescents in Kenya, over 70% do not use contraception<sup>11</sup>. Furthermore, results from focus groups among both boys and girls between the ages of 12 and 19 in Kenya revealed the perception that forced sexual initiation is a norm<sup>12</sup>. This formative research was conducted in Laikipia County, in central Kenya. Laikipia County has an especially young population, with 23% of people between the ages of 15 and 19<sup>13</sup>. It is also an area where adolescent pregnancy poses a significant public health concern<sup>13</sup>. The research took place across several villages in Laikipia county, where Maasai is the primary ethnic group. The Maasai are semi-nomadic pastoralists with a rich and firmly-rooted culture<sup>14</sup>, however, their communities face many challenges<sup>6</sup>. Very little research has been carried out with this population.

The goals of this qualitative investigation of adolescent mothers in predominantly Maasai communities are the following: (1) explore the prevalence of unintended pregnancy and the circumstances that led to unintended pregnancies, (2) understand the community perceptions about adolescent pregnancy and understand the context in which pregnancy is occurring and (3) how schools, communities, and society can better prevent early pregnancy. The qualitative data gained from this investigation can be used by government

institutions, community organizations, and other relevant stakeholders to strengthen existing measures and implement new strategies targeted at the reduction of adolescent pregnancy.

## Methods

The materials and methods described below have been described elsewhere by authors<sup>15</sup>.

### *Setting and sampling*

In June and July of 2019, in-depth interviews were conducted with young women aged 14 – 32, with the average age being 18.8, using a qualitative structured questionnaire. The study took place in several largely Maasai villages including Chumvi, Sanga, Ngare Ndare, Leparua, Ntalabany, Ethi, Lokusero, Makurian, and Nadungoro.

The research was facilitated by co-author, JN, who has developed long-standing community partnerships in this region through her non-profit, Mukogodo Girls Empowerment. Through her existing relationships within the communities, she was able to identify potential participants that had given birth in adolescence. The study villages were chosen based on these existing partnerships, as well as accessibility and safety. Village elders were contacted and explained the study, and they then granted the research team permission to enter the villages. Participants chosen were based on convenience sampling (i.e., those who were easily reachable and available on the designated interview days). This process occurred through word-of-mouth and by traveling door-to-door to households, spreading information about the research. Previous research has observed that Maasai villages are isolated, traditional, and have little variation in lifestyles<sup>6</sup>, therefore fifty participants from nine villages were felt to be a representative sample of the larger Maasai community of Kenya.

### *Interviews*

The interview template was assessed for ease of understanding and cultural appropriateness. It covered socio-demographic information and asked open-ended questions on topics related to adolescent pregnancy and family planning. This report analyzes the results on adolescent pregnancy

and the data collected relating specifically to family planning is discussed in a separate report<sup>15</sup>.

Interviews generally were 60-minutes in length and were typically held at the village primary or secondary school, often taking place in a space outdoors, to allow for privacy. The leadership at the schools granted permission for interviews to take place on their campuses. In other instances, interviews were conducted during home-visits in a private setting within the participant's home. To ensure confidentiality, only the interviewer, translator, and participant were present. Interviews were done in Kiswahili or Maa, the native Maasai language. They were recorded, transcribed, and translated into English by JN.

### **Data management and analysis**

English transcripts were entered into JMP software (SAS Institute, Cary, NC) for data visualization and analysis. Initial interpretation included familiarization of the entire data set and review of reflective notes. Data were coded by author MS using the interview template as a framework and verified by another member of Quinnipiac University (AC) proficient with methods of qualitative analysis, but outside the research team to ensure objectivity. The framework method for content analysis<sup>16</sup> was used and descriptive findings were reported. Codes were grouped into categories based on similar and interrelated themes present in the interview template. Categories and codes were arranged in a tree diagram format in the analytical framework. Impressions and interpretations of the coding framework were discussed amongst the authorship. Quotes presented in this report are used to demonstrate predominant views from the interviews. While there are no direct quotes from each participant, the quotes presented demonstrate overarching themes.

## **Results**

### **Participant characteristics**

A total of 50 girls and women representing 9 Maasai villages were interviewed. Of the participants, 72% (n = 36) had been pregnant or had at least one child in adolescence. Only the participants that had been

pregnant, were currently pregnant, or had at least one child (n = 36) were included in this report (Table 1).

### **Relationship status of participants**

The characteristics of the relationships that led to adolescent pregnancy were explored (Table 2). Although 91% of the respondents identified themselves as either married or in a relationship at the time of conception, by the time of birth, only 25% were still married or in a relationship. At the time of the interview, 20% self-identified as still married or in a relationship.

### **Providing context to the relationships that led to pregnancy**

To better understand the circumstances that led to adolescent pregnancy, participants were asked to describe their relationship when they became pregnant and the subsequent course of the relationship. From these conversations, three primary themes were established: denial of ownership or responsibility from the father of the child, forced marriage, and rape (Table 3).

### **Denial of responsibility**

Of the 30 adolescents that were in a relationship at the time of conception, 42% (n=15) reported that the relationship ended because the father of the child denied or did not accept responsibility for the pregnancy. This denial of responsibility was an overarching theme in many of the responses.

*'The relationship started when I was 9-years-old and he was 22-years-old. I became sexually active at 9 ½ years old and became pregnant at 11-years-old. We separated when he denied the pregnancy.'* (Pregnant at 11-years-old)

*'We met as friends. We were together for 1 year before the pregnancy. I got pregnant the first time we made love. The relationship ended when I became pregnant because he denied the pregnancy and didn't take responsibility.'* (Pregnant at 16-years-old)

**Table 1:** Demographic information

	N	(%)
<b>Current Age (mean, SD)</b>	19.3	-
<b>Age of 1st Pregnancy (mean, SD)</b>	16.9	-
<b>Number of children</b>		
1	32	(89)
2	3	(8)
4	1	(3)
<b>Village of residence</b>		
Chumvi	10	(28)
Leparua	8	(22)
Nadungoro	1	(3)
Ngare Ndare	7	(19)
Ntalabany	6	(17)
Sanga	1	(3)
Ethi	3	(8)

**Table 2:** Relationship status

Relationship Status	N	(%)
<b>At time of conception</b>		
Married	3	(8)
In Relationship	30	(83)
Single	3	(8)
<b>At time of birth</b>		
Married	6	(17)
In Relationship	3	(8)
Single	27	(75)
<b>Day of interview</b>		
Married	5	(14)
In Relationship	2	(6)
Single	29	(81)

**Table 3:** Themes contributing to adolescent pregnancy

1.1 Denial of paternal responsibility
1.2 Forced marriage
1.3 Nonconsensual intercourse

**Table 4:** Attitude toward pregnancy

	N	(%)
<b>Intended to become pregnant</b>		
Yes	0	(0)
No	36	(100)
<b>Happy to have become pregnant</b>		
Yes	0	(0)
No	36	(100)

**Table 5:** Themes displaying what participants wish that they knew prior to becoming pregnant

1.4 Loss of education
1.5 Lack of sexual education

**Table 6:** Themes displaying ideas of participants for community intervention

1.6 Improved education
1.7 Punishment
1.8 Increased attendance in schools
1.9 Mentorship

*'We were friends, then we decided to have a relationship. He promised me that we would be married when I finished school. One day, he called me and visited my home. He convinced me to go to bed with him and told me I couldn't get pregnant. Then I got pregnant. My parents called the man and asked him if he was responsible. He said no, I'm not responsible and that he was not the only man in my life. He said I was with many men, which is a lie. He also said he wasn't ready to be married.'* (Pregnant at 18-years-old)

*'I met him when I was in class, we fell in love, and he promised that he would marry me. But, when I got pregnant, he denied responsibility. When I got pregnant, my father told me to stay at home and refused to take me to school. The man responsible refused to marry me.'* (Pregnant at 18-years-old)

### **Forced marriage**

Other responses described scenarios of forced marriage. As one young woman explained:

*'When I was 16, my father forced me to marry a man that was 25-years-old. We were married for 4 months, then I ran away from him back to my parents. This is when I found out I was pregnant. I got sick 5 months into the pregnancy and I was taken to the hospital, where I was told that my fetus was dead.'* (Pregnant at 16-years-old)

### **Rape**

Several responses described situations of rape. One adolescent described:

*'I met somebody that I didn't know who drugged me with a love potion. He took me to his home and kept me there for three weeks, until my parents found me. Afterwards, I lost my memory for two weeks. Then, I went back to school as usual, and later discovered I was pregnant.'* (Pregnant at 18-years-old)

### **Attitudes toward pregnancy**

The number of pregnancies planned and how participants felt about their pregnancies, were explored (Table 4). When asked if their pregnancy was planned or unplanned, all of the participants (n=36) responded that their pregnancy was unplanned. When asked if they were happy to have become pregnant, all respondents answered that they were unhappy that they became pregnant.

To delve deeper into the participants' universally negative attitudes toward their pregnancies, they were asked in retrospect what they wished they knew before becoming pregnant. There were two overarching themes in the responses: pregnancy leading to extended or permanent absence from school and that sexual relationships can result in pregnancy (Table 5).

### **Loss of education**

First, 48% (n = 17) of respondents stated that they wished they had known that if they became pregnant they would have to leave school. This predominant theme of loss of educational opportunity was further displayed when participants were then asked if, in hindsight, they wished anything could have happened differently and 33% of the participants responded that they wished they had never become pregnant due to its interference with their education. As some participants explained:

*'I wish I knew I would leave school. When I'm at home and I see my classmates going to school I admire them.'* (Pregnant at 19-years-old)

*'I wish that I had never gotten pregnant so that I could still be in school to become a pilot.'* (Pregnant at 16-years-old)

### **Lack of sexual education**

Second, many participants expressed a lack of knowledge that a sexual relationship would potentially result in pregnancy. When participants were then asked if, in hindsight, they wished anything could have happened differently, 37% responded that they wished they had never consented to being in a relationship that resulted in pregnancy.

*'I wish I knew I would get pregnant. If I had known, I would not have had the relationship and I could have been in school because I love to study.'* (Pregnant at 17-years-old)

*'I wish I knew I would get pregnant. I would have disconnected with my boyfriend and concentrated on my studies.'* (Pregnant at 17-years-old)

### **Community action and perceptions surrounding adolescent pregnancy**

Next, the participants were asked what they think is the attitude of their Maasai community regarding adolescent pregnancy. The majority of respondents agreed that their community was disappointed and strongly against teenage pregnancy. Several explained this overall theme of dissatisfaction from their community:

*'The community is not happy about teenage pregnancy, but as much as they don't like it, they have nothing to do about it.'* (Pregnant at 17-years-old)

*'The community so upset about adolescent pregnancy because a lot of girls drop out of school and the boys don't take responsibility.'* (Pregnant at 18-years-old)

When participants were asked how the community could help to prevent adolescent pregnancy, there were four predominant themes: increased sexual education, punishment for responsible fathers, increased school attendance, and mentoring and guidance for young women (Table 6).

### **Improved education**

Many respondents (25%) suggested that the community should teach about sexual and reproductive health, including family planning and the dangers of early pregnancy.

*'They should take girls for workshops to talk to them about family planning and how they can access it.'* (Pregnant at 17-years-old)

### **Punishment**

Others (14%) stated that those responsible for the pregnancy should be punished. Some suggested that the consequences should be beating, while others recommended jail.

*'Those who are responsible for impregnating young girls, they should be taken to the chief and taken to prison forever because it is very wrong to impregnate young girls.'* (Pregnant at 16-years-old)

### **Increased school attendance**

Others (17%) proposed that the community should place girls in school to prevent early pregnancy, with a few stating that girls should be put in boarding schools to avoid pregnancy.

*'I think the government should have strategies to have all the girls in school. The men should be take responsibility.'* (Pregnant at 18-years-old)

### **Mentorship**

Finally, many of respondents (28%) answered more vaguely, advocating that the community should offer young girls mentorship, advice, guidance, or counseling to prevent pregnancy.

*'The community should teach young girls to stay away from boys because the boys are ruining their lives by making them pregnant, yet not taking responsibility.'* (Pregnant at 18-years-old).

## **Discussion**

Previous research on adolescent pregnancy in sub-Saharan Africa has documented that many girls and young women do not use contraceptives when they have sex, have unwanted sex, have significantly older partners, and lack the knowledge to effectively avoid pregnancy<sup>17</sup>. However, we are unaware of any study that has considered the context surrounding adolescent pregnancy among the Maasai. In order to formulate effective interventions targeted at this population, it is necessary to examine the unique context of adolescents' behavior surrounding pregnancy.

This study began by documenting the relationship status of the participants. We documented that while 91% of participants described themselves as in a relationship at the time of conception, 75% self-identified as single by the time of delivery, and 81% at the time they were interviewed. According to the participants, the primary reason the relationships dissolved was because the father of the child denied responsibility and often vanished. Other research may partially explain these disappearances by an aspect of Maasai culture, in which the men initiated as warriors, called "morans", live a pastoral, semi-nomadic lifestyle, and will commonly seek sexual relationships in their travels<sup>18</sup>.

In this report, every participant stated that their pregnancy was unintended and that they were unhappy with the pregnancy. Unfortunate incidences of rape and forced marriage were prominent themes in this portion of the interview and will be further discussed here. During interviews, participants were asked to describe the relationship that resulted in pregnancy. While several of the participants outwardly described a coercive or forceful sexual experience that led to pregnancy, our interviews did not specifically ask whether the sexual relationship was consensual. The average adolescent girl in Kenya will have sex for the first time at age 16<sup>11</sup>. However, in the Maasai community, the average age at which children begin engaging in sexual activity is 10<sup>18</sup>. Literature has shown that the cultural norm for Maasai women and girls to be obedient may expose them to higher risk from forced sexual experiences and potential

complications for them and their infants<sup>18</sup>. Consistent with this, in this study, several participants described relationships in which they were substantially younger than their partners (e.g., a 9-year-old female with an 18-year-old male partner). While the girls and young women did not explicitly state that their relationships were not consensual, it can be presumed that young females do not share equal power in relationships with older men. Furthermore, while these young women may not recognize their relationships as exploitation or unsafe, an adult male initiating sex with a female child violates their basic human rights. Several participants cited early, forced marriage as a reason for adolescent pregnancy. Literature has shown that marriage for Maasai girls occurs around age 12 and is incentivized by dowries, in which men will offer a large number of cattle or goats to the parents of the desired bride<sup>18</sup>.

Many participants cited competing aspirations as their reason for wishing they could have avoided pregnancy: lamenting that pregnancy forced them to abandon their education and damage career prospects. Many of the respondents stated their ambitions of becoming a pilot, doctor, professional chef, etc. It is important to help these young women realize their goals and give them the tools to achieve them. The robust goals of these young women signify that if they were given the tools to delay pregnancy and continue their education, they would be in a position to confer social progress and economic development for their villages.

When asked how the community might help prevent adolescent pregnancy, some participants suggested that there should be punishment (e.g., jail, beatings, etc.) for men that impregnate young women. Creating a system in which there were consequences for men who pursue inappropriate sexual relationships that lead to pregnancy, might encourage them to take responsibility for practicing safer sex and allowing their partners to have a reproductive choice. Other participants advocated that the community can help avoid teenage pregnancy by ensuring that girls are in school. There is substantial support that education has a protective effect for young women and is positively associated with adolescent sexual and reproductive health<sup>19</sup>. Schools could also provide comprehensive sexual

education in a structured setting, by delivering knowledge related to family planning, but also creating an atmosphere for students to raise questions, share concerns, and practice skills such as negotiating with a partner about using contraceptives or delaying sexual debut. A recent report by WHO evaluated numerous school-based sex education programs and found that most interventions were associated with increases in protective behaviors (e.g., delayed sex, reduced number of partners, increased contraceptive use)<sup>17</sup>. Several participants suggested that they be sent to boarding schools to avoid the sexual violence that many adolescent girls experience at home. Furthermore, with schools being few and far between, young girls often travel significant distances to get to school, making them vulnerable to sexual violence on the road.

A strength of this study is that, to our knowledge, it is the first to examine the perceptions and experiences of adolescent pregnancy among the Maasai in Kenya. This shed light on the needs of an isolated and often marginalized group. The findings that every pregnancy among the interview cohort was unplanned and unwanted, coupled with a perceived lack of support and action from communities, highlight the need for family planning education and services for this population.

Given the sensitive nature of the discussion topics, a limitation is that social desirability bias could have inclined respondents to under-report behaviors or beliefs. This would limit the understanding of social factors related to early pregnancy. The use of a convenience sample can present challenges. While sampling based on opportunity and availability was ideal for this study due to the isolation and semi-nomadic nature of the communities, it is vulnerable to sampling bias and may not be representative or generalizable to the entire population of adolescent girls and young women. Finally, while understanding the knowledge and perceptions of young women surrounding early pregnancy is necessary, multiple perspectives should also be obtained. Further research should include the viewpoints of community leaders, men, educators, and medical personnel. This would provide a more comprehensive picture surrounding early and unintended pregnancy in Maasai communities.

The following are recommendations from the information obtained:

- ***Comprehensive sex education that targets very young adolescents.*** Schools are an important platform to deliver information regarding sexual and reproductive health. As many children in Maasai families may not have access to schooling because of the need for them to assist with family livestock, the community needs to help ensure that even children who cannot attend school can obtain a complete sexual education. Additionally, age-appropriate sexual education for very young adolescents should be developed, as the age of sexual initiation among the Maasai communities is exceedingly low<sup>18</sup>.
- ***Implement mechanisms to strive toward universal primary education.*** Education has a protective effect for young women and is positively associated with adolescent sexual and reproductive health<sup>19</sup>. Therefore, it is vital to explore strategies to assure a place for young girls in school. Additionally, since girls often face sexual violence at home and during their travels to and from school, the infrastructure and resources that would be required to provide boarding facilities for schools and transportation services should be explored.
- ***Ensure that adolescents have the resources and skills that they need to practice safer sex.*** Family planning services and modern contraceptives should be widely available and affordable. Because 100% of the pregnancies in this study were unplanned and unwanted, there was a substantial unmet need for contraception. While, the provision of family planning may not combat the broader issues of forced marriage and gender-based violence, it is a critical step in avoiding unwanted pregnancy.

## Ethics approval

This study was approved by the Quinnipiac University Institutional Review Board and the Department of Medical Services and Public Health, Laikipia County. Informed consent was obtained from all participants age 18 and older and a parent of participants under the age of 18. The consent was

read aloud with a witness present in Maa as well as Kiswahili.

## Conclusion

Among the participants in this study, there was a universal consensus that their pregnancy was unintended and unwanted. This study provided context to their pregnancy and allowed them to voice their experiences. It was striking that, in retrospect, the participants wished they could have avoided pregnancy due to its often permanent disruption of their education. It was also poignant that many participants expressed that they did not understand that a sexual relationship could result in pregnancy. From this research, in order to address the needs of sexual and reproductive health of young Maasai women effectively, community-based interventions are necessary that take into account cultural beliefs and traditions. By giving the participants a platform to tell their stories, their experiences and thought-provoking recommendations can be integrated into future community-based programming.

## Acknowledgements

We would like to extend our gratitude to the participants for their meaningful contributions to this study. We would like to thank the village elders and the Laikipia County Ministry of Health for their support and accommodation during the length of this investigation. We would like to thank the team at Mukogodo Girls Empowerment Program for their collaboration during this investigation. We would like to thank Andrew Conner, who donated his time to assist with the process of coding and data analysis.

## Conflict of interest

No potential conflict of interest was reported by the authors.

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